BEFORE THE ADMINISTRATOR UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of an Air Pollution Control Operating Permit for the Oak Creek Power Plant, Located at 11060 S. Chicago, Oak Creek, Milwaukee County, Wisconsin,.

Source I.D. 241007690

Permit No. 241007690-P10

Proposed by the Wisconsin Department of Natural Resources on July 3, 2007.

PETITION REQUESTING THAT THE ADMINISTRATOR OBJECT TO ISSUANCE OF THE PROPOSED REVISED TITLE V OPERATING PERMIT FOR THE OAK CREEK POWER PLANT IN OAK CREEK, WISCONSIN

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Date: August 23, 2007

Pursuant to Clean Air Act § 505(b)(2) and 40 CFR § 70.8(d), the Sierra Club hereby petitions the Administrator ("the Administrator") of the United States

Environmental Protection Agency ("U.S. EPA") to object to proposed Title V Operating

Permit for Wisconsin Electric Power Company's ("WEPCO") Oak Creek Power Plant,

Permit Number 241007690-P10 ("Permit"). The Permit was proposed to U.S. EPA by the

Wisconsin Department of Natural Resources ("DNR") more than 45 days ago. A copy

of the Permit is attached as Exhibit A. Sierra Club provided comments to the DNR on
the draft permit and the revised draft permit. A true and accurate copy of Sierra Club's

comments is attached at Exhibit B. DNR responded to Sierra Club's comments through
two memoranda, a copies of which are attached as Exhibit C.

This petition is filed within sixty days following the end of U.S. EPA's 45-day review period, as required by Clean Air Act ("CAA") § 505(b)(2). The Administrator must grant or deny this petition within sixty days after it is filed. If the Administrator determines that the Permit does not comply with the requirements of the CAA, or fails to include any "applicable requirement," he must object to issuance of the permit. 42 U.S.C. § 7661b(b); 40 C.F.R. § 70.8(c)(1) ("The [U.S. EPA] Administrator will object to the issuance of any permit determined by the Administrator not to be in compliance with applicable requirements or requirements of this part."). "Applicable requirements" include, *inter alia*, any provision of the Wisconsin State Implementation Plan ("SIP"), including Prevention of Significant Deterioration ("PSD") requirements, any term or

condition of any preconstruction permit, any standard or requirement under Clean Air Act sections 111, 112, 114(a)(3), or 504, acid rain program requirements. 40 C.F.R. § 70.2. Notably, "applicable requirements" include any requirement to obtain a preconstruction permit and comply with New Source Review regulations. *In re Monroe Electric Generating Plant*, Petition No. 6-99-2 at p. 2 (EPA Adm'r 1999).

I. The Permit for OCPP Must Include A Compliance Schedule

Every Title V permit must "assure[] compliance by the source with all applicable requirements." CAA § 504(a); 40 C.F.R. § 70.1; Wis. Stat. § 285.64(1); Wis. Admin. Code § NR 407.09(4)(b). "Applicable requirements" include State Implementation Plan ("SIP") requirements and preconstruction requirements, including the requirement to obtain a PSD preconstruction permit and apply best available control technology ("BACT"). 40 C.F.R. § 70.2; Wis. Stat. § 285.64(1); Wis. Admin. Code § NR 400.02(26). If the facility is not in compliance with all applicable requirements at the time of permit issuance, the permit must contain an enforceable schedule to bring the facility into compliance. The U.S. EPA Administrator has described these requirements as follows:

40 C.F.R. § 70.5(c)(8)(iii)(C) and 70.6(c)(3) require that, if a facility is in violation of an applicable requirement and it will not be in compliance at the time of permit issuance, its permit must include a compliance schedule that meets certain criteria. For sources that are not in compliance with applicable requirements at the time of permit issuance, compliance schedules must include 'a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance.' 40 C.F.R. § 705(c)(8)(iii)(C).

In the Matter of Onyx Environmental Services, Order Responding to Petitioners' Request That the Administrator Object to Issuance of a State Operating Permit, pp. 6-7 (Adm'r Feb. 1, 2006) (hereinafter "Onyx").

WEPCO has repeatedly violated, and is in continuing violation, of the PSD and Nonattinament New Source Review requirements in the Clean Air Act at the Oak Creek plant. However, the permit lacks a compliance schedule, including a requirement to apply for a PSD permit and comply with BACT limits. Therefore, the permit is deficient, results in unlawful emissions, and the Administrator must object.

A. The PSD Program.

The Clean Air Act was passed to protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of the United States' population. 42 U.S.C. § 7401(b)(1). Congress intended to "speed up, expand, and intensify the war against air pollution in the Untied States with a view to assuring that the air we breathe throughout the Nation is wholesome once again." Wis. Elec. Power Co. v. Reilly, 893 F.2d 901, 909 (7th Cir. 1990) (quoting H.R. Rep. No. 91-1146, at 1 (1970), as reprinted in 1970 U.S.C.C.A.N. 5356, 5356)). As its name implies, the Prevention of Significant Deterioration program in Part C of the Clean Air Act, 42 U.S.C. §§ 7470-7492, creates a program to prevent those areas currently attaining the minimum national air quality standards from deteriorating. The PSD provisions prohibit a major emitting facility from being constructed or modified unless, among other requirements, it: obtains a PSD permit, 42 U.S.C. § 7475(a)(1); has been reviewed

by a permitting agency and through a public hearing, 42 U.S.C. § 7475(a)(2); has demonstrated that it will not cause or contribute to a violation of NAAQS or a "maximum allowable increase" over existing pollution levels ("increment"), 42 U.S.C. § 7475(a)(3); and meets pollution limits based on "best available control technology" ("BACT"), 42 U.S.C. § 7475(a)(4).

Although Congress intended the Clean Air Act to clean up old, polluting facilities, it recognized that it was not economically feasible to retrofit pollution controls on all existing sources. Therefore, Congress "grandfathered" existing facilities, effectively exempting them from compliance with new regulations until they were modified. Alabama Power v. Costle, 636 F.2d 323, 400 (D.C. Cir. 1979); United States v. Murphy Oil USA, Inc., 155 F.Supp.2d 1117, 1137 (W.D. Wis. 2001) (citing WEPCO, 893) F.2d at 909). This "grandfathering" was intended to be temporary – not "to constitute perpetual immunity" from all standards under the PSD program. Alabama Power, 636 F.2d at 400; WEPCO, 893 F.2d at 909 ("But Congress did not permanently exempt existing plants from these [PSD] requirements; section 7411(a)(2) provides that existing plants that have been modified are subject to the Clean Air Act programs at issue here."); U.S. v. Ohio Edison Co., 276 F.Supp. 2d 829, 850 (S.D. Ohio 2003) (Congress did not intend that existing sources be granted perpetual immunity from installing modern pollution controls).

A facility is "modified," and must comply with PSD permitting and BACT pollution control requirements when it: (1) undergoes a physical change or change in

the method of operation; and (2) the change results in an increase in air pollution. 42 U.S.C. § 7411(a)(4); 42 U.S.C. § 7475(a); 57 Fed. Reg. at 32,316; Wis. Admin. Code § NR 405.02(21); WEPCO, 893 F.2d at 907; Murphy Oil, 155 F.Supp.2d at 1137; In re Tennessee Valley Authority, 9 E.A.D. 357, 388 (EAB 2000) (citing WEPCo. v. Reilly, 893 F.2d 901, 907-09 (7th Cir. 1990)).

The term "physical change" is very broad. Congress intended that "any physical change" trigger the PSD program requirement, and intended "any physical change" to have an expansive meaning. New York v. EPA, 443 F.3d 880, 885-87 (D.C. Cir. 2006) (holding that Congress' use of the phrase "any physical change" was intended to apply to the broadest possible category of changes); New York v. EPA, 413 F.3d 3, 40-42 (D.C. Cir. 2005); WEPCO, 893 F.2d at 908-10; Memorandum from Don R. Clay, USEPA Acting Assistant Administrator for Air and Radiation, to David A. Kee, USEPA Director of Air and Radiation Division, Region 5, Re: Applicability of Prevention of Significant Deterioration (PSD) and New Source Performance Standards (NSPS) Requirements to the Wisconsin Electric Power Company (WEPCO) Port Washington Life Extension Project 3 (September 9, 1988) ("The clear intent of the PSD regulations is to construe the term "physical change" very broadly, to cover virtually any significant alteration to an existing plant."); see also 57 Fed. Reg. 32,314, 32,316 (July 21, 1992) (acknowledging that the broad terms "change" and "modification" "encompass the most mundane activities at an industrial facility (even the repair or replacement of a single leaky pipe, or a change in the way that pipe is utilized."); *United States v. Cinergy Corp.*, Slip Op. (Order

on Cross-Motions for Summary Judgment Regarding Fair Notice Defense, ED #940),
Case No. 1:99-cv-1693-LMS-JMS at 14 (S.D. Indiana June 18, 2007) ("The CAA defines
the term 'modification' broadly as 'any physical change... which increases the amount
of any air pollutant emitted..." As the Seventh Circuit has noted, the potential reach of
this definition is broad and encompasses even the most trivial of activities." (internal
citations omitted)). Each of the projects at the Oak Creek plant described below fall
within this broad definition of "physical change." 1

To determine if a physical change results in a "significant net emissions increase," under the Wisconsin SIP, a source's historical actual emissions are compared to its potential to emit. Wis. Admin. Code §§ NR 405.02(1), (24)(a)1. (2006)²; see also

¹ A routine maintenance, repair, or replacement, by itself, is not a modification. However, very few physical changes are routine, and must meet a four-factor test including the nature, extent, purpose, frequency and cost of the work. WEPCo., 893 F.2d at 910 (quoting Sept. 9, 1988 Memorandum from Don R. Clay, USEPA, to David A. Kee, "Applicability of Prevention of Significant Deterioration (PSD) and New Source Performance Standards (NSPS) Requirements to the WEPCO Power Company Port Washington Life Extension Project."). Moreover, [r]outine maintenance, repair, and replacement occurs regularly, involves no permanent improvements, is typically limited in expense, is usually performed in large plants by in-house employees, and is treated for accounting purposes as an expense. In contrast to routine maintenance stand capital improvements which generally involve more expense, are large in scope, often involve outside contractors, involve an increase of value to the unit, are usually not undertaken with regular frequency, and are treated for accounting purposes as capital expenditures on the balance sheet." Ohio Edison, 276 F.Supp. 2d at 834 (citations omitted). Routine maintenance must be interpreted as very narrow. U.S. v. So. Ind. Gas & Elec. Co., 245 F.Supp.2d 994, 1009 (S.D. Ind. 2003) ("Giving the routine maintenance exemption a broad reading could postpone the application of NSR to many facilities, and would flout the Congressional intent evinced by the broad definition of medication."). None of the modifications addressed in these comments are routine. Moreover, it is WEPCO's burden to prove the application of the routine maintenance exemption, including providing the basis for such an exemption in its application. 40 C.F.R. § 70.5(c)(6); Wis. Admin. Code § NR 407.05(4)(f). WEPCO has never demonstrated that the routine maintenance exception applies, nor submitted information in support of the exemption in its Title V permit application.

² The Wisconsin DNR has adopted changes to the Wisconsin PSD program. However, EPA has not adopted them into the Wisconsin SIP. During the relevant periods here, the applicable PSD regulations were either a delegated federal PSD program under 40 C.F.R. § 52.21 or the 1998 version of Wis. Admin. Code ch. NR 405, as adopted into the Wisconsin SIP. Wisconsin's PSD program was approved as a

Puerto Rican Cement Co., Inc. v. U.S. Envtl. Protection Agency, 889 F.2d 292, 296 (1st Cir. 1989). For an electric generating unit, like the Oak Creek plant at issue here, the source has the option of comparing its historic "actual" emissions to its future projected emissions. 40 C.F.R. § 52.21(b)(3); Wis. Admin. Code § NR 405.02(1)(d). However, this optional "actual-to-projected-actual" test for emission increases is conditional. To use this test, the utility must "maintain[] and submit[] to the department, on an annual basis for a period of 5 years from the date the unit resumes regular operation, information demonstrating that the physical or operational change did not result in an emissions increase." Wis. Admin. Code § NR 405.02(1)(d). If a utility fails to undertake this recordkeeping and annual reporting to the DNR, it cannot use the actual-to-projected-actual test and the actual-to-potential test applies.

In this case, WEPCO has not conducted the recordkeeping and annual reporting required to allow it to use the actual-to-projected-actual test. Therefore, the actual-to-potential test applies. However, regardless of which test applies, the modifications of the Oak Creek plant triggered PSD requirements. Because each of the modifications was intended to reduce the frequency or duration of forced outages (i.e., replacing a troublesome part), the projected resulting increase in annual operating time resulted in increased emissions. Because the annual increase in emissions exceeded the

revision to Wisconsin's SIP in 1999. Approval and Promulgation of Implementation Plans; Wisconsin, 64 Fed. Reg. 28,745, 28,746 (May 27, 1999). Prior to June 28, 1999, facilities in Wisconsin were regulated by the PSD regulations adopted in the EPA's federal PSD program—located at 40 C.F.R. § 52.21. *Id.*; see also 43 Fed. Reg. 26,410 (June 19, 1978) (adopting 40 C.F.R. § 52.21 (b) through (w) as applicable to Wisconsin at 40 C.F.R. § 52.2581 (1978)).

"significance" threshold, the modifications were subject to PSD requirements, including the requirement to install BACT. Wis. Admin. Code § NR 405.02(27)(a), Table A (see also 40 C.F.R. § 52.21(b)(2)(I))

B. USEPA Found Violation of New Source Review At All WEPCO Plants.

EPA found that WEPCO violated New Source Review (including PSD) requirements of the Clean Air Act and the Wisconsin SIP and filed a lawsuit against WEPCO for these violations. *See* Complaint, *United States v. Wisconsin Electric*, Case No. 03-C0371 (E.D.Wis., filed April 29, 2003) (attached hereto as Exhibit E). EPA determined that "between 1982 and the present, Wisconsin Electric modified and thereafter operated certain coal-fired electricity generating units without first obtaining a PSD permit authorizing the construction and without installing the best available control technology to control emission of sulfur dioxide, nitrogen oxides, and particulate matter, as required by the Act, applicable federal regulations, and the... Wisconsin SIP[]." *U.S. v. Wisconsin Electric*, Case No. 03-C-0371, Compl. ¶ 2 (Apr. 29, 2003). Specific to the Oak Creek plant at issue here, EPA determined that:

At various times, Wisconsin Electric commenced construction and operating of major modifications... at its Oak Creek Plant in Wisconsin. These major modifications included, but were not limited to, replacement of economizers, induced draft fans, waterwall tubes, reheaters and superheaters on one or more units at the plant. These modifications resulted in significant net emissions increases, as defined by 40 C.F.R. § 52.21(b)(3)(i), of one or more of the following pollutants: NOx, SO2, and PM.

Wisconsin Electric violated and continues to violate Section 165(a) of the Act, 42 U.S.C. § 7475(a), and the PSD regulations set forth in 40 C.F.R. § 52.21, as incorporated into the Wisconsin SIP, by, inter alia, undertaking such major modifications at units located at the Oak Creek Plant and operating these modified units at the plant without: (a) obtaining a PSD permit, as required by 40 C.F.R. § 52.21(i) and the Wisconsin SIP; (b) applying best available control technology for NOx, SO2, and PM, as required by 40 C.F.R. § 52.21(j) and the Wisconsin SIP; (c) demonstrating that construction or modification would not cause or contribute to air pollution in violation of any national and/or Wisconsin ambient air quality standard or any specified incremental amount, as required by 40 C.F.R. § 52.21(m) and the Wisconsin SIP; (d) performing an analysis of the ambient air quality in the area, as required by 40 C.F.R. § 52.21(m) and the Wisconsin SIP; (e) submitting to EPA or Wisconsin all information necessary to conduct the analysis or make the necessary determinations under 40 C.F.R. § 52.21, as required under 40 C.F.R. § 52.21(n); and (f) obtaining the required Wisconsin state permits.

Ex. E ¶¶ 41, 43.

Furthermore, on February 23, 2001, Mr. George Czerniak, Chief of Air Enforcement and Compliance Assurance for EPA Region 5, wrote a memo titled "Potential Major Modifications at Wisconsin Electric Power Company Facilities." See Exhibit G.³ The Czerniak memo concluded that:

Preliminary review of Wisconsin Electric Power Company's (WEPCO) response to an EPA Request for Information issued pursuant to section 114 of the Clean Air Act, indicates that WEPCO may have undertaken several major modifications without appropriate environmental review.

³ The Czerniak memo attached as Exhibit G is a copy of the document included as Exhibit 6 to the Declaration of Richard W. Oehler filed in *United States v. Wisconsin Electric Power Co.*, 03-C-0371 (E.D. Wis.) and dated March 11, 2005.

On December 7, 2000, U.S. EPA issued a Request for Information to WECPO concerning modifications at several of their facilities located in Wisconsin and Michigan. On February 16, 2001, WEPCO submitted its response to that request. Preliminary review by my staff shows 16 potential major modifications at five WEPCO power plants. The documents submitted by WEPCO indicate that it spent more than \$95 million dollars on these 16 major projects....

The memo summarizes seven projects at the Oak Creek Power Plant. These projects include:

- 1. A 1982 replacement of the economizer on Oak Creek #5 at a cost of \$1.6 million dollars and resulting in annual increases of 1,473.47 tons of NOx and 9,501.34 tons of SO2.
- 2. A 1989 project on Oak Creek #5 that included upgrading the controls, replacing ID and FD fans and components, conversion to direct fire, and replacing major tubing components and structures in the boiler. This project cost \$29,729,984 and resulted in annual increases of 315.90 tons of NOx and 2,038.88 tons of SO2.
- 3. An uncompleted, likely continuation, of the replacement to the economizer on Oak Creek #5 at a cost of \$3,650,000 and which resulted in an annual increase of 49.12 tons of NOx and 316.75 tons of SO2.
- 4. A 1989 project on Oak Creek #6 that included upgrades to the controls, replacement of FD and ID fan components, conversion to direct fire, replacement of major components (preheater, HRA, penthouse, watewalls, reheater, and superheater pendants). This project cost \$37,490,418 and resulted in annual increases of 237.67 tons of NOx and 1,532.58 tons of SO2.
- 5. Replacement of the Oak Creek #6 economizer at a cost of \$3,650,000 and resulting in annual increases of 22.41 tons of NOx and 144.48 tons of SO2.
- 6. A 1992 improvement to Oak Creek #7 to replace the economizer at a cost of \$2,990,387 and resulting in annual increases of 66.29 tons of NOx and 170.04 tons of SO2.
- 7. A 1995 project on Oak Creek #8 to replace the economizer and replace reheat tubing at a cost of \$2,533,271, resulting in annual increases of 266.66 tons of NOX and 662.82 tons of SO2.

Exhibit G.

These findings by EPA conclusively demonstrate non-compliance for purposes of the Title V review process. *See e.g., New York Public Interest Research Group v. Johnson,* 427 F.3d 172, 180 (2nd Cir. 2005). The filing of a civil action is EPA's official finding that the OCPP is in violation of PSD preconstruction permitting requirements. *Id.* at 181; 42 U.S.C. § 7413(a)(1)(providing that EPA may file a civil complaint only after finding that the person has violated, or is in violation of an applicable implementation plan..."). A failure to require compliance with PSD requirements that were triggered by unpermitted major modifications, and as determined by EPA prior to its Complaint filed against WEPCO, is a deficiency in the Title V permit. *See In re Onyx*, supra, p. 8.

C. OCPP has undergone a number of major modifications that subject the facility to PSD requirements.

Even if EPA had not identified PSD violations and filed a lawsuit regarding those violations in federal court, the permit record here demonstrates that WEPCO is not in compliance with PSD requirements.

1. WEPCO's Planned Replacement of High Pressure Turbine Steam Stop and Control Valves is Subject to PSD

In addition to the violations found by EPA, WEPCO has committed or is committing additional PSD violations. WEPCO filed an application with the Public Service Commission of Wisconsin ("PSCW") on October 21, 2005. In its application, WEPCO sought permission to replace the high-pressure turbine main steam stop and control valves on Units 5 and 6 at a cost of \$14.9 million. See Exhibit H. WEPCO's basis for the request was that these parts were regularly causing forced outages of the Units,

causing lost generating capacity. By replacing the steam stop and valves, WEPCO sought to reduce these outages, thereby increasing annual operating hours. Specifically, WEPCO provided the following justification to the PSCW:

Reason for the Project

The high-pressure turbine main steam stop and control valves on Units 5 and 6 at Oak Creek are original equipment that was installed in 1959 and 1961 respectively. The equipment has experienced maintenance problems and failures that have affected the availability and operation of the generating units. These failures are the result of a metallurgical process known as "creep" which affects a wide range of metals operated above 1050 degrees Fahrenheit.

The plant has experienced occurrences of the control valves becoming stuck, causing the units to be taken out of service or preventing them from returning to service in order to make repairs. The most serious of these incidents occurred in 2000 and 2003. In both cases the outages to repair the equipment were in excess of two weeks.

Additional major repairs that have required long outages have been related to cracks found in the stop valve bodies. The most extensive repair of this type occurred in 1997, and it required the unit to be out of service for twelve weeks. Since that time, other cracks have occurred and have required outages of two to three weeks to repair. Repairs to these valves are labor-intensive.

Application for Authority: Oak Creek Power Plant- Units 5 and 6; Main Steam Stop and Control Valve Replacement 1 (Oct. 21, 2005) (emphasis added) (attached as Exhibit H).

The forced outages resulting from the replaced equipment exceeded 1,666⁴ hours over the 5 years preceding the application to the PSCW. *Id.* at 2. These hours are as follows:

<u>Year</u>	Unit	Component	Problem	Hours
2001	6	Main Stop	Valves Binding/leakage	159
2002	6	Main Stop Valve 2	Severe leakage	510
2003	5	Cntrl Vlvs 1 & 3	Would not close	374
2003	6	Main Stop Valve	Binding/leakage	225
2005	5	Main Stop Valve	Binding valve	24
2005	6	Main Stop Valve	Severe leakage	<u>374</u>
		_	_	
Total				1666

See WEPCO Resp. to PSCW Data Req., p. 5 (attached at Exhibit I); see also Certificate and Order of the Public Service Commission, Docket No. 6630-CE-295 (Exhibit Q). Over five years, WEPCO averaged more than 330 hours of lost operation per year due to the valves and steam stops that it has replaced and plans to replace as part of this project. WEPCO expects additional forced outages until the steam stops and control valves are replaced. *Id.* WEPCO completed the modifications to Unit 6 on July 3, 2007, and expects to have the modifications to Unit 5 done in May, 2008. *See* Ex. P.

The modifications to Units 5 and 6 will trigger PSD requirements because they are physical changes that result in a significant net emission increase of PM, NOx, SO2, and other pollutants. OCPP emits approximately 0.44 tons of SO2 and 0.17 tons of NOx per hour from Unit 5; 0.43 tons of SO2 and 0.17 tons of NOx per hour from Unit 6; 0.58 tons of SO2 and 0.18 tons per hour of NOx per hour from Unit 7; and 0.56 tons of

⁴ WEPCO initially estimated 1,674 hours, but later corrected this to 1666 hours. *See WEPCO Resp. to PSCW Data Req.* (Exhibit I), p. 5.

SO2 and 0.18 tons of NOx per hour from Unit 8. *See* USEPA Clean Air Markets, Unit Emissions Report for South Oak Creek (based on 2004 emissions) (attached as Exhibit J). A modification that is expected to result in only 91 fewer hours of lost generation per year due to forced outages or curtailed operation results in a significant net emission increase of SO2, and only 235 hours per year results in a significant net emission increase of NOx. Based on WEPCO own statements to the Wisconsin Public Service Commission, WEPCO intends to regain sufficient generating time due to this project to result in a significant net emission increase.

Although WEPCO has to burden to demonstrate that its projects are exempt as Routine Maintenance, Repair and Replacement, and has not done so, it should be noted that the steam stop and control valve replacement project is not routine. WEPCO admits that it has never replaced similar parts on any other unit. See WEPCO Resp. to PSCW Data Request, pp. 2-3 (Exhibit I) (WEPCO has not replaced stop or control valves at any other unit); Ex. Q at 3 ("The high-pressure turbine and main steam stop and control valves on Units 5 and 6 at the Oak Creek Power Plant are original equipment that was installed in 1959 and 1961, respectively."). In fact, WEPCO admits that only one other similar replacement occurred at any plant that WEPCO could find. Ex. I p. 3.

2. WEPCO Disclosed Modifications to USEPA in Responses to USEPA's CAA § 114 Requests for Information.

In addition to WEPCO's planned major modification to replace valves and stops on Units 5 and 6, WEPCO undertook a number of historic changes that constitute major

modifications without applying for the required PSD permits. Many of these are included in EPA's findings of violation and civil complaint. Exs. E and G. However, Sierra Club here demonstrates the violations independent of and in addition to EPA's findings.

Beginning in the late 1990s, the United States Environmental Protection Agency ("U.S. EPA") sent WEPCO requests for information pursuant to § 114 of the Clean Air Act. In response to U.S. EPA's requests, WEPCO disclosed the following modifications at OCPP⁵:

⁵ Source: Response by WEPCo to EPA 114 Data Request Question Nos. 3 and 18 (attached as Exhibit K).

Modification	Approved Date	In-Service Date	Approved Amount	Total Expenditure	PSC Approval (If Known) ⁶	Hours of Forced Outage During Baseline Attributable to Part Replaced or Modified (If Known) ⁷
Replace Economizer Unit 5	May, 1981	August, 1982	1,680,000	1,657,260		> 78.78
Replace Steam Air Heater Unit 5	October, 1981	August, 1982	870,000	857,852		>105.939
Replace Reheater Tubing Unit 7	November, 1985	January, 1987	997,865	1,074,141	PSCW granted a certificate of authority to WEPCO to replace the tubes in the boiler reheat section front wall, front and rear reheat pendant tube assemblies and crossover tubing associated with the Oak Creek Unit 7. See Oak Creek Unit 7 Boiler Reheat Tube Replacement, Case No. 6630-CE-115 (Ltr. Order Apr. 15, 1986).	594.54
Upgrade controls, replace fans, convert to direct fire, replace boiler penthouse tubing and structure, replace front waterwall tubing (to intermediate	February, 1986	June, 1989	26,847,263	29,729,984		

 $^{^{6}}$ Files of the Public Service Commission of Wisconsin (Exhibit L).

 $^{^7}$ Based on GADS data reported by WEPCo. See summary of GADS data at Exhibit M. Full GADS data at Exhibit N.

 $^{^8}$ WEPCo provided incomplete descriptions of cause of forced outage prior to 1982, therefore the number of hours is probably greater.

⁹ Id.

header) on		· ·	T			
Unit 5						
Upgrade				 		
controls,						
replace fan,						
convert to				1		
direct fire,						
replace steam			1			
air preheater,						
replace boiler penthouse	[}	
tubing and						
	February,	June-July,	30,065,802	37,490,398		> 1062.3
structure,	1986	198910	30,003,802	37,490,390		7 1002.5
replace						
waterwall						
tubing to						
intermediate						
header, replace						
reheater,						
replace					1	
superheater						
pendants on						
Unit 6						
Replace air		D 1				
preheater	August,	December,	449,500	412,320		
tubing on Unit	1988	1988				
7						
Replace feedwater	November,	Il. 1007	226 624	329,410		
	1986	July, 1987	326,624	329,410		
heater Unit 5				-		
Replace feedwater	June, 1988	A mri 1000	546,000	587,788		
heater Unit 8	June, 1900	April, 1988	346,000	367,766		
Replace	 	1	+			
feedwater	November,	December,	344,153	342,463		
heater Unit 7	1987	1988	344,133	342,403		
Replace air				•		
preheater	August,	December,	449,500	412,320		
tubing Unit 7	1988	1988	*****,500	412,020		
Upgrade			-			
turbine	November,	February,				
governing	1988	1991	788,877	838,973		>3.5
	1 700	1991				
system Unit 5			-			
Upgrade	November					
turbine	November,	March, 1990	799,090	991,321		> 89.48
governing	1988					
system Unit 6						
Install gas	J. J. 1000	December,	305,979	254 497		
ignition on Units 7 and 8	July, 1989	1991	305,979	354,487		
Units / and 8	<u></u>	<u> </u>	1		<u></u>	L

 $^{^{10}}$ WEPCo's response to data request No. 18 states July, 1988 as the date for replacement of the boiler reheat and superheat front pendants for Unit 6.

Modifications to Steam headers on Units 5 and 6	August, 1989	December, 1989	2,396,773	2,565,594	Approved: See Application of Wisconsin Electric Power Co. for Authority to Install a Process Steam Header and Steam Distribution System at the Oak Creek Power Plant Located in the City of Oak Creek, Milwaukee County, Case No. 6630-CE-174 (Ltr. Order Nov. 21, 1989).	
Replace Economizer Unit 7	December, 1990	May, 1992	3,020,782	2,990,387	Approved: See Application of Wisconsin Electric Power Co. for Authority to Replace the Economizer Section of the Unit 7 Boiler at Its Oak Creek Power Plant in the City of Oak Creek, Milwaukee County, Case No. 6630-CE-188 (Ltr. Order Apr. 2, 1991).	> 59.48
Replace Economizer Unit 8	September, 1991	July, 199511	2,032,256	1,883,202	·	
Replace Reheat tubing Unit 8	September, 1991	September, 1995	652,062	650,069		> 406.89
Replace Economizer Unit 5	November, 1999	April, 2002	3,650,000			
Replace Economizer Unit 6	November, 1999	June, 2001	3,650,000			
Rewind generator Unit 5	November, 1997	February, 1999	2,182,500	2,198,966		·
Replacement of Tubing and Tubing Support System for Furnace Wall, Unit 5	Applied to PSCW on May 19, 1989	PSCW granted permission in August, 1989.			See Application by Wisconsin Elec. Power Co. for Authority to Replace the Tubing and Tubing Support System for the Furnace Rear Wall Radiant Superheater Section of Oak Creek Unit 5 Boiler, Milwaukee County, Case No. 6630- CE-166 (Ltr. Order Aug. 3, 1989)	> 105.65

¹¹ WEPCo's response to Data Request No. 18 stated April, 1995 as the date that the economizer and reheat tube were replaced on Unit 8. This appears to be a discrepancy between the responses to Request 3 and Request 18.

	PSCW	See Replacement of the	
Replacement	granted a	Unit 5 Reheater Tubing at	
of Reheater	certificate of	the Oak Creek Power	> 171 04
Tubing at	authority to	Plant, Case No. 6630-	> 171.84
OCPP Unit 5.	WEPCO on	CE-119 (Ltr. Order July	
	July 22, 1986	22, 1986)	

Through the use of General Availability Data System (GADS) information reported by WEPCO to the North American Reliability Council, the number of hours of lost operating time attributable to major components can be determined. This is the method that EPA uses. *See United States v. Ohio Edison Co.*, 276 F.Supp.2d 829, 869-75 (S.D. Ohio 2003) (relying on EPA's experts' use of GADS data to determine cause of prior forced outages and projected increase in operating time and emissions following modification). Because a utility company replaces troublesome parts on a boiler, at least in part, to increase availability of the unit, the physical changes result in projected increased hours of operation. *Id.*

As noted above, OCPP emits approximately 0.44 tons of SO2 and 0.17 tons of NOx per hour from Unit 5; 0.43 tons of SO2 and 0.17 tons of NOx per hour from Unit 6; 0.58 tons of SO2 and 0.18 tons per hour of NOx per hour from Unit 7; and 0.56 tons of SO2 and 0.18 tons of NOx per hour from Unit 8. *See* Exhibit J. OCPP's hourly SO2 emission rate decreased in the mid-1990s due to a fuel switch to lower sulfur coal. Before the coal switch, OCPP's hourly SO2 emissions were at least double what they were after the fuel switch. Additionally, OCPP's NOx rates decreased between the late 1990s and 2004. Using the most conservative, 2004, emission rates, regaining 91 hours of operating time per year results in a significant net emission increase of SO2, and 235

hours per year results in a significant net emission increase of NOx. Using 1992 emission rates, it would take only approximately 40 hours for SO2 and 160 hours for NOx. All or almost all of the modifications above were intended to repair problem components of the boilers. The modifications should have been projected, at the time they commenced, to result in significant net emission increases due to regaining annual operating hours. OCPP did not receive a permit for the modifications, did not comply with BACT, and did not undertake an analysis of ambient air and increment impacts.

Sierra Club's permit comments noted these modifications and requested that DNR include a compliance plan in the Title V permit for the Oak Creek plant. Ex. B pp. 2-20. DNR rejected these comments for unlawful reasons. DNR's response to comments provides:

Response: The Department has not made a finding that the facility has violated PSD requirements nor has the facility reported to the Department that such violations have occurred. If such a finding is made in the future, then the Department will take appropriate actions to revise the operation permit as needed. Without a finding of violation, the Department will not be including a compliance plan or other requirements pertaining to PSD. [note that the draft consent decree between EPA and Wisconsin Electric includes the following: WHEREAS, Wisconsin Electric has denied and continues to deny the violations alleged in the Complaint, maintains that it has been and remains in compliance with the Act and is not liable for civil penalties or injunctive relief, and states that it is agreeing to the obligations imposed by this Consent Decree solely to avoid the costs and uncertainties of *litigation, and to reduce its emissions;*]

Exhibit C at 1-2 (emphasis in original).

As noted above, a Title V permit must "assure[] compliance by the source with all applicable requirements." CAA § 504(a); 40 C.F.R. § 70.1; Wis. Stat. § 285.64(1); Wis. Admin. Code § NR 407.09(4)(b). "Applicable requirements" include requirements contained in preconstruction permits and the requirement to obtain preconstruction permits, comply with BACT, and undertake air impact analysis. 40 C.F.R. § 70.2; Wis. Stat. § 285.64(1); Wis. Admin. Code § NR 400.02(26). An applicant must certify that it is in compliance, or propose a plan for coming into compliance. 40 C.F.R. § 70.5(c)(8). If the source claims to be in compliance—as WEPCO has here—DNR must either agree, or issue a permit with a compliance schedule to bring the source into compliance. 40 C.F.R. § 70.6(c)(3). DNR cannot refuse to make a determination of whether the plant is in compliance and then refuse to issue a compliance schedule based on the fact that DNR has not made a determination.

40 C.F.R. § 70.5(c)(8)(iii)(C) and 70.6(c)(3) require that, if a facility is in violation of an applicable requirement and it will not be in compliance at the time of permit issuance, its permit must include a compliance schedule that meets certain criteria. For sources that are not in compliance with applicable requirements at the time of permit issuance, compliance schedules must include 'a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance.' 40 C.F.R. § 705(c)(8)(iii)(C).

Onyx, supra, at pp. 6-7. Especially here, where there is nothing in the record contradicting Sierra Club's comments demonstrating violations and EPA's findings of violations, DNR must find a violation and include a compliance schedule.

The Oak Creek plant is subject to PSD requirements, including the requirement to obtain a permit and the requirement to comply with BACT limits. The Title V permit does not require WEPCO to comply with these requirements. The Administrator must object. A failure to object will result in continuing operation of the Oak Creek plant in violation of applicable requirements and, consequently, illegal amounts of air pollution affecting Sierra Club's members.

II. The Permit Application Submitted By Wisconsin Electric Omits the Required Compliance Schedule and Falsely Certifies Compliance.

Every Title V permit application must disclose all applicable requirements and any violations at the facility. 42 U.S.C. § 7661b(b); 40 C.F.R. §§ 70.5(c)(4)(i), (5), (8); Wis. Admin. Code § NR 407.05(4)(h). For applicable requirements, including new source review requirements and other preconstruction permitting requirements, for which the source is not in compliance at the time of permit issuance, the source's application must provide a narrative description of how the source intends to come into compliance with the requirements. 42 U.S.C. § 7661b(b); 40 C.F.R. § 70.5(c)(8)-(9); Wis. Admin. Code § NR 407.05(4)(h)2.c. The application must further propose a compliance schedule for any applicable requirements for which the source is not in compliance. 40 C.F.R. § 70.5(c)(8)(iii); Wis. Admin. Code § NR 407.05(4)(h)3.c. If any statements in the application were incorrect, or if the application omits relevant facts, the applicant has an ongoing duty to supplement and correct the application. 40 C.F.R. § 70.5(b); Wis. Admin. Code § NR 407.05(9).

The permit application submitted by Wisconsin Electric Power Company ("WEPCO") for the current permit is dated May 29, 2002. (Attached as Exhibit D.) An additional application for revision is dated June 5, 2002. *Id.* Both applications include a certification that states:

I certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements.

Id. Both are signed by Robert Hall. Id. Neither certification discloses violations of the New Source Review requirements in the Clean Air Act, as set forth in Section I above. Neither proposes a compliance schedule. Neither certification has been supplemented or corrected. The compliance certifications in WEPCO's application are false, the application is incomplete and, as a result, the permit is deficient because it fails to ensure compliance.

As noted above, on April 29, 2003, the EPA filed a Complaint against WEPCO in the Eastern District of Wisconsin alleging violations of New Source Review. *See* Exhibit E ¶¶ 40-45. The Complaint asserts violations by WEPCO at the Oak Creek plant. *Id.* at ¶¶ 41, 43. Both EPA and WEPCO knew of the violations at the Oak Creek plant before the false 2002 compliance certifications in WEPCO's Title V applications. On February 16, 2001, and January 30, 2003, WEPCO provided sworn responses to EPA's information requests pursuant to Clean Air Act section 114, upon which EPA's findings of violation are based. *See* Exhibits F and G. In those responses, WEPCO admits undertaking a number of projects at the Oak Creek Power Plant. On February 23, 2001, EPA issued

the Czerniak memo, as described above, which concluded that WEPCO's section 114 responses indicate that WEPCO undertook major modifications, including seven at the Oak Creek plant. *See* Exhibit G.

Each of the projects set forth in Section I, above, constitute major modifications subject to the Prevention of Significant Deterioration requirements of the Clean Air Act. WEPCO has never complied with the requirements of PSD for these projects—including obtaining a PSD and Nonattainment New Source Review permit, complying with best available control technology, and conducting an analysis of impacts on ambient air quality standards and increments. Nevertheless, WEPCO has failed to certify its noncompliance or propose a compliance schedule in its application.

Sierra Club's comments noted that WEPCO's application was incomplete, but the DNR did not respond. Ex. B at 2-3. The Administrator must object to the permit. A failure to object will result in continuing operation of the Oak Creek plant in violation of applicable requirements and, consequently, illegal amounts of air pollution affecting Sierra Club's members.

III. The Permit Application Submitted By WEPCO Fails to Provide Sufficient Information To Determine Application of PSD Requirements to Planned Projects.

As noted above, WEPCO sought permission from the Wisconsin Public Service

Commission to undertake modifications at the Oak Creek plant with the express intent

of regaining lost generation. Specifically, WEPCO is planning to or in the process of

replacing high-pressure turbine main steam stop and control valves on Units 5 and 6 at a cost of \$14.9 million. *See* Exhibits I and H. WEPCO sought permission from the Public Service Commission to undertake this project based on its projection that the project would regain operating time lost to "occurrences of the control valves becoming stuck, causing the units to be taken out of service or preventing them from returning to service in order to make repairs" as well as "major repairs that have required long outages have been related to cracks found in the stop valve bodies." Exhibit H. As noted, in Section I, above, this project is projected to result in a significant net emission increase of PM, NOx, SO2, and other pollutants, and is therefore subject to Prevention of Significant Deterioration requirements of the Clean Air Act.

WEPCO's Title V application did not disclose this information, even though PSD is an "applicable requirement." 40 C.F.R. § 70.5(c)(4)(i); Wis. Admin. Code § NR 407.05(4)(d)1. Moreover, because the information is relevant and necessary to determine the applicability of PSD requirements to the plant (as well as the lower emission limits in Wis. Admin. Code § NR 415.06(2)(c)), the information was required to be included in the permit application as "other specific information that may be necessary to implement and enforce other applicable requirements of the Act or of [part 70] or to determine the applicability of such requirements." 40 C.F.R. § 70.5(c)(5); Wis. Admin. Code §§ NR 407.05(4)(c)7., NR 407.05(4)(e). Even though WEPCO's Title V permit application preceded its requests to the Wisconsin Public Service Commission to undertake a major modification by replacing steam stops and control valves on Oak

Creek units 5 and 6, WEPCO had an ongoing duty to supplement its application. Wis. Admin. Code § NR 407.05(9). Because WEPCO's permit application was deficient, the DNR did not make a determination of whether PSD requirements apply, whether WEPCO is in compliance with PSD, or whether a compliance plan is required in the Title V permit. This results in a deficient permit, which does not include more stringent pollution controls required under the PSD program, and the Administrator must object.

IV. The Physical Changes At Units 5 and 6 Also Subject the Units to Lower Particulate Matter Limits.

The Permit establishes a particulate matter limit for B25 and B26 of 0.15

lb/MMBtu, based on Wis. Admin. Code § NR 415.06(1)(c)2. That section of the

Administrative Code applies to sources that were constructed or last modified on or

before April 1, 1972. Wis. Admin. Code § NR 415.06(1). However, because Units 5 and
6 boilers have been modified since April 1, 1972, as set forth in Section I, above, the limit
in Wis. Admin. Code § NR 415.06(2)(c) applies instead, and limits particulate matter to.
0.10 lb/MMBtu. Sierra Club's comments raised this issue. Ex. B at 20. However, DNR

rejected this comment for the same reason that it failed to respond to Sierra Club's

comment regarding PSD violations: DNR has not made a determination that

modifications were made. Ex. C at 1. DNR's response to comments contains no basis

for rejecting the preponderance of evidence in the record demonstrating that

modifications did occur — including EPA's own determinations. DNR has an

affirmative duty to include all applicable requirements in the permit. CAA § 504(a); 40

C.F.R. § 70.1; Wis. Stat. § 285.64(1); Wis. Admin. Code § NR 407.09(4)(b). It cannot avoid this obligation by failing to determine whether requirements apply—especially when public comments demonstrate that the requirements apply. The Administrator must object because the permit fails to require compliance with all applicable requirements, including the 0.10 lb/ MMBtu PM limit for Units 5 and 6.

V. The Permit Must Establish Compliance Demonstration Requirements that Ensure Continuous Compliance With Emission Limits.

The Administrator must object to the permit because it fails to require sufficient monitoring to demonstrate continuous compliance with the applicable particulate matter limits. Wis. Admin. Code §§ NR 407.09(1)(c)(1)b. (monitoring must ensure compliance with reliable data for the relevant time period), NR 407.09(4)(a)1. (all operating permits shall contain compliance requirements "sufficient to assure compliance with the terms and conditions of the permit"). Title V permits must establish a method to ensure continuous compliance with all permit limits. 40 C.F.R. §§ 70.6(a)(3)(i)(B); Wis. Admin. Code § NR 407.09(1)(c)1.b.

The "periodic monitoring rule," 40 C.F.R. § 70.6(a)(3)(i)(B), requires that "[w]here the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of record keeping designed to serve as monitoring), [each title V permit must contain] periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit. . . Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement.

to Petitioner's Request That the Administrator Object to Issuance of a State Operating Permit at p. 19 (September 22, 2005) (hereinafter "Waukegan") (citing 69 Fed. Reg. at 3202, 3204 (Jan. 22, 2004)); see also, Appalachian Power Co. v. EPA, 208 F.3d 1015 (D.C. Cir. 2000); Carraway, Candace, U.S. EPA Office of Air Quality Planning and Standards, How Do I Review Each Applicable Requirement for Adequate Periodic Monitoring? at p. 2 (June 2000).

As Sierra Club pointed out in its permit comments, the underlying SIP limit for particulate matter in NR 415 does not include a monitoring requirement. *See* Ex. B at 28. Therefore, the DNR must include in the Oak Creek plant's Title V permit sufficient compliance demonstration provisions to yield continuous data from which the source's compliance can be determined at any given point in time. 40 C.F.R. §§ 70.6(a)(3)(i)(B); Wis. Admin. Code § NR 407.09(1)(c)1.b. The permit proposed by DNR fails to do so.

The Permit requires the use of an Electrostatic Precipitator ("ESP") as the method to demonstrate compliance with the permit limits for PM. Exhibit A §§ I.A.1.b.(3), I.B.1.b.(3). The Permit further requires monitoring of the primary voltage, secondary voltage, primary current in amps, and secondary current in amps. Exhibit A §§ I.A.1.b.(4), I.B.1.b.(4). However, the DNR failed to "include a correlation between these measurements and compliance with the PM emission limitations." *Waukegan*, supra, p. 20; see also In Re Port Hudson Operation Georgia Pacific, Petition No. 6-03-01, at pages 37-40 (May 9, 2003) ("Georgia Pacific"); In Re Doe Run Company Buick Mill and Mine, Petition No. VII-1999-001, at pages 24-25 (July 31, 2002) ("Doe Run"). In other words,

there is no connection between the parametric values-- primary voltage, secondary voltage, primary current, and secondary current—and compliance with the PM limit.

Under the current permit, the permittee could "monitor" the ESP as having no voltage and no current. This is clearly a violation because it indicates that the ESP is not operating, but there is no clear indication in the permit to this effect.

DNR responded to Sierra Club's comments by mischaracterizing them as requiring CAM Plan indicator ranges to be enforceable. Ex. C at 2. Further, to the extent the DNR responded to Sierra Club's requests that the permit include an enforceable parametric range, separate from CAM, DNR merely states:

Response: The Department disagrees that a violation of a compliance demonstration requirement is automatically a violation of an emission limit...

Id.

EPA has already determined that DNR's approach to parametric monitoring is deficient. EPA has determined that if ESP parameters are monitored as the basis for determining compliance with particulate matter limits, the permit must specify the upper and/or lower range for each parameter that establishes compliance with the PM limit. Waukegan at pp. 20-21; In the Matter of Dunkirk Power LLC, Order Objecting to Proposed Operating Permit No. II-2002-02 at 20 (Adm'r July 31, 2003) ("Once the operating ranges have been established for the ESP operating parameters [based on emission stack tests], operating the ESP outside of any of these ranges would constitute a violation of the title V permit."); In the Matter of Oxy Vinyls, LP, Louisville, Kentucky,

Objection to Proposed Part 70 Operating Permit No. 212-99-TV (Feb. 1, 2001) ("The permit must specify the parametric range or procedure used to establish that range, as well as the frequency for re-evaluating the range.").¹²

While the permit does include parametric monitoring of emission unit and control equipment operations in the O & M plans for these units... the parametric monitoring scheme that has been specified is not adequate. The parameters to be monitored and the frequency of monitoring have been specified in the permit, but the parameters have not been set as enforceable limits. In order to make the parametric monitoring conditions enforceable, a correlation needs to be developed between the control equipment parameter(s) to be monitored and the pollutant emission levels. The source needs to provide an adequate demonstration (historical data, performance test, etc.) to support the approach used. In addition, an acceptable performance range for each parameter that is to be monitored should be established.

In the Matter of Tampa Electric Co., F.J. Gannon Station, Objection to Proposed Part 70 Operating Permit No. 0570040-002-AV (Sept. 8, 2000) (emphasis added); see also In the Matter of the Huntley Generating Station, Order Objecting to Operating Permit No. II-2002-01 at 21-22 (Adm'r July 31, 2003) (same).

DNR failed to comply with the requirement to include continuous monitoring and an enforceable parametric range in the permit. These conditions are clearly required by prior Administrator decisions. The Administrator must object to the Oak Creek permit because DNR's failure results in a permit with deficient monitoring.

¹² These USEPA decisions are based on 40 C.F.R. § 70.06(a)(1), and any modification to USEPA's interpretation of 40 C.F.R. § 70.6(c) would not change the requirement to correlate a parameter range and the emission rate.

VI. The Facility's CAM Plan is Deficient.

The DNR accepted a CAM plan submitted by WEPCO as complying with Part 64. However, the plan is defective and the Administrator must object. The proposed CAM plan establishes a PM "excursion" only if opacity exceeds 20% for "any three consecutive one-hour average periods, except during periods of startup, shutdown or malfunction." Ex. A at H.5.a.(1)(e). In other words, the opacity must be greater than 20% for three hours. Emissions averaging 100% opacity for two consecutive one-hour periods, and a 19% opacity average for the third one-hour period would not be recorded as an excursion. Nor would a three hour "startup" period where opacity readings averaged 100%, despite the fact that the underlying limit does not exclude periods of startup. This does not correlate to the underlying limit in NR 415.06, which is an <u>instantaneous</u> limit. The opacity-to-PM correlations made by WEPCO in support of this CAM plan does not support an indicator range that requires greater than 20% opacity for three consecutive hours. It does not even support a range that is average over a single hour. At most, it supports using 20% opacity as an indicator of instantaneous compliance with an instantaneous limit. By adopting an indicator range of 3-consecutive one our periods of opacity greater than 20%, DNR has effectively rewritten the applicable limit as if it were a 3 hour block average.

DNR rejected Sierra Club's comments pointing out these deficiencies by merely providing an *ipse dixit*: "Considering the operational realities of a power plant, using a longer averaging time (3 hours) to define an excursion rather than a lower opacity

threshold is reasonable." Ex. C at 2. This does not respond to Sierra Club's comments. First, it is unclear where DNR gets its two options: longer averaging time or lower opacity threshold. This is not responsive to Sierra Club's comments and does not make sense. Second, it is not apparent how the "operational realities" of a plant require the use of a 3 hour average to define excursion of an instantaneous limit. If there are reasons, they are not readily apparent and DNR did not even attempt to explain them. Third, the CAM plan must contain indicator ranges that "provide[] a reasonable assurance of ongoing compliance with emission limitations..." 40 C.F.R. § 64.3(a)(2). Monitoring must be averaged consistent with the characteristics and typical variability of the pollutant-specific emissions unit, based on the amount of time that it would take the source to bring the control device back into normal operating range. 40 C.F.R. § 64.3(b)(4)(i). There is no indication that this was done for the ESPs at issue.

In summary, the opacity COMS indicator range averaging time must also meet the "period of reporting exceedances" in the underlying particulate matter limit. 40 C.F.R. § 64.3(d)(3)(i). Since the underlying limit is instantaneous, and exceedances over any averaging time must be reported, the COMS indicator value and excursion range should also be instantaneous. Simply put, there is no correlation between the CAM plan indicator range averaging times and the applicable limits. The Administrator must object.

V. The CAM Plan Ignores Condensible Particulate Matter.

The proposed CAM plan is based on the use of Method 17 to test PM. Method 17 does not measure condensible fraction particulate matter, despite the fact that the limits in NR 415.06 apply to total PM (filterable and condensible). As a result, the proposed CAM plan is not correlated to the underlying limit. Furthermore, the CAM indicator range is supposed to be based on "operating parameter data obtained during the conduct of the applicable compliance or performance test conducted under conditions specified by the applicable rule." 40 C.F.R. § 64.4(c)(1). Compliance tests for particulate matter includes both Method 17 and "Wisconsin's Modified Method 5 Test Method for Condensible Particulate for determining backhalf." See Ex. A at I.A.1.c.(3). Therefore, the Administrator must object because the CAM indicator range is based on only part of the total particulate matter emissions limited by the underlying limit, and fails to account for the emission test applicable to the facility.

VII. The Permit Illegally Exempts The Facility From Applicable Limits During Startup, Shutdown and Malfunction Periods.

The Permit exempts excess emissions during startup and shutdown. For example, the opacity limits in sections I.A.2.a.(1) and I.B.5.a.(1) of the Permit exempt excess opacity emissions during "periods of normal start-up and shut-down," which are defined "in the start-up and shut-down plan." Normal startup and shutdown periods, however, are not exempted from the emission limit cited in the permit: NR 431.04(2).

¹³ DNR's proposed permit cites NR 439.07(8)(n) for this test method. However, there is no such provision in chapter NR 439. Nor does "Wisconsin Modified Method 5" appear to be an approved test method.

Instead, only the exemptions in NR 431.05 apply. NR 431.05 states "[w]hen combustion equipment is being cleaned or a new fire started, emissions may exceed number 1 of the Ringlemann chart or 20% opacity but may not exceed number 4 of the Ringlemann chart or 80% opacity for 6 minutes in any one hour. Combustion equipment may not be cleaned nor a fire started more than 3 times per day." Wis. Admin. Code NR 431.05(1). Additionally, emissions may exceed 20% opacity as permitted by DNR for operating tests, use of emergency equipment or other good cause. Wis. Admin. Code NR 431.05(2). Notably NR 431.05 does not contain an exception from the opacity limit for shutdown periods. Nor is the exception for startup without limitation- the opacity during startup cannot exceed 80% for more than 6 minutes and startup cannot occur more than 3 times per day.

The Permit cites to NR 436.03(2)(b) for the startup/shutdown exemption. However, NR 436.03(2), and its prior version in NR 154.09, were never incorporated into the Wisconsin State Implementation Plan ("SIP"). Therefore, to the extent that NR 436.03(2) exempts emissions that are otherwise prohibited by the SIP (i.e., opacity greater than 20% during shutdown), NR 436.03(2) is invalid. Once EPA approves a SIP, it becomes binding federal law until EPA approves a modification. See American Lung Assoc. v. Kean, 871 F.2d 319, 322 (3rd Cir. 1989); Ford Motor Co., 814 F.2d 1099 (6th Cir. 1987); Coalition for Clean Air, Inc. v. So. Coast Air Quality Mgmt. Dist., 1999 WL 33842864, * 1 (C.D. Cal. 1999); Oregon Environmental Council v. Oregon Dept. of Environmental Quality, 1992 WL 252123 (D.Or. 1992). Because EPA has never approved NR 436.03(2),

DNR cannot grant exceptions under that provision. *In the Matter of Dunkirk Power LLC*, Order Objecting to Proposed Operating Permit No. II-2002-02 at 14 (Adm'r July 31, 2003) (state cannot grant a startup/shutdown/malfunction exemption on a state rule that has not been approved into the SIP); *In the Matter of the Huntley Generating Station*, Order Objecting to Operating Permit No. II-2002-01 at 15 (Adm'r July 31, 2003) (same).

In response to Sierra Club's comments, DNR provided the following statement:

Response: The Department disagrees. The provision regarding allowing emissions in excess of the emission limit due to normal startup or shutdown carried out in accord with the approved startup and shutdown plan was approved in the state SIP as s. NR 154.09, Wis. Adm. Code, and later included as the renumbered s. NR 436.03(2)(b), Wis. Adm. Code. In a proposed SIP revision rule, EPA specifically cites the exemption from emissions limitations due to startup or shutdown (page 41816, FR 8/18/1981) before finalizing the revision to s. NR 154.09, Wis. Adm. Code (FR 11/27/1981).

Ex. C at 3. DNR's response misunderstands the Federal Register notices it cites and the applicable Wisconsin SIP provisions. The Federal Register notices that DNR cites do not incorporate the entire text of NR 154.09 into the Wisconsin SIP. Instead, they incorporate a specific amendment — which deletes exemptions for equipment breakdown and requires that certain exemptions be carried out "in accordance with a plan and schedule approved by the Department of Natural Resources." 46 Fed. Reg. 41,814, 41,816 (August 18, 1981). While the Federal Register discusses Rule NR 154.09, including the startup and shutdown exemption, it specifically distinguishes between the entire rule (which EPA is not proposing to adopt), and the amendments to the rule

(which EPA is proposing to adopt). The startup and shutdown exemption is discusses as part of the former. If there were any doubt that EPA was not adopting NR 154.09, but only specific amendments to that rule, the actual language of the final rulemaking decision and the actual regulation adopted by EPA clarify this fact. EPA's rulemaking states:

On July 12, 1979, the State of Wisconsin submitted amendments to Rule NR 415.09. The amendments delete the exemption for equipment breakdown (NR 154.09(1)(b), require that any use under NR 154.09(1)(b) be carried out in accordance with a plan and schedule approved by the Department of Natural Resources, and delete the 15-day limitation of NR 154.09(1)(c). <u>EPA reviewed the amendments</u> and determined that attainment and maintenance of the ambient air quality standards is not jeopardized.... <u>EPA approves the amendments</u> as adopted by the State.

46 Fed. Reg. 57,893, 57,895 (November 27, 1981) (emphasis added). The language of 40 C.F.R. § 52.2570(c)(22) further clarifies that EPA adopted only the "revisions to Regulation NR 154.09" that were submitted on July 12, 1979 (emphasis added). The startup and shutdown provision was a revision that was submitted on July 12, 1979. It was never approved into the Wisconsin SIP. In fact, it would not have been approved because it violates EPA's policy against such exemption provisions. *See* Memorandum from Kathleen Bennett, USEPA Assistant Administrator for Air, Noise and Radiation, to Regional Administrators, Regions I-X (Sept. 28, 1982); Memorandum from Steven A. Herman, USEPA Assistant Administrator for Enforcement and Compliance Assurance, to Regional Administrators, Regions I-X (Sept. 20, 1999).

DNR's response is also inconsistent with DNR's prior decisions. In a prior Title V permit issuance, in response to Sierra Club's comments, the DNR removed a proposed blanket startup/shutdown exemption and replaced it with the exemption in NR 431.04 and NR 431.05.

There is no language for the exclusion of startup and shutdown other than the specific language regarding an exception for up to 80% opacity for 6 minutes in any one hour when combustion equipment is being cleaned or a new fire started with the provision that combustion equipment may not be cleaned nor a fire started more than 3 times per day. Therefore, conditions I.A.2.a.(1) and I.B.2.a.(1) will be changed to read as follows:

(1) Opacity may not exceed 40% or number 2 of the Ringlemann chart except when combustion equipment is being cleaned or a new fire started, emissions may exceed number 2 of the Ringlemann chart or 40% opacity but may not exceed number 4 of the Ringlemann chart or 80% opacity for 6 minutes in any one hour. Combustion equipment may not be cleaned nor a fire started more than 3 times per day. Emissions may exceed number 1 of the Ringlemann chart or 20% opacity for stated periods of time, as permitted by the department, for such purpose as an operating test, use of emergency or reserve equipment, or other good cause, provided no hazard or unsafe condition arises. [s. NR 431.04(1) and 431.05(1)&(2), Wis. Adm. Code]

See Memorandum from Steve Dunn, WDNR, to Permit File for Permit# 737009020-P02 at p. 2 (Sept. 28, 2006) (attached as Exhibit O). DNR's response to comments and permit decision here, for the Oak Creek plant, conflicts with DNR's prior decision for the Weston Generating Station.

Moreover, even if the provisions of NR 436.03(2) were adopted into the SIP, DNR ignores and omits important parts of the rule. The rule provides: "Emissions in excess

of the emission limitations set in chs. NR 400 to 499 may be allowed in the following circumstances...When emissions in excess of the limits are temporary and due to scheduled maintenance, startup or shutdown of operations carried out in accord with a plan and schedule approved by the department." Notably, it is not every startup and shutdown that is exempted but only "scheduled" startups and shutdowns, and only when carried out in accordance with both a plan and a schedule approved by the department. The limitation of the exemption to scheduled shutdowns and startups is important. A source is required to notify DNR in advance of its scheduled startups and shutdowns. Wis. Admin. Code § NR 439.03(6). In other words, even if NR 436.03(2) was in the SIP, it provides a very limited exemption for startup and shutdown periods where the source notifies DNR of the startup or shutdown in advance. The Permit omits this important qualification and provides a blanket exemption during startup and shutdown, regardless of whether the source notifies DNR in advance of the startup or shutdown. See e.g., Ex. A §§ I.2.a.(1), I.B.5.a.(1).

In any event, the exemption in NR 436.03(2) is not part of the Wisconsin SIP and violates provisions of the Wisconsin SIP. The Administrator must object to the permit because it unlawfully grants exemptions from applicable limits.

VIII. The Permit Must Incorporate, and The Public Must Be Allowed To Review And Comment On The Startup, Shutdown, and Malfunction Plans (Malfunction Prevention Plan) and The Fugitive Dust Control Plans.

The Administrator must object to the Permit because it does not incorporate malfunction, startup/shutdown, and quality control plans into the permit which DNR relied upon to determine that the source will meet applicable requirements.

Throughout the permit, DNR relies on a "malfunction prevention and abatement plan" ("MPAP") to assure compliance with applicable standards. *See e.g.*, Ex. A § I.A.1.b.(5).

Additionally, the DNR relies upon Quality Control and Quality Assurance Plans ("QCQAP") to ensure compliance. *See e.g.*, Ex. A § I.B.2.b.(3). DNR also allows a startup and shutdown exemption from the visible emission limit based on a definition of "normal startup and shutdown [which] shall be defined in the startup and shutdown plan." Ex. A § I.A.2.a.(1). In other words, DNR does not merely require the plans to be submitted, but relies on the plans as the basis for finding that the plant will comply with applicable requirements and to define terms in the permit.

Because DNR is relying on the MPAP, Startup and Shutdown Plan, and QCQAP to ensure compliance and to define permit terms, the Plan must be provided <u>in the application</u>. 40 C.F.R. § 70.5(a)(2) (a complete application must contain sufficient information to determine all applicable requirements), 70.5(c) (application cannot "omit information needed to determine the applicability of, or impose, any applicable requirement…"), 70.5(c)(3)(vi) (application must include any "work practice standards"). The plans were not included with the application, or the public review

documents. The public had no opportunity to review the plans to determine whether they were sufficient to ensure compliance, or to determine the definition of permit terms. This is unlawful. The plans cannot be approved by DNR separate from, and later than, the Title V permit.

Second, because DNR relies on the plans to <u>assure compliance</u> with all applicable requirements, it must be part of the Title V permit and reviewed with the Title V permit. 40 C.F.R. §§ 70.6(a)(1), 70.7(a)(iv). It is not possible for DNR to rely on the plans to conclude that the facility will comply with all requirements, when DNR has not yet reviewed the plans. *See Environmental Defense Center, Inc. v. EPA*, 344 F.3d 832, 855-56 (9th Cir.2003) ("[P]rograms that are designed by regulated parties must, in every instance, be subject to meaningful review by an appropriate regulating entity to ensure that each such program [complies with the relevant statutory standard]."); *In re RockGen Energy Center*, 8 E.A.D. 536, 553-54 (EAB 1999) (remanding DNR permit requirement for a startup/shutdown plan that was not reviewed by DNR before permit issuance).

Third, because compliance with the plans constitutes a Permit requirement (and defines whether startup and shutdown excess emissions are exempt (Ex. A § I.A.2.a.(1)), the plans must be subject to public notice and comment. The public cannot comment on the sufficiency of the Permit, which incorporate, reference, or otherwise rely on the plans, when the plans were not part of the permit record and will not even be created until after the permit is issued. 40 C.F.R. § 70.7(h); see e.g., Waterkeeper Alliance v. EPA, 399 F.3d 486, 503-04 (2nd Cir. 2005) (invalidating EPA regulation that allowed Nutrient

Management Plans to be submitted after public comment and after a NPDES permit was issued); *In re RockGen Energy Center*, 8 E.A.D. at 553-54 (remanding permit requirement for a startup/shutdown plan that was not subject to public notice and review). DNR's only response to Sierra Club's comments on this issue was that EPA has not yet said DNR's practice is wrong.

Response: The Department disagrees. These procedures for handling such plans in permits are typical for any permit issued by the Department. Permits are routinely submitted to EPA for review and the Department's Title V permit program has been audited by EPA. EPA has not identified this issue as a problem.

Ex. C at 3. Not only is DNR wrong, because in *RockGen Energy Center*, 8 E.A.D. at 553-54, EPA did say that DNR's practice is a problem; but, DNR's excuse is irrelevant. EPA need not specifically direct DNR to follow the law for the law to apply.

The MPAP, Startup and Shutdown, and QCQAP plans were not available with the application and public review documents. Nor did DNR review them before proposing the permit—despite purporting to rely on them in issuing the permit. This likely resulted in a deficient permit because there is no basis in the record for DNR's findings that the source will comply with applicable requirements when the documents DNR purports to rely on have not be submitted to DNR. Moreover, it resulted in a deficient permit because the permit grants an exemption (for startup and shutdown) that will be defined by the permittee, through a "plan," which will be developed after the permit is issued. Therefore, the Administrator must object.

IX. All Monitoring Data and Recordkeeping Must Be Submitted to DNR; It is Not Sufficient That the Monitoring Results Be Kept At the Source.

The Administrator must object because the Permit does not require sufficient reporting. The Permit fails to explicitly require the source to submit all records of monitoring results to the DNR. Rather, the Permit merely requires that monitoring results be maintained at the facility. See e.g., Ex. A § I.H.1.a.(3). The Wisconsin SIP expressly requires the source to "submit the results of monitoring required by the permit... no less often than every 6 months..." (emphasis added). Wis. Admin. Code § NR 439.03(1)(b). This requirement applies to any monitoring required by the permit, including parametric monitoring results (*i.e.*, records of ESP volts and amp readings). While the applicable SIP regulations provide that DNR may require sufficient summary reporting, the SIP regulations are careful to point out the minimum information necessary in summary reporting: "sufficient data for the department to determine whether the source is in compliance with the applicable requirements..." Wis. Admin. Code §§ NR 407.09(1)(c)3.a., NR 439.03(1)(a)(b). A generic certification of compliance with applicable limits is not data, and is not sufficient for DNR to independently determine whether the source is, in fact, in compliance. In short, the Title V permit must require reporting of all information necessary to determine compliance with every applicable requirement.

DNR responded to public comments by stating:

Response: The Department disagrees that the permit needs modification. The requirement to submit monitoring results

under s. NR 439.03(1)(b), Wis. Adm. Code, is already in the permit at I.H.1.a.(1) and I.H.1.b.(1). The comment reads more like Mr. Bender disagrees with what the Department has accepted as a summary of data at another facility, and disagrees with the option provided under s. NR 439.03(1)(b), Wis. Adm. Code, to allow submission of a summary in lieu of all monitoring results.

Exhibit C at p. 3. DNR is wrong. Sierra Club's comments were not that they disagree with DNR's practice of accepting deficient reporting (although Sierra Club does disagree with that practice), but that the <u>permit fails to require sufficient reporting</u>. As Sierra Club's comments state: "[t]hroughout the permit, DNR only requires that monitoring results be maintained at the facility, but fails to require such results to be provided to DNR." Ex. B at 36.

The Administrator must object. The failure to comply with the Wisconsin SIP requirement that sufficient reporting be made to DNR to determine whether the source is in compliance with the applicable requirements" violates the Act. Wis. Admin. Code §§ NR 407.09(1)(c)3.a., NR 439.03(1)(a)(b). This violation results in a deficient permit. Unless the compliance records are required by the Title V permit, the public's right to review the documents and enforce the Act are hampered. The public my have no way to determine whether violations occurred unless the permittee, itself, identifies them.

Conclusion

For the foregoing reasons, the permit fails to meet federal requirements in numerous ways. These deficiencies require that the Administrator object to issuance of the permit pursuant to 40 C.F.R. § 70.8(c)(1). Each of the issues raised by Sierra Club in

this petition result in a deficient permit. Most of the deficiencies result in unlawful emissions of air pollutants that negatively affect the health and welfare of Sierra Club members. Others result in illegal monitoring and reporting that make it difficult for Sierra Club to monitor and enforce air pollution limits applicable to the plant.

Dated this 23rd day of August, 2007.

Attorneys for Sierra Club

GARVEY MCNEIL & MCGILLIVRAY, S.C.

David C. Bender

SIERRA CLUB

Bruce E. Nilles

CERTIFICATE OF SERVICE

STATE OF WISCONSIN)
) ss
COUNTY OF DANE)

I make this statement under oath and based on personal knowledge. On this day I caused to be served upon the following persons a copy of Sierra Club's Petition to the United States Environmental Protection Agency regarding the Oak Creek Power Plant, Permit No. 241007690-P10, via Certified Mail, Return Receipt Requested:

Stephen L. Johnson US EPA Administrator Ariel Rios Building 1200 Pennsylvania Avenue, N.W. Washington, DC 20460

P. Scott Hassett Wisconsin Dept. of Natural Resources Secretary 101 S Webster St PO Box 7921 Madison, WI 53707-7921

Oak Creek Power Plant 11060 S. Chicago Rd Oak Creek, WI 53154

Wisconsin Electric Power Company 231 W. Michigan Street Milwaukee, WI 53203 Dated : August 23, 2007

Laura Boyd

Signed and sworn to before me This 23rd day of August, 2007.

Notary Public, State of Wisconsin My commission is permanent.

PROPOSED AIR POLLUTION CONTROL OPERATION PERMIT RENEWAL

EI FACILITY NO: 24	1007690			PERMIT NO.:	241007690-P10
TYPE: Part 70 Source	ce, Affected S	Source for Acid Rai	in		
In compliance with the	e provisions o	of Chapter 285, Wis	s. Stats., and (Chapters NR 40	0 to NR 499, Wis. Adm. Code,
. Name of Source:	WE Energie	es, Oak Creek Statio	on		
Street Address:	11060 S. Ch Oak Creek,	nicago Milwaukee County	, Wisconsin		
Responsible Offici	ial, & Title:	Michael Lee, Asse	et Manager		
is authorized to operate	e an existing	electric power gene	eration station	in conformity	with the conditions herein.
THIS OPERATION PE	ERMIT EXPI	RES [Section NR 40	7.09(1)(b)1., V	Vis. Adm. Code	Date will be inserted at the time of issuance.
A renewal application expiration date [ss. 28]					e than 18 months, prior to this
timely and complete	application for peroperation per	or renewal of the mit will not expire	permit. If you until the res	ou submit a tin newal applicati	res, unless the permittee submits a nely and complete application fo on has been finally acted upon by
This authorization req	-			he emission lir	mitations, monitoring requirement
Dated at Madison, Wis	sconsin		I)RAFT	
STATE OF WISCONSING DEPARTMENT OF NA For the Secretary		DURCES			
Ву DF	RAFT				
Jeff Hanson Air Management	Supervisor				

PREAMBLE

An Asterisk (*) throughout this document denotes legal authority, limitations and conditions which are not federally enforceable.

Concurrent Permit Actions Performed as Part of the Review and Issuance of Permit 241007690-P10

Construction Permits Issued in Conjunction with Permit 241007690-P10 Under s. 285.61(8), Wis. Stats.: none

Revised Construction Permits Issued in Conjunction with Permit 241007690-P10 Under s. NR 406.11, Wis. Adm. Code: **none**

Operation (CONOP) Permits Issued in Conjunction with Permit 241007690-P10 Under s. 285.62(7)(b), Wis. Stats.: 01-RV-103-OP, 02-RV-054-OP

Revised Operation Permits Issued in Conjunction with Permit 241007690-P10 Under ss. NR 407.11, 407.12, 407.13 and/or 407.14, Wis. Adm. Code: **none**

The following permits, orders, etc., are adopted, under ss. 285.65(3), Wis. Stats., NR 406.11(1)(c) and (d), NR 407.09(2)(d) and NR 407.15(3) and (4), Wis. Adm. Code, by Permit 241007690-P10 which then becomes the primary enforceable document:

241007690-P01, 241007690-P02, 01-RV-103, 01-RV-103-OP, 02-RV-054, 02-RV-054-OP

Stack and Process Index.

- A. Stack S13, Process B25 and 26 Wall Fired Boilers (Acid rain units ID #5 & 6)
- B. Stack S14, Process B27 and 28 Tangentially Fired Boilers (Acid rain units ID #7 & 8)
- c. Stack S15, Process P30 Gas Turbine Generator
- D. Stack S16, Process F01 Reclaim Coal Storage Pile Stack S17, Process F02 - Outdoor Storage Pile at Coal Dock¹
- E. Stack S18, Process F03 In-Plant Coal Transfer²
- F. Stack S19, Process F04 Ash Handling System
- G. Stack S114, Process P31 Fly Ash Storage Facility

Note: Stack S16, S17, S18 and S19 represent fugitive emissions from the coal piles and material handling processes rather than actual physical stacks.

¹ Reclaim Coal Storage Pile (S16) and the Outdoor Storage Pile at Coal Dock (S17) are anticipated to be retired in 2007, and would be replaced by the new site coal handling system covered under construction permit 03-RV-166-R1

² A portion of the In-Plant Coal Transfer system (S18) (railcar unloading, crushing and conveying) is anticipated to be retired in 2007 when the new site bulk material coal handling system becomes operational. (The new equipment is covered under construction permit 03-RV-166-R1.) What will remain of this source (S18) will be the belts that convey the coal inside the south Oak Creek plant running from the 7/8 Junction House to each unit's green coal silo.

Insignificant Emission Units

Boiler, Turbine, and HVAC System Maintenance.

Convenience Space Heating (< 5 million BTU/hr Burning Gas, Liquid, or Wood).

Convenience Water Heating.

Demineralization and Oxygen Scavenging of Water for Boilers.

Fire Control Equipment.

Fuel Oil Storage Tanks (< 10,000 gal.).

Internal Combustion Engines Used for Warehousing and Material Transport.

Janitorial Activities.

Maintenance of Grounds, Equipment, and Buildings (lawn care, painting, etc.).

Office Activities.

Pollution Control Equipment Maintenance.

Purging of Natural Gas Lines.

Sanitary Sewer and Plumbing Vents

Sodium Hydroxide Storage Tank (12,000 gal.)

Ferric Chloride Storage Tank (T01 - 10,500 gal.)

Permit Shield — Unless precluded by the Administrator of the US EPA, compliance with all emission limitations in this operation permit is considered to be compliance with all emission limitations established under ss. 285.01 to 285.87, Wis. Stats., and emission limitations under the federal clean air act, that are applicable to the source if the permit includes the applicable limitation or if the Department determines that the emission limitations do not apply. The following emission limitations were reviewed in the analysis and preliminary determination and were determined not to apply to this stationary source:

none

Part I — The headings for the areas in the permit are defined below. The legal authority for these limitations or methods follows them in [brackets].

Pollutant – This area will note which pollutant is being regulated by the permit.

Limitations – This area will list all applicable emission limitations that apply to the source, including case-by-case limitations such as Latest Available Control Techniques (LACT), Best Available Control Technology (BACT), or Lowest Achievable Emission Rate (LAER). It will also list any voluntary restrictions on hours of operation, raw material use, or production rate requested by the permittee to limit potential to emit.

Compliance Demonstration – The compliance demonstration methods outlined in this area may be used to demonstrate compliance with the associated emission limit or work practice standard listed under the corresponding Limitations column. The compliance demonstration area contains limits on parameters or other mechanisms that will be monitored periodically to ensure compliance with the limitations. The requirement to test as well as initial and periodic test schedules, if testing is required, will be stated here. Notwithstanding the compliance determination methods which the owner or operator of a sources is authorized to use under ch. NR 439, Wis. Adm. Code, the Department may use any relevant information or appropriate method to determine a source's compliance with applicable emission limitations.

Reference Test Methods, Recordkeeping, and Monitoring Requirements – Specific USEPA Reference test methods or other approved test methods will be contained in this area and are the methods that must be used whenever testing is required. A reference test method will be listed even if no testing is immediately required. Also included in this area are any recordkeeping requirements and their frequency and reporting requirements. Accuracy of monitoring equipment shall meet, at a minimum, the requirements of s. NR 439.055(3) and (4), Wis. Adm. Code, as specified in Part II of this permit.

Condition Type – This area will specify other conditions that are applicable to the entire facility that may not be tied to one specific pollutant.

Conditions – Specific conditions usually applicable to the entire facility or compliance requirements.

Compliance Demonstration – This area contains monitoring and testing requirements and methods to demonstrate compliance with the conditions.

PART II — This section contains the general limitations that the permittee must abide by. These requirements are standard for most sources of air pollutants so they are included in this section with every permit.

Part I

A. S13, B25/C05 and B26/C06 - Wall Fired Boilers, 2298 and 2283 mmBtu/hr heat input (1959 and 1961). (Acid Rain Units 5 & 6).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) Emissions may not exceed 0.15 pounds particulate matter emissions per million BTU heat input from any stack. [s. NR 415.06(1)(c)2., Wis. Adm. Code]	(1) The primary type of fuel used in the Wall Fired Boilers shall be coal. Natural gas and/or propane may be used for flame stabilization, startup, and light off and for supplemental firing. If primary or supplemental fuel types other than coal, natural gas, or propane are used, the permittee shall notify the Department at least 21 days in advance. Alternate fuels may not be burned in this unit unless they meet the requirements in s. NR 406.04(4)(a), Wis. Adm. Code. [s. 285.65(3), Wis. Stats., ss. NR 407.025(1)(b), 407.09(4)(a)3.b., Wis. Adm. Code] (2) Compliance emission tests shall be performed every 24 months to demonstrate compliance with the particulate matter emissions limitations, while operating at 100% capacity and using representative coal. If operation at 100% capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. If the compliance emission tests cannot be conducted within 90 days of the May 31 st biennial test date, the permit holder may request and the Department may approve in writing an alternate date. The Department shall be informed at least 20 working days prior to the tests so a Department representative can witness the testing. At the time of notification, a compliance emission test plan following the provisions set forth in Section NR 439.07, Wis. Adm. Code, shall also be submitted to - continued-	(1) The permittee shall maintain monthly records of the fuel types used in the Wall Fired Boilers. [s. NR 407.09(4)(a)1., Wis. Adm. Code] (2) Two copies of the report on the compliance emission tests for particulate matter shall be submitted to the Department for evaluation within 60 days after the tests. [s. NR 439.07(9), Wis. Adm. Code] (3) Whenever a stack test for particulate matter emissions including backhalf is required, the permittee shall use Method 5 or Method 17 in 40 CFR Part 60, Appendix A, incorporated by reference in Section NR 484.04, Wis. Adm. Code, for determining particulate emissions and Wisconsin's Modified Method 5 Test Method for Condensible Particulate for determining backhalf. [ss. NR 439.06(1), NR 439.07(8)(n)*, Wis. Adm. Code] (4) The permittee shall record the primary and secondary voltage in volts, primary and secondary current in amps, and sparking rate in sparks per minute for each electrostatic precipitator once every 8 hours of source operation or once per day whichever yields the greater number of measurements. [ss. NR 439.055(2)(b)2., NR 407.09(1)(c)1.a., Wis. Adm. Code] (5) The permittee shall keep records of the date and name of the person performing the inspections of the electrostatic precipitators, a list of the items inspected, and any maintenance or repairs performed as a result of these inspections. [s. NR 407.09(1)(c)1.b., Wis. Adm. Code] - continued-

A. S13, B25/C05 and B26/C06 - Wall Fired Boilers, 2298 and 2283 mmBtu/hr heat input (1959 and 1961). (Acid Rain Units 5 & 6).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
Particulate Matter Emissions (continued)		the Department. The Department may grant a written waiver of a scheduled test if any of the exceptions listed in s. NR 439.075(4)(a)1. apply. [s. NR 439.075(3)(b), Wis. Adm. Code] (3) The permittee shall use an electrostatic precipitator for each boiler at all times when the boilers are operated. [s. 285.65(3), Wis. Stats., s. NR 407.09(4)(a)3.b., Wis. Adm. Code]	(6) If flue gas conditioning systems are used to optimize the efficiency of the electrostatic precipitators when performing the compliance emission test in condition A.1.b.(2), the permittee shall maintain monthly records sufficient to demonstrate that flue gas conditioning is used when required. [s. NR 407.09(1)(c)1.b., Wis. Adm. Code]
		(4) The permittee shall monitor the primary and secondary voltage in volts, primary and secondary current in amps, and sparking rate in sparks per minute for each electrostatic precipitator. [ss. NR 439.055(1)(c), NR 407.09(4)(a)3.b., Wis. Adm. Code]	
		(5) The permittee shall perform inspections of each electrostatic precipitator in accordance with an approved malfunction prevention and abatement plan to ensure that the control equipment is operating properly. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code]	
		(6) If flue gas conditioning systems are used to optimize the efficiency of the electrostatic precipitators when performing the compliance emission test in condition A.1.b.(2), the permittee shall use flue gas conditioning when running the type of coal used in the compliance emission test. [s. 285.63(1)(a), Wis. Stats.]	

A. S13, B25/C05 and B26/C06 - Wall Fired Boilers, 2298 and 2283 mmBtu/hr heat input (1959 and 1961). (Acid Rain Units 5 & 6).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
2. Visible Emissions	(1) Opacity may not exceed 20% except during periods of normal startup and shutdown. Normal startup and shutdown shall be defined in the startup and shutdown plan. [ss. NR 431.04(2), 436.03(2)(b), Wis. Adm. Code]	(1) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of opacity. [ss. NR 439.095(5)(a)1., NR 439.095(5)(f), Wis. Adm. Code] (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with Performance Specification 1 in 40 CFR part 60, Appendix B. [s. NR 439.09(1), Wis. Adm. Code]	(1) The continuous emission monitor shall complete one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. [s. NR 439.09(9)(a), Wis. Adm. Code] (2) The permittee shall submit quarterly excess emission reports to the Department within 30 days following the end of each reporting period ³ . Excess emissions for opacity are any 6-minute period during which the average opacity exceeds 20% except during periods of normal startup and shutdown. [s. NR 439.09(10), Wis. Adm. Code] (3) The excess emission reports required by condition I.A.2.c.(2) shall contain the information in condition I.H.1.b.(3). [s. NR 439.09(10)(a), Wis. Adm. Code] (4) Whenever visible emissions tests are required, the permittee shall use Method 9 in 40 CFR Part 60, Appendix A. [s. NR 439.06(9)(a)1., Wis. Adm. Code]

³ 45 days and semi-annual when the cooperative agreement (http://www.dnr.state.wi.us/org/caer/cea/ecpp/agreements/wepco2/index.htm) is in effect and when consistent with the SIP.

A. S13, B25/C05 and B26/C06 - Wall Fired Boilers, 2298 and 2283 mmBtu/hr heat input (1959 and 1961). (Acid Rain Units 5 & 6).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
3. Sulfur Dioxide Emissions	(1) Emissions may not exceed 3.2 pounds of sulfur dioxide per million BTU heat input from any stack. [s. NR 417.07(2)(a), Wis. Adm. Code]	(1) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of sulfur dioxide. [ss. NR 439.095(5)(a)2., NR 439.095(5)(f), Wis. Adm. Code] (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [ss. NR 439.09(2), NR 439.095(6), Wis. Adm. Code] (3) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of carbon dioxide. [ss. NR 439.095(5)(a)4., NR 439.095(5)(f), Wis. Adm. Code] (4) The permittee shall calibrate, maintain, and operate the continuous carbon dioxide emission monitor in accordance with the performance specifications in 40 CFR part 75. Appendices A to I. [ss. NR 439.09(3), NR 439.095(6), Wis. Adm. Code] (5) The permittee shall submit to the Department a quality control and quality assurance plan for the continuous carbon dioxide emission monitor, and comply with the plan. [ss. NR 439.09(8), NR 439.095(6), Wis. Adm. Code] - continued -	(1) The continuous sulfur dioxide emission monitor shall complete one cycle of sampling, analyzing and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. NR 439.09(9)(b), Wis. Adm. Code] (2) The permittee shall submit quarterly excess emission reports to the department within 30 days following the end of each reporting period ³ . Excess emissions for sulfur dioxide are any 24-hour rolling average during which the average sulfur dioxide emissions exceed 3.2 pounds of sulfur dioxide per million BTU heat input from any stack except during periods of normal startup and shutdown. [s. NR 439.09(10), Wis. Adm. Code] (3) The excess emission reports required by condition I.A.3.c.(2) shall contain the information in condition I.H.1.b.(3). [s. NR 439.09(10)(a), Wis. Adm. Code] (4) Whenever sulfur dioxide tests are required, the permittee shall use Method 6, 6A or 6C in 40 CFR Part 60, Appendix A. [s. NR 439.06(2)(a), Wis. Adm. Code]

A. S13, B25/C05 and B26/C06 - Wall Fired Boilers, 2298 and 2283 mmBtu/hr heat input (1959 and 1961). (Acid Rain Units 5 & 6).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
3. Sulfur Dioxide Emissions (continued)		(6) The data obtained from the continuous monitoring system for the measurement of carbon dioxide in the flue gas shall be used to convert sulfur dioxide continuous emission monitoring data to units of the applicable emission limitation. [s. NR 439.095(5)(a)4., Wis. Adm. Code] (7) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of stack flow rate. [s. NR 439.095(5)(f), Wis. Adm. Code] (8) The permittee shall calibrate, maintain, and operate the continuous stack flow rate emission monitor in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [s. NR 439.095(6), Wis. Adm. Code] (9) The permittee shall submit to the Departmenta quality control and quality assurance plan for the continuous stack flow rate emission monitor, and comply with the plan. [s. NR 439.095(6), Wis. Adm. Code]	(5) The continuous carbon dioxide emission monitor shall complete one cycle of sampling, analyzing and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. NR 439.09(9)(b), Wis. Adm. Code]

A. S13, B25/C05 and B26/C06 - Wall Fired Boilers, 2298 and 2283 mmBtu/hr heat input (1959 and 1961). (Acid Rain Units 5 & 6).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
4. Oxides of Nitrogen Emissions	(1) No person may cause, allow or permit nitrogen oxides to be emitted from a boiler, owned or operated by a utility as defined in s. NR 409.02(84), Wis. Adm. Code with a maximum design heat input of 500 million Btu per hour or greater in excess of the most stringent of the following limits, as applicable, during the ozone season ^{4,5} : (a) 0.29 pounds per million Btu of heat input on a 30-day rolling average basis, on or after December 31, 2005, (b) 0.28 pounds per million Btu of heat input on a 30-day rolling average basis, on or after December 31, 2007. [s. NR 428.05(3)(a), Wis. Adm. Code and s. 285.65(3), Wis. Stats., Wis. Stats.]	(1) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of nitrogen oxides. [s. NR 439.095(5)(f), Wis. Adm. Code] (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [ss. NR 439.09(2), NR 439.095(6), Wis. Adm. Code] (3) Except as provided under s. NR 428.06(2), Wis. Adm. Code, each emissions unit shall demonstrate compliance with I.A.4.a.(1) on a per unit basis. [s. NR 428.06(1), Wis. Adm. Code] (4) The permittee shall comply with the provisions of s. NR 428.06(2), Wis. Adm. Code when entering into an agreement for trading excess nitrogen oxides emission reduction. [s. 285.65(3), Wis. Stats., s. NR 428.06(2), Wis. Adm. Code] (5) The permittee shall determine the average NOx emission rate, in pound per million Btu, using the methods and procedures specified in 40 CFR part 75, Appendices A through I. [s. 428.05(4)(b), Wis. Adm. Code] (6)(a) The nitrogen oxide emissions per million Btu heat input from all units subject to the requirements of s. NR 428.05(3) under the common ownership or control may be averaged together for the purpose of	(1) Reference Test Method for Nitrogen Oxide Emissions: Whenever compliance emission testing is required, US EPA Method 7 in 40 CFR Part 60, Appendix A, or an alternate method approved in writing by the Department, shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code] (2) The continuous emission monitor shall complete one cycle of sampling, analyzing and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. NR 439.09(9)(b), Wis. Adm. Code] (3) The permittee shall comply with the monitoring requirements under ss. NR 428.07 and NR 428.08(1)(a), Wis. Adm. Code. [s. NR 428.05(4)(a)1., Wis. Adm. Code] (4) The emissions measurements recorded and reported in accordance with ss. NR 428.07, NR 428.08, Wis. Adm. Code shall be used to demonstrate compliance of the NOx emission performance standards. [s. 285.65(3), Wis. Stats] (5) The permittee shall keep on site the following documents for a period of 5 years from the date the document is created:

^{4 &}quot;Ozone season" means the period from May 1 through September 30 of any year.

5 Refer to the acid rain portion of this operation permit for additional limitations.

6 The emission trading plan under s. NR 428.06(2), Wis. Adm. Code is SIP approved (http://www.epa.gov/fedrgstr/EPA-AIR/2003/April/Day-10/a8536.htm).

A. S13, B25/C05 and B26/C06 - Wall Fired Boilers, 2298 and 2283 mmBtu/hr heat input (1959 and 1961). (Acid Rain Units 5 & 6).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		determining compliance with he source's aggregate nitrogen oxide emissions limitations ⁷ . (b) Total pounds of emissions shall be determined by continuous monitors that meet the requirements of 40 CFR part 60, Appendix B. Wis. Adm. Code. [s. 428.06(1), Wis. Adm. Code]	a) All emissions monitoring information in accordance with ss. NR 428.07, NR 428.08, Wis. Adm. Code. b) Copies of all reports, compliance certifications and other submissions and all records made or required under ss. NR 428.07, NR 428.08, Wis. Adm. Code. [s. NR 428.05(5), Wis. Adm. Code and s. 285.65(3), Wis. Stats.]
			(6) Except as provided under (7), the permittee shall submit quarterly reports of emissions monitoring and compliance certification to the Department every quarter. (a) The time periods to be addressed by the submittal are January 1 to March 30 and April 1 to June 30 and July 1 to September 30 and October 1 to December 31. (b) The reports shall be submitted to the Southeast Region Air Program within 30 days after the end of each reporting period ³ . (c) Each submittal shall be certified by a responsible official as to the truth, accuracy and completeness of the report. [ss. NR 428.09(4), Wis. Adm. Code; s. NR 439.09(10), Wis. Adm. Code]
·			(7) If the permittee complies with I.A.4.a.(1) through a unit ozone season NOx emissions averaging program under s. NR 428.06(2), Wis. Adm. Code, the permittee shall submit a compliance report meeting the requirements of s. NR 428.06(4)(i), Wis. Adm. Code, to the Department not later than 60 days after the last day of the ozone season. [s. NR 428.06(4)(i), Wis. Adm. Code]

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⁷ The averaging plan under s. NR 428.06(1), Wis. Adm. Code is SIP approved (http://www.epa.gov/fedrgstr/EPA-AIR/2003/August/Day-29/a22050.htm).

A. S13, B25/C05 and B26/C06 - Wall Fired Boilers, 2298 and 2283 mmBtu/hr heat input (1959 and 1961). (Acid Rain Units 5 & 6).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
5. Hazardous Air Emissions *	(1) Boiler chemical cleaning waste liquid may be burned in the wall fired boilers without prior Department approval at NR 445 pollutant concentrations (milligrams per liter) in the liquid below: Chromium +3 compounds, as Cr, 14 mg/lit; Chromium +6 compounds, as Cr, water soluble, 1.4 mg/lit; Calcium, 55.7 mg/lit; Nickel, 795 mg/lit. Boiler chemical cleaning waste liquid containing aluminum, copper, and iron may be burned in the wall fired boilers without prior Department approval. [s. NR 445.05(1), (3) and (4), Wis. Adm. Code] * (2) The total waste volume incinerated in all boilers in this facility may not exceed 125,000 gallons per year. [s. NR 445.05(1), (3) and (4), Wis. Adm. Code] * (3) The waste solution injection rate into all boilers in this facility may not exceed 80 gallons per minute. [s. 285.65(7), Wis. Stats.] *	(1) The permittee shall analyze representative samples of boiler chemical cleaning wastes to be burned in the boilers for the presence of NR 445 compounds. [s. NR 407.09(4)(a)1., Wis. Adm. Code] * (2) If any of the concentration levels in I.A.5.a. are exceeded or if any NR 445 compounds not listed in I.A.5.a. are present, the permittee shall inform the Department 21 days before any boiler cleaning wastes are to be burned [s. NR 407.09(4)(a)1., Wis. Adm. Code] *	 (1) The permittee shall use the test methods listed in s. NR 605.11, Wis. Adm. Code, or 40 CFR part 261, Appendix II to determine the concentration of the compounds listed in condition I.A.5.a.(1), in representative samples from boiler chemical cleaning waste liquids to be burned in the boilers [s. NR 439.06(8), Wis. Adm. Code] * (2) The permittee shall keep written records of all of items (a) through (e): (a) The date of the incineration and in which boiler the waste is burned; (b) The solvent used to clean boilers; (c) The volume of boiler chemical cleaning waste liquids burned; (d) The analysis required by condition I.A.5.b.(1) for all boiler chemical cleaning waste liquids burned in the boiler; (e) The injection rate of the boiler chemical cleaning waste liquid and the length of time incineration was performed. [s. NR 439.04(1)(d), Wis. Adm. Code] *

⁸ These conditions are based on WEPCO's proposed evaporation of non-hazardous boiler cleaning wastes at the Oak Creek Power Plant which was approved by the Department in a letter dated December 11, 1996.

B. S14, B27/C07 and B28/C08 - Tangentially Fired Boilers, 2608 and 2568 mmBtu/hr heat input (installed 1965 and 1967). (Acid Rain Units 7 & 8).

Pollutant	a. Limitations	b. Compliance Demonstration ⁹	c. Reference Test Methods, Recordkeeping and Monitoring Requirements ⁹
1. Particulate Matter Emissions	(1) Emissions may not exceed 0.10 pounds of particulate matter emissions per million Btu Heat Input. ⁹ [s. NR 415.06(2)(c), Wis. Adm. Code, 01-RV-103]	(1) The primary type of fuel used in this boiler shall be coal. Natural gas and or/propane may be used for flame stabilization, startup, and light off and for supplemental firing. If primary or supplemental fuel types other than coal, natural gas, or propane are used, the permittee shall notify the Department at least 21 days in advance. Alternate fuels may not be burned in this unit unless they meet the requirements in s. NR 406.04(4)(a), Wis. Adm. Code. [ss. NR 407.025(1)(b), NR 407.09(4)(a)3. b., Wis. Adm. Code; s. 285.65(3), Wis. Stats., 01-RV-103] (2) Stack Parameters. These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed. (a) The stack height shall be at least 553 feet above ground level. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, 01-RV-103] (b) The stack inside diameter at the outlet may not exceed 17.30 feet. [s. 285.65(3), Stats. and s. NR 406.10, Wis. Adm. Code, 01-RV-103] (3) Particulate matter emissions shall be controlled using an electrostatic precipitator (ESP) at all times when the boiler is operated. [s. NR 407.09(4)(a)3. b., Wis. Adm. Code; s. 285.65(3), Wis. Stats., 01-RV-103] -continued-	(1) Reference Test Method for Particulate Matter Emissions: Whenever compliance emission testing is required, US EPA Method 5 or method 17, including back half (Method 202) shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code, 01-RV-103] (2) The permittee shall keep and maintain on site technical drawings, blueprints or equivalent records of the physical stack parameters. [s. NR 439.04(1)(d), Wis. Adm. Code, 01-RV-103] (3) The permittee shall maintain monthly records of the fuel types used in the tangentially fired boiler. [s. NR 407.09(4)(a)1., Wis. Adm. Code, 01-RV-103] (4) Two copies of the report on the compliance emission tests for particulate matter shall be submitted to the Department for evaluation within 60 days after the tests. [s. NR 439.07(9), Wis. Adm. Code, 01-RV-103] (5) The permittee shall record the primary and secondary voltage in volts, primary and secondary current in amps, and sparking rate in sparks per minute or each electrostatic precipitator once every 8 hours of source operation or once per day whichever yields the greater number of measurements. [ss. NR 439.055(2)(b)2., NR 407.09(1)(c)1. b., Wis. Adm. Code, 01-RV-103] (6) The permittee shall keep records of the date and name of the person performing the inspections of the electrostatic precipitators, a list of the items inspected, and any maintenance or repairs performed as a result of these inspections. [s. NR 407.09(1)(c)1. b., Wis. Adm. Code, 01-RV-103] - continued -

⁹ From permit 01-RV-103.

B. S14, B27/C07 and B28/C08 - Tangentially Fired Boilers, 2608 and 2568 mmBtu/hr heat input (installed 1965 and 1967). (Acid Rain Units 7 & 8).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions		(4) The permittee shall monitor the primary and secondary voltage in volts, primary and secondary current in amps, and sparking rate in sparks per minute. [s. NR 406.10 and s. NR 407.09(4)(a)3. b., Wis. Adm. Code; s. 285.65(3), Wis. Stats., 01-RV-103]	(7) If flue gas conditioning systems are used to optimize the efficiency of the electrostatic precipitators when performing the compliance emission test in condition I.B.1.b.(7), the permittee
(continued)			shall maintain monthly records sufficient to demonstrate that flue gas conditioning is used when required. [s. NR 407.09(1)(c)1.b., Wis. Adm. Code, 01-RV-103]
		(6) If the flue gas conditioning systems are used to optimize the efficiency of the electrostatic precipitators when performing the compliance emission test in condition (7) below, the permittee shall use flue gas conditioning when running the type of coal used in the compliance emission test. [s. 285.63(1)(a), Wis. Stats., 01-RV-103]	
		(7) Compliance emission tests shall be performed every 24 months (exceptions provided in s. NR 439.075(4), Wis. Adm. Code) to demonstrate compliance with the particulate matter emission limitations while operating at 100% capacity. Each biennial test shall be performed within 90 days of May 31 st . [s. 285.65(10) and s. 285.65(3), Wis. Stats., and s. NR 439.075, Wis. Adm. Code, 01-RV-103]	
		(8) If operation at 100% capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. The Department shall be informed at least 20 working days prior to the tests so a Department representative can witness the testing. At the time of notification, a compliance emission test plan following the provision set forth in Section NR 439.07, Wis. Adm. Code, shall also be submitted to the Department. The department may grant a written waiver of a scheduled test if any of the exceptions listed in s. NR 439.075(4)(a)1., Wis. Adm. Code apply. [s. NR 439.075(3)(b), Wis. Adm. Code, 01-RV-103]	

¹⁰ Permit 01-RV-103 required the permittee to submit an updated malfunction prevention abatement plan for Department approval within 90 days of permit issuance.

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B. \$14, B27/C07 and B28/C08 - Tangentially Fired Boilers, 2608 and 2568 mmBtu/hr heat input (installed 1965 and 1967). (Acid Rain Units 7 & 8).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
2. Sulfur Dioxide Emissions	(1) Emissions may not exceed 3.2 pounds of sulfur dioxide per million Btu heat input from any stack. ¹¹ [s. NR 417.07(2)(a), Wis.	(1) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of sulfur dioxide. [ss. NR 439.095(5)(a)2., NR 439.095(5)(f), Wis. Adm. Code, 01-RV-103]	(1) Reference Test Method for Sulfur Dioxide Emissions: Whenever compliance emission testing is required, US EPA Method 6, 6A or 6C shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code, 01-RV-103]
	Adm. Code, 01-RV-103] ¹²	(2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [ss. NR 439.09(2), NR 439.095(6), Wis. Adm. Code, 01-RV-103] (3) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of carbon dioxide. [ss. NR 439.095(5)(a)4., NR 439.095(5)(f), Wis. Adm. Code, 01-RV-103]	(2) The continuous sulfur dioxide emission monitor shall complete one cycle of sampling, analyzing and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes [s. NR 439.09(9)(b), Wis. Adm. Code, 01-RV-103].
		(4) The permittee shall calibrate, maintain, and operate the continuous carbon dioxide emission monitor in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [ss. NR 439.09(3), NR 439.095(6), Wis. Adm. Code, 01-RV-103] - continued -	(3) The permittee shall submit quarterly excess emission reports to the Department within 30 days following the end of each reporting period ¹³ . Excess emissions for sulfur dioxide are any 24-hour rolling average during which the average sulfur dioxide emissions exceed 3.2 pounds of sulfur dioxide per million BTU heat input from any stack except during periods of normal startup and shutdown [s. NR 439.09(10), Wis. Adm. Code, 01-RV-103].
			- continued -

¹¹ From permit 01-RV-103.

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¹² WE Energies is a major utility as defined in s. 285.41(1)(f), Wis. Stats. And the total sulfur dioxide emissions form all stationary air contaminant sources in this state under the ownership or control of WEPCO exceeded 5,000 tons in any year after 1979. Therefore, WEPCO is subject to s. 285.41(2)(a), which limits the average number of pounds of sulfur dioxide emissions per million Btu heat input form all the boilers under WEPCO's ownership or control to not more than 1.20.

¹³ 45 days and semi-annual when the cooperative agreement (http://www.dnr.state.wi.us/org/caer/cea/ecpp/agreements/wepco2/index.htm) is in effect and when consistent with the SIP.

B. S14, B27/C07 and B28/C08 - Tangentially Fired Boilers, 2608 and 2568 mmBtu/hr heat input (installed 1965 and 1967). (Acid Rain Units 7 & 8).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
2. Sulfur Dioxide Emissions		(5) The permittee shall submit to the Department a quality control and quality assurance plan for the continuous carbon dioxide emission monitor and comply with the plan. [ss. NR 439.09(8), NR 439.095(6), Wis. Adm. Code, 01-RV-103]	(4) The excess emission reports required by condition I.B.2.c.(3) shall contain the information in condition I.H.1.b.(3). [s. NR 439.09(10)(a), Wis. Adm. Code, 01-RV-103]
(continued)		(6) The data obtained from the continuous monitoring system for the measurement of carbon dioxide in the flue gas shall be used to convert sulfur dioxide continuous emission monitoring data to units of the applicable emission limitation. [s. NR 439.095(5)(a)4., Wis. Adm. Code, 01-RV-103] (7) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of stack flow rate. [s. NR 439.095(5)(f), Wis. Adm. Code, 01-RV-103] (8) The permittee shall calibrate, maintain, and operate the continuous stack flow rate emission monitor in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [s. NR 439.095(6), Wis. Adm. Code, 01-RV-103] (9) The permittee shall submit to the Department a quality	(5) The continuous carbon dioxide emission monitor shall complete one cycle of sampling, analyzing and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. NR 439.09(9)(b), Wis. Adm. Code, 01-RV-103]
		control and quality assurance plan for the continuous stack flow rate emission monitor and comply with the plan. ¹⁴ [s. NR 439.095(6), Wis. Adm. Code, 01-RV-103]	

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¹⁴ Permit 01-RV-103 required updating the existing plan to include the CO CEMs within 90 days after the monitor completed its performance specification certification testing in accordance with Part 75. The permittee was required to submit the updated QA/QC plan to the Department and follow the updated plan.

B. S14, B27/C07 and B28/C08 - Tangentially Fired Boilers, 2608 and 2568 mmBtu/hr heat input (installed 1965 and 1967). (Acid Rain Units 7 & 8).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
3. Oxides of Nitrogen (NO _x) Emissions	(1) No person may cause, allow or permit nitrogen oxides to be emitted from a boiler, owned or operated by a utility as defined in s. NR 409.02(84), Wis. Adm. Code with a maximum design heat input of 500 million Btu per hour or greater in excess of the most stringent of the following limits, as applicable, during the ozone season: (a) 0.29 pounds per million Btu of heat input on a 30-day rolling average basis, on or after December 31, 2005 ¹⁵ , (b) 0.28 pounds per million Btu of heat input on a 30-day rolling average basis, on or after December 31, 2007. [s. NR 428.05(3)(a), Wis. Adm. Code and s. 285.65(3), Wis. Stats., s. 285.65(7), Wis. Stats., 01-RV-103]	(1) Nitrogen Oxide Emissions shall be controlled by the use of low NO _x burners. [s. 285.65(7), Wis. Stats., s. 285.65(3), Wis. Stats., o1-RV-103] (2) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of nitrogen oxides. [s. NR 439.095(5)(f), Wis. Adm. Code, 01-RV-103] (3) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with the performance specifications in 40 CFR part 75, Appendices A to I. [ss. NR 439.09(2), NR 439.095(6), Wis. Adm. Code] (4) Except as provided under s. NR 428.06(2), Wis. Adm. Code, each emissions unit shall demonstrate compliance with I.B.3.a.(1) on a per unit basis. [s. NR 428.06(1), Wis. Adm. Code] (5) The permittee shall comply with the provisions of s. NR 428.06(2), Wis. Adm. Code when entering into an agreement for trading excess nitrogen oxides emission reduction. [s. 285.65(3), Wis. Stats., s. NR 428.06(2), Wis. Adm. Code when entering into an agreement for trading excess nitrogen oxides emission reduction. [s. 285.65(3), Wis. Stats., s. NR 428.06(2), Wis. Adm. Code, 01-RV-103] (6) The permittee shall determine the average NOx emission rate in pound per million Btu using the methods and procedures specified in 40 CFR part 75, Appendices A through I, incorporated by reference in s. NR 484.04(27), Wis. Adm. Code. [ss. NR 439.09(2), NR 439.095(6), Wis. Adm. Code. [ss. NR 439.09(2)]	 (1) Reference Test Method for Nitrogen Oxide Emissions: Whenever compliance emission testing is required, US EPA Method 7 or an alternate method approved in writing by the Department shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code, 01-RV-103] (2) The continuous emission monitor shall complete one cycle of sampling, analyzing and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During these periods, a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes. [s. NR 439.09(9)(b), Wis. Adm. Code] (3) The permittee shall comply with the monitoring requirements under ss. NR 428.07, NR 428.08, Wis. Adm. Code. [s. 285.65(3), Wis. Stats., 01-RV-103] (4) The emissions measurements recorded and reported in accordance with ss. NR 428.07, NR 428.08, Wis. Adm. Code shall be used to demonstrate compliance of the NOx emission performance standards. [s. 285.65(3), Wis. Stats., 01-RV-103] (5) The permittee shall keep on site the following documents for a period of 5 years from the date the document is created: (a) All emissions monitoring information in accordance with ss. NR 428.07, NR 428.08, Wis. Adm. Code.

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Refer to the acid rain portion of this operation permit for additional limitations.

Refer to the acid rain portion of this operation permit for additional limitations.

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B. S14, B27/C07 and B28/C08 - Tangentially Fired Boilers, 2608 and 2568 mmBtu/hr heat input (installed 1965 and 1967). (Acid Rain Units 7 & 8).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
3. Oxides of Nitrogen (NO _x) Emissions (continued)		(7)(a) The nitrogen oxide emissions per million Btu heat input from all units subject to the requirements of s. NR 428.05(3) under the common ownership or control may be averaged together for the purpose of determining compliance with he source's aggregate nitrogen oxide emissions limitations. ¹⁷	 (b) Copies of all reports, compliance certifications and other submissions and all records made or required under ss. NR 428.07, NR 428.08, Wis. Adm. Code. [s. NR 428.05(5), Wis. Adm. Code and s. 285.65(3), Wis. Stats., 01-RV-103] (6) Except as provided under (7), the permittee shall
continuous monitors	(b) Total pounds of emissions shall be determined by continuous monitors that meet the requirements of	submit quarterly reports of emissions monitoring and compliance certification to the Department every quarter.	
	40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04(21), Wis. Adm. Code. [s. 428.06(1), Wis. Adm. Code, 01-RV-103]	reference in s. NR 484.04(21), Wis. Adm. Code.	(a) The time periods to be addressed by the submittal are January 1 to March 30 and April 1 to June 30 and July 1 to September 30 and October 1 to December 31.
			(b) The reports shall be submitted to the Southeast Region Air Program within 30 days after the end of each reporting period ¹³ .
			(c) Each submittal shall be certified by a responsible official as to the truth, accuracy and completeness of the report.
			[ss. NR 428.09(4), Wis. Adm. Code; s. NR 439.09(10), , Wis. Adm. Code, 01-RV-103]
			(7) If the permittee complies with I.B.3.a.(1) through a unit ozone season NOx emissions averaging program under s. NR 428.06(2), Wis. Adm. Code, the permittee shall submit a compliance report meeting the requirements of s. NR 428.06(4)(i), Wis. Adm. Code, to the Department not later than 60 days after the last day of the ozone season. [s. NR 428.06(4)(i), Wis. Adm. Code]

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 $^{^{17}\} The\ averaging\ plan\ under\ s.\ NR\ 428.06(1),\ Wis.\ Adm.\ Code\ is\ SIP\ approved\ (http://www.epa.gov/fedrgstr/EPA-AIR/2003/August/Day-29/a22050.htm).$

B. S14, B27/C07 and B28/C08 - Tangentially Fired Boilers, 2608 and 2568 mmBtu/hr heat input (installed 1965 and 1967). (Acid Rain Units 7 & 8).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
4. Carbon Monoxide Emissions	(1) Emissions may not exceed 715 pounds per hour (150 ppmdv corrected to 3% O ₂) per boiler based on a 30 day rolling average. The Stack S14 limit is 1,430 pounds per hour when both the boilers (B27 and B28) are operating and exhausting through the stack S14, and the limit is 715 pounds per hour when only one boiler (B27 or B28) is operating and exhausting through Stack S14. [s. 285.65(7), Wis. Stats. and s. 285.65(3), Wis. Stats., 01-RV-103]	 (1) The permittee shall demonstrate compliance with the carbon monoxide emission limit as follows¹⁸: (a) Daily average shall be determined by calculating the arithmetic average of all hourly emission rates for CO for a calendar day. (b) The hourly emission rate shall be calculated by multiplying the CO concentration by the conversion constant, 0.7266 E-07, times the stack flow rate measurement consistent with the procedures specified in 40 CFR Part 75 Appendix F. (c) The 30 day rolling average is the arithmetic average of 30 contiguous daily averages rolled each day. [s. 285.65(3), Wis. Stats., 01-RV-103] (2) The permittee shall operate and maintain a continuous emissions monitoring system (CEMs) for CO¹⁹. Continuous emissions monitoring systems shall be installed, operated and certified in accordance with 40 CFR Part 60 Appendix B and s. NR 439.06(4), Wis. Adm. Code requirements unless an alternate or equivalent method is approved, or a specific method is required, in writing, by the Department. [s. 285.65(3), Wis. Stats.; s. NR 439.06, Wis. Adm. Code, 01-RV-103] (3) The permittee shall maintain a quality control and quality assurance plan that includes the carbon monoxide continuous emission monitor and comply with the plan²⁰. [ss. NR 439.09(8), NR 439.095(6), Wis. Adm. Code, 01-RV-103] 	(1) Reference Test Method for Carbon Monoxide Emissions: Whenever compliance emission testing is required, US EPA Method 10, or an alternate method approved in writing by the Department shall be used to demonstrate compliance. [s. NR 439.06(1), Wis. Adm. Code, 01-RV-103] (2) The continuous emission monitor shall complete one cycle of sampling, analyzing and data recording for each successive 15-minute period. The values recorded shall be averaged hourly. Hourly averages shall be computed from 4 data points equally spaced over each 1 hour period, except during periods when calibration, quality assurance or maintenance activities are being performed. During periods a valid hour shall consist of at least 2 data points separated by a minimum of 15 minutes [s. NR 439.09(9)(b), Wis. Adm. Code, 01-RV-103] (3) The permittee shall submit quarterly excess emission reports to the Department within 30 days following the end of each calendar quarter. Excess emissions for carbon monoxide are any 30 days rolling average during which the average carbon monoxide emissions exceed 715 pounds per hour (150 ppmdv corrected to 3% O ₂) per boiler based on the 30 days rolling average. [s. NR 439.09(10), Wis. Adm. Code, 01-RV-103] (4) The excess emission reports required by condition I.A.4.c.(3) shall contain the information in condition I.H.1.b.(3). [s. NR 439.09(10)(a), Wis. Adm. Code, 01-RV-103]

¹⁸ Permit 01-RV-103 required compliance emission tests to be conducted within 90 days after the start of operation of the process to show compliance with the emission limitation.

19 The CO CEM was installed and calibrated under permit 01-RV-103.

20 The plan was required to be revised for the CO monitor under permit 01-RV-103.

B. S14, B27/C07 and B28/C08 - Tangentially Fired Boilers, 2608 and 2568 mmBtu/hr heat input (installed 1965 and 1967). (Acid Rain Units 7 & 8).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
5. Visible Emissions	(1) Opacity may not exceed 20% except during periods of normal startup and shutdown. Normal startup and shutdown shall be defined in the startup and shutdown plan. [s. NR 431.04(2), 436.03(2)(b), Wis. Adm. Code, 01-RV-103]	(1) The permittee shall calibrate, maintain, and operate a continuous monitoring system for the measurement of opacity [ss. NR 439.095(5)(a)1., NR 439.095(5)(f), Wis. Adm. Code, 01-RV-103]. (2) The permittee shall calibrate, maintain, and operate the continuous emission monitor in accordance with Performance Specification 1 in 40 CFR part 60, Appendix B. [s. NR 439.09(1), Wis. Adm. Code, 01-RV-103]	(1) Reference Test Method for Visible Emissions: Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code, 01-RV-103] (2) The continuous emission monitor shall complete one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. [s. NR 439.09(9)(a), Wis. Adm. Code, 01-RV-103] (3) The permittee shall submit quarterly excess emission reports to the department within 30 days following the end of each reporting period ¹³ . Excess emissions for opacity are any 6-minute period during which the average opacity exceeds 20% except during periods of normal startup and shut down. [s. NR 439.09(10), Wis. Adm. Code, 01-RV-103] (4) The excess emission reports required by condition I.B.5.c.(3) shall contain the information in condition I.H.1.b.(3). [s. NR 439.09(10)(a), Wis. Adm. Code, 01-RV-103]

B. S14, B27/C07 and B28/C08 - Tangentially Fired Boilers, 2608 and 2568 mmBtu/hr heat input (installed 1965 and 1967). (Acid Rain Units 7 & 8).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
6. Hazardous Air Emissions *	(1) Boiler chemical cleaning waste liquid may be burned in the tangentially fired boilers without prior Department approval at NR 445 pollutant concentrations in the liquid below: chromium +3 compounds as Cr, 14 mg/lit; chromium +6 compounds as Cr, water soluble, 1.4 mg/lit; calcium, 55.7 mg/lit; nickel, 795 mg/lit. Boiler chemical cleaning waste liquid containing aluminum, copper and iron may be burned in the boilers without prior approval of the Department. ²¹ [s. NR 445.05(1), (3) and (4), Wis. Adm. Code, 01-RV-103] * (2) Total waste volume incinerated in all boilers in this facility may not exceed 125,000 gallons per year. ²¹ [s. NR 445.05(1), (3) and (4), Wis. Adm. Code, 01-RV-103] * (3) Waste injection rate in all the boilers in this facility may not be more than 80 gallons per minute. ²¹ [s. 285.65(7), Wis. Stats., 01-RV-103] *	(1) The permittee shall analyze representative samples of boiler chemical cleaning wastes to be burned in the boilers for the presence of NR 445 compounds. [s. NR 407.09(4)(a)1., Wis. Adm. Code, 01-RV-103] * (2) If any of the limitations in I.A.6.a. are exceeded or if any NR 445 compounds not listed in I.A.6.a., are present, the permittee shall inform the Department 21 days before any boiler cleaning wastes are to be burned. [s. NR 407.09(4)(a)1., Wis. Adm. Code, 01-RV-103] *	 (1) The permittee shall use the test methods listed in s. NR 605.11, Wis. Adm. Code, or 40 CFR part 261, Appendix II to determine the concentration of the compounds listed in I.A.6.a.(1), in representative samples from boiler chemical cleaning waste liquids to be burned in the boilers. [s. NR 439.06(8), Wis. Adm. Code, 01-RV-103] * (2) The permittee shall keep written records of all of the items (a) through (e): (a) The date of the incineration and in which boiler the waste is burned; (b) The solvent used to clean boilers; (c) The volume of boiler chemical cleaning waste liquids burned; (d) The analysis required by condition I.A.6.b.(1) for all boiler chemical cleaning waste liquids burned in the boiler; (e) The injection rate of the boiler chemical cleaning waste liquid and the length of time incineration was performed. [s. NR 439.04(1)(d), Wis. Adm. Code, 01-RV-103] *

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²¹ These conditions are based on WEPCO's proposed evaporation of non-hazardous boiler cleaning wastes at the Oak Creek Power Plant which was approved by the Department in a letter dated December 11, 1996.

C. S15, P30 - Gas Turbine Generator (simple cycle) rated at 405.6 mmBtu/hr heat input (1968).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) Emissions may not exceed 0.05 pounds particulate matter emissions per million BTU heat input. [s.285.65(7), Stats.] ²² (2) The permittee shall limit the hours of operation of the Gas Turbine Generator to 397 hours per calendar month as determined by an average over any 12 consecutive calendar months [ss. 285.65(3), Wis. Stats., s. NR 407.09(1)(a)., Wis. Adm. Code]. (3) The gas turbine shall only use natural gas fuel. [s. 285.65(7), Stats.]	(1) The permittee shall determine the hours of operation of the Gas Turbine Generator. The hours of operation may be determined from production records or other plant data. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code]	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required, the permittee shall use U.S. EPA Method 5 or Method 17 including condensible backhalf emissions (U.S. EPA Method 202). [s. NR 439.06(1), Wis. Adm. Code] (2) The permittee shall maintain monthly records satisfactory to demonstrate compliance with the 397 hour per calendar month as determined by an average over any 12 consecutive calendar months potential to emit limitation [s. NR 407.09(4)(a)1., Wis. Adm. Code].
2. Visible Emissions	(1) Emissions of shade or density may not exceed number 1 of the Ringlemann chart or 20% opacity. [s. NR 431.04(2), Wis. Adm. Code]	(1) Refer to I.C.1.b.(1) for additional requirements.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) Refer to I.C.1.c.(1) for additional requirements.

²² Limit requested by applicant June 7, 2002

D. S16, F01 - Reclaim Coal Storage Pile, Constructed or last modified in 1968.
 S17, F02 - Outdoor Storage Pile at Coal Dock, Constructed or last modified in 1953¹.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) The permittee may not cause, allow or permit any materials to be handled, transported or stored without taking precautions to prevent particulate matter from becoming airborne [s. NR 415.04, Wis. Adm. Code].	(1) The permittee shall apply water or suitable chemicals on the coal pile provided such application does not create a hydrocarbon, odor or water pollution problem. As an alternative, the permittee shall compact, groom and shape the coal pile to minimize the formation of airborne particulate matter [ss. NR 415.04(1)(a), 407.09(4)(a)3.b., Wis. Adm. Code].	(1) The permittee shall maintain on site records which describe the precautions taken to prevent particulate matter from becoming airborne and the dates on which these precautions were taken [ss. NR 407.09(1)(c)1.b., NR 407.09(4)(a)1., Wis. Adm. Code].
2. Visible Emissions	(1) Emissions of shade or density may not exceed number 1 of the Ringlemann chart or 20% opacity. [s. NR 431.04(2), Wis. Adm. Code]	(1) Refer to I.D.1.b.(1) for additional requirements.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code]
3. Hazardous Air Pollutant Emissions	Refer to I.H.6 for additional requirements	Refer to I.H.6 for additional requirements	Refer to I.H.6 for additional requirements

E. S18, F03 - In-Plant Coal Transfer²

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) The permittee may not cause, allow, or permit any materials to be handled, transported, or stored without taking precautions to prevent particulate matter from becoming airborne. [NR 415.04, Wis. Adm. Code]	 (1) The permittee shall prepare a Fugitive Dust Control Plan which includes details describing the protocols for periodic inspections, criteria for actions to be taken and recordkeeping. [s. NR 439.06(8), Wis. Adm. Code] (2) During the operation of the in-plant coal transfer system (railcar unloading, crushing and conveying) the permittee shall: (a) Perform periodic inspections to determine if fugitive dust emissions are occurring at the in-plant coal transfer processes; (b) Take corrective measures in accordance with the fugitive dust plan to prevent airborne particulate matter. [s. NR 439.06(8), Wis. Adm. Code] 	(1) Reference Test Method for Fugitive Dust Emissions: Whenever compliance emission testing is required, Method 22 shall be used to demonstrate compliance. [s. NR 439.06(9)(b), Wis. Adm. Code] (2) The permittee shall maintain records of the precautions taken to minimize particulate matter from becoming airborne and the dates when the precautions are taken. [s. NR 439.04(1)(d), Wis. Adm. Code]
2. Visible Emissions	(1) Emissions of shade or density may not exceed number 1 of the Ringlemann chart or 20% opacity. [s. NR 431.04(2), Wis. Adm. Code]	(1) Refer to I.E.1.b.(1) and(2) for applicable requirements.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code]

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F. S19, F04 - Ash Handling System

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) The permittee may not cause, allow, or permit any materials to be handled, transported, or stored without taking precautions to prevent particulate matter from becoming airborne. [NR 415.04, Wis. Adm. Code]	(1) The permittee shall reduce particulate matter emissions from the fly ash handling process through operation of emissions control systems. If a fabric filter is used as an emissions control system, the permittee shall operate and maintain the filter according to manufacturer's specifications and good engineering practice as established by operating history, any time the fly ash handling process is in operation. [s. 285.65, Stats., s. NR 439.11(4), Wis. Adm. Code] (2) The permittee may load fly ash into either enclosed or open trucks ²³ . (a) For enclosed trucks, the loading port shall be tightly fitted and not allow particulate matter to be emitted to the ambient air. (b) For open trucks, the permittee shall ensure that the moisture content of the ash is sufficient to prevent particulate matter from being emitted to the ambient air during truck loading. [s. 285.65, Stats., s. NR 439.11(4), Wis. Adm. Code] (3) The permittee may load bottom ash into either enclosed or open trucks. (a) For enclosed trucks, the loading port shall be tightly fitted and not allow particulate matter to be emitted to the ambient air. (b) For open trucks, the permittee shall ensure that the moisture content of the ash is sufficient to prevent particulate matter from being emitted to the ambient air during truck loading. [s. 285.65, Stats., s. NR 439.11(4), Wis. Adm. Code] - continued -	(1) Reference Test Method for Fugitive Dust Emissions: Whenever compliance emission testing is required, US EPA Method 9 and/or Method 22, whichever is appropriate, shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The permittee shall keep the daily records of the visual observations required by I.F.1.b.(4) that include: (a) The date and time of the inspection; (b) The initials of the person conducting the inspection; (c) The results of the inspection; and (d) A description of any corrective action performed as a result of the inspection. [s. NR 439.04(1)(d), Wis. Adm. Code]

²³ Currently only unit 7 uses wet fly-ash loading to open trucks.

F. S19, F04 - Ash Handling System

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
Particulate Matter Emissions (continued)		(4) During operation of the fly ash handling system, the permittee shall perform daily visual observations to determine if fugitive dust emissions are occurring at the fly ash handling process(es); and if this is the case, the permittee shall take corrective measures to prevent airborne particulate matter. [s. 285.65, Stats., s. NR 439.11(4), Wis. Adm. Code]	
2. Visible Emissions	(1) Emissions of shade or density may not exceed number 1 of the Ringlemann chart or 20% opacity. [s. NR 431.04(2), Wis. Adm. Code]	(1) Refer to I.F.1.b.(1) through (4) for applicable requirements.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code]

G. P31 - S114 - Fly Ash Storage Facility

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter (PM ₁₀) Emissions ²⁴	(1) Emissions may not exceed 0.35 pounds per hour from stack S114. [ss. NR 415.05(1)(o) and NR 415.05(2), Wis. Adm. Code and ss. 285.65(3) and 285.65(7), Wis. Stats., 02-RV-054] (2) Stack Parameter Requirements ²⁵ (a) The stack (S114) height shall be at least 40.0 feet above ground level. (b) The stack (S114) inside diameter at the outlet may not exceed 16 inches ²⁶ . (c) The stack may not be equipped with a rainhat or other device that may impede the upward velocity of the exhaust gas. [s. 285.65(3), Wis. Stats. and s. NR 406.10, Wis. Adm. Code, 02-RV-054] (3) The fly ash storage facility shall receive fly ash either by bulk tanker truck or fully enclosed pneumatic conveyors. ²⁷ [s. 285.65(3), Wis. Stats., 02-RV-054] (4) The bulk truck loading be done in a fully enclosed structure. ²⁷ [s. 285.65(3), Wis. Stats., 02-RV-054]	(1) The permittee shall maintain ²⁸ monitoring devices for measuring the pressure drop across the baghouses used to control emissions from process line exhausting through stack \$114. [s. NR 430.055(1), Wis. Adm. Code] (2) The operating pressure drop across the baghouse shall be maintained between 1-5 inches of water gauge pressure. [s. NR 407.09(1)(a). Wis. Adm. Code, 02-RV-054] (3) The permittee shall measure and record the operating pressure drop across the baghouse once per shift when process P31 is in operation. [s. NR 439.055, Wis. Adm. Code, 02-RV-054]	(1) The permittee shall maintain records of the pressure drop measurements of I.G.1.b.(3). [s. NR 439.04, Wis. Adm. Code and s.285.65(3), Wis. Stats., 02-RV-054] (2) The facility shall maintain and implement a Malfunction, Prevention and Abatement Plan for the baghouse. The plan shall include the following: (a) installation, maintenance and routine calibration procedures for the control equipment instrumentation; (b) a requirement that instrumentation calibration shall take place at the frequency specified by the manufacturer but not less than once per year plus an inspection and/or calibration whenever instrumentation anomalies are noted; (c) a requirement that a copy of the operation and maintenance manual for the control equipment be maintained on site; (d) a maintenance schedule for the equipment based on the manufacturer's recommendations, but at intervals no less frequent than once per year; and (e) a copy of the plan shall be kept at the plant. [s. NR 439.11, Wis. Adm. Code, 02-RV-054] (3) Whenever compliance testing for particulate matter/PM ₁₀ emissions is required, USEPA Method 5A and 202 shall be used. [s. NR 439.06(1m), Wis. Adm. Code, 02-RV-054] (4) The facility shall keep and maintain on site technical drawings, blueprint or equivalent records of the physical stack parameters. [s. NR 439.06(3)(a), Wis. Adm. Code, 02-RV-054]

²⁴ From permit 02-RV-054

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G. P31 - S114 - Fly Ash Storage Facility

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
2. Visible Emissions	(1) Emissions of shade or density may not exceed number 1 of the Ringlemann chart or 20% opacity. [s. NR 431.04(2), Wis. Adm. Code, 02-RV-054]	(1) Refer to I.G.1.b.(1)-(3) for additional requirements.	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use U.S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code, 02-RV-054] (2) Refer to I.G.1.c.(1) - (2) for additional requirements.

²⁵ These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be

These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed.

26 Increased diameter and pressure drop change noted in letter (White, 1/26/2005)

27 These conditions are established to ensure no fugitive dust are generated by the fly ash storage facility's operation. Also based on these conditions no emissions are expected from the equipment used to transfer material to and from the fly ash storage facility.

28 Permit 02-RV-054 required installation of the monitoring device.

Condition Type	a. Condition	b. Compliance Demonstration
1. Compliance Reports/Records	 (1) Upon issuance of the operation permit, the permittee shall submit periodic monitoring reports. [s. NR 407.09(1)(c)3., Wis. Adm. Code] (2) Upon issuance of the operation permit, the permittee shall submit periodic certification of compliance. [s. NR 407.09(4)(a)3., Wis. Adm. Code] (3) The records required under this permit shall be retained for at least five (5) years and shall be made available to department personnel upon request during normal business hours. [s. NR 439.04, s. NR 439.05, Wis. Adm. Code] 	 (1) The permittee shall submit a monitoring report which contains the results of monitoring or a summary of monitoring results required by this permit to the Department every 6 months. (a) The time periods to be addressed by the submittal are January 1 to June 30 and July 1 to December 31. (b) The report shall be submitted to the Wisconsin Department of Natural Resources Southeast Region Headquarters, 2300 North Dr. Martin Luther King Jr. Drive, Milwaukee, WI, 53212-0436 within 45 days after the end of each reporting period. (c) All deviations from and violations of applicable requirements shall be clearly identified in the submittal. (d) Each submittal shall be certified by a responsible official as to the truth, accuracy and completeness of the report. (e) The content of the submittal is described in item D. of Part II of the operation permit. [s. NR 439.03(1)(b), Wis. Adm. Code] (2) The permittee shall submit an annual certification of compliance with the requirements of this permit to the Wisconsin Department of Natural Resources Southeast Region Headquarters, 2300 North Dr. Martin Luther King Jr. Drive, Milwaukee, WI, 53212-0436 and to Compliance Data – Wisconsin, Air and Radiation Division, US EPA, 77 W. Jackson, Chicago, IL 60604. (a) The time period to be addressed by the report is the January 1 to December 31 period which precedes the report. (b) The report shall be submitted to the Wisconsin Department of Natural Resources Southeast Region Headquarters, 2300 North Dr. Martin Luther King Jr. Drive, Milwaukee, WI, 53212-0436 and to US EPA within 45 days after the end of each reporting period. (c) The information included in the report shall comply with the requirements of Part II, Section N of this permit. (d) Each report shall be certified by a responsible official as to the truth, accuracy and completeness of the report. [s. NR 439.03(1)(c), Wis. Adm. Code]

(3) The owner or operator of a continuous emissions monitoring system shall submit quarterly excess emission reports to
the department within 30 days following the end of each reporting period in accordance with pars. (a) to (d). The owner or operator shall submit either a full excess emission report under par. (a) or a summary excess emission report under par. (d) as specified in writing by the department.
(a) The full excess emission reports required under this subsection shall contain the following information:(i) The date and starting and ending times or duration of each period of excess emissions and the magnitude of the emissions.
 (ii) The periods of excess emissions that occur during startups, shutdowns, soot blowing, control equipment malfunction, process malfunction, fuel problems, other known causes or for unknown causes. The report shall identify the cause of any malfunction and the measures taken to reduce excess emissions. (iii) The date and starting and ending time of any period during which the monitoring system was inoperative for any reason or causes, including monitor malfunction or calibration, except for zero and span checks. The report shall identify the repairs or adjustments made to the system. (iv) The date and starting and ending time of any period during which the process being monitored was inoperative. (v) When no period of excess emissions occurred during the quarter and the monitoring system had no period of downtime, an excess emissions report shall be filed stating that information.
 (b) Unless otherwise specified by the department, in the reports required under this subsection, periods of excess emissions shall be reported as follows: (i) For opacity, any 6-minute period during which the average opacity exceeds the applicable emission limit. (ii) For sulfur dioxide, any 24-hour rolling average during which the average sulfur dioxide emissions exceed the applicable emission limitation. (c) For purposes of reporting exceedances on the basis of a 24-hour rolling average under this subsection, any hourly average may be included in only one 24-hour period. An exceedance shall be based on at least 18 and not more than 24 valid recordings of hourly average emission rates in any 24 hour period.
(d) The summary excess emission report shall be submitted on a form provided by the department or in a format approved by the department.

Condition Type	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
2. Malfunction Prevention and Abatement Plan	(1) A malfunction prevention and abatement plan shall be prepared and followed for the plant. [s. NR 439.11, Wis. Adm. Code] (2) All air pollution control equipment shall be operated and maintained in conformance with good engineering practices (i.e. operated and maintained according to manufacturer's specifications and directions) to minimize the possibility for the exceedance of any emission limitations. [s. NR 439.11(4), Wis. Adm. Code]	(1) The malfunction prevention and abatement plan shall be developed to prevent, detect and correct malfunctions or equipment failures which may cause any applicable emissions limitation to be violated or which may cause air pollution. [s. NR 439.11(1), Wis. Adm. Code] (2) This malfunction prevention and abatement plan shall include installation, maintenance and routine calibration procedures for the process monitoring and control equipment instrumentation. This plan shall require an instrumentation calibration at the frequency specified by the manufacturer, yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent. Inspection and calibration shall also be conducted whenever instrumentation anomalies are noted. [ss. NR 407.09(1)(c)1.c., NR 439.055(4) and s. NR 439.11, Wis. Adm. Code] (3) The malfunction prevention and abatement plan shall require a copy of the operation and maintenance manual for the control equipment to be maintained on site. The plan shall contain all of the elements in s. NR 439.11(1)(a) – (h), Wis. Adm. Code. [s. NR 439.11, Wis. Adm. Code]	(1) A written copy of the malfunction prevention and abatement plan shall be kept at the plant. [s. NR 439.11(1), Wis. Adm. Code] (2) The facility shall maintain an inventory of normal consumable items necessary to ensure operation of the control device(s) in conformance with the manufacturer's specifications and recommendations. [s. NR 439.11, Wis. Adm. Code] (3) The facility shall maintain records of the instrumentation calibrations. [s. NR 439.04, Wis. Adm. Code]

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Condition Type	a. Conditions
3. Stack Testing Requirements.	(1) If the compliance emission test(s) cannot be conducted within the time frames specified in this permit, the permit holder may request and the Department may approve, in writing, an extension of time to conduct the test(s). [s. NR 439.07, Wis. Adm. Code]
	(2) All testing shall be performed with the emissions unit operating at capacity or as close to capacity as practicable and in accordance with approved procedures. If operation at capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. [s. NR 439.07(1), Wis. Adm. Code]
	(3) The Department shall be informed at least 20 working days prior to any stack testing so a Department representative can witness the testing. At the time of notification, a compliance emission test plan shall also be submitted to the Department. When approved in writing, an equivalent test method may be substituted for the reference test method. The notification and test plan shall be submitted to the Wisconsin Department of Natural Resources Southeast Region Headquarters, 2300 North Dr. Martin Luther King Jr. Drive, Milwaukee, WI, 53212-0436. [ss. NR 439.07(1), 439.07(2), Wis. Adm. Code]
	(4) Two copies of the report on the tests shall be submitted to the Department for evaluation within 60 days following the tests. [s. NR 439.07(9), Wis. Adm. Code]

Condition Type	a. Conditions
4. Actual Emissions Report ²⁹ .	(1) The permittee maintain and submit to the Department on an annual basis for a period of 5 years from the date the unit resumes regular operation, information demonstrating that the physical or operational change did not result in an emission increase. The annual data reporting for the first year of the five year period will begin in 2004 for year 2003. The period to be included is from April 1 to March 31 and shall be submitted to by April 30. [s. NR 405.02(1)(d), Wis. Adm. Code., s. NR 408.02(1)(c), Wis. Adm. Code., s. 285.65(3), Wis. Stats., 01-RV-103]
l .	(2) (a) The permittee may exclude in calculating any increase in emissions that results from the particular physical change or change in the method of operation at an electric utility steam generating unit, that portion of the unit's emissions following the change that could have been accommodated during the representative baseline period and is attributable to an increase in projected capacity utilization at the unit that is unrelated to the particular change, including any increased utilization due to the rate of electricity demand growth for the utility system as a whole [s. 405.02(25s)(b), Wis. Adm. Code, s. NR 408.02(30)(b), Wis. Adm. Code, s. 285.65(3), Wis. Stats., 01-RV-103] (b) The permittee shall provide this information as to how much emission was due to the increased utilization due to the rate of electricity demand growth and how was that determined. [s. 285.65(3), Wis. Stats., 01-RV-103]

²⁹ From 01 RV 103

Condition Type	a. Conditions
5. Compliance Assurance Monitoring (CAM) Requirements	(1) The permittee shall comply with the following provisions from the CAM plan ³⁰ for boilers: B25 & B26 (Units 5 & 6) and B27 & B28 (Units 7 & 8). (a) The permittee shall monitor stack opacity using a continuous opacity monitoring system (COMS) at the common stack of each set of boilers in accordance with provisions I.A.2.b.(1) through (2), and I.B.5.b.(1) through (2). (b) The COMS shall record data in accordance with provisions I.A.2.c.(1), and I.B.5.c.(2). (c) The COMS data shall be reduced to one-hour block averages ³¹ . (d) The permittee shall take corrective action ³² when stack opacity is greater than 20% for a one-hour average period, except during periods of startup or shutdown. (e) The permittee shall record as an excursion, measured stack opacity greater than 20% for any three consecutive one-hour average periods, except during periods of startup, shutdown or malfunction. [s. 285.65(13), Wis. Stats., 40 CFR 64.2, and 40 CFR 64.3] (2) The permittee shall develop and implement a written quality improvement plan (QIP) if the required monitoring shows an accumulation of excursions of the indicator ranges established in the CAM plan in excess of 9 during a semiannual monitoring period. [The semiannual monitoring periods are specified in provision I.H.1.b.(1)(a).] The QIP shall contain the elements listed in 40 CFR 64.8(b). [s. 285.65(13). Wis. Stats. and 40 CFR 64.8(a)] (3) The permittee shall report the following items in the semiannual monitoring report required by provision I.H.1.b.(1). (a) the number of excursions, duration of excursions, cause of excursions, and the corrective actions taken for each excursion; (b) the number, duration, and cause for monitor downtime incidents. [s. 285.65(13), Wis. Stats. and 40 CFR 64.9]
	Note: Implementation of a QIP shall not excuse the permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that applies under federal, state, or local law, or any other applicable requirement of the Clean Air Act.

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³⁰ Dated 8/28/2003 prepared for WE Energies by RMB Consulting & Research, Inc.
³¹ One-hour block averages are to mean clock hours (i.e. the block starts at the top of the hour)
³² Corrective action shall begin with an inspection of the COMS. If it is determined that the opacity monitor readings are accurate, then corrective action shall continue with a determination as to which of the two units serving the common stack triggered the corrective action event.

Condition Type	a. Conditions
6. Handling and Storage of Coal	(a) Have the ability to control, in a timely manner, outdoor fugitive coal dust emissions to prevent emissions off the source property. (b) Develop and implement a plan to control outdoor fugitive coal dust emissions to prevent emissions off the source property. The plan shall include all of the following: 1. Identification of all sources of outdoor fugitive coal dust emissions from coal handling and coal storage piles on the source property. 2. A description of the measures that can be taken to control, in a timely manner, outdoor fugitive coal dust emissions from all sources identified under subd. 1. under the following conditions: a. Routine operations. b. Periods of high activity. c. Periods of increased probability of outdoor fugitive dust emissions. d. When equipment used to control outdoor fugitive coal dust emissions malfunctions. (c) Keep records of actions taken to control outdoor fugitive coal dust emissions in accordance with s. NR 439.04(2), Wis. Adm. Code. (d) Keep a copy of the plan and records of all actions taken at the facility. [s. NR 445.10(2), Wis. Adm. Code] (2) Requirements For Non-Fugitive Coal Dust Emissions To The Ambient Air. No later than June 30, 2007, the permittee shall, for any non-fugitive source of coal dust emissions exhausted through a fabric filter to the ambient air, do one of the following: (a) Limit visible emissions from each source to 10% opacity. (b) Limit the quantity, concentration or duration of potential to emit emissions of respirable coal dust from all sources so that ambient air concentration off the source property is less than 21.6 µg/m³ for any 24 hour averaging period. The permittee may rely on information generated by either the EPA screening or refined dispersion model to demonstrate compliance. [s. NR 445.10(3), Wis. Adm. Code]

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³³ Certification forms may be obtained from, and submitted to: Wisconsin Department of Natural Resources, Bureau of Air Management, PO Box 7921, Madison WI 53707-7921, Attention: NR 445 Certification form for handling and storage of coal.

I. Specific Conditions Applicable to WE Energies.

Condition Type	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Sulfur Dioxide * (Continued on Next Page)	(1) Corporate Emission Limitation: The average number of pounds of sulfur dioxide emissions per million British thermal unit of heat input from all boilers under the ownership or control of WE Energies for any calendar year may not exceed 1.20. [s. 285.41(2)(a), Wis. Stats] *	(1) Annual Compliance Plan - Each year WE Energies shall prepare an annual plan for achieving compliance with the emission rate under condition I.I.1.a.(1) that includes, at a minimum: (a) The WE Energies expected electricity demand: (b) The WE Energies annual operation plan; (c) The expected operation characteristics of each boiler, including: (i) The order to be used in placing the boilers into operational production; (ii) The planned maintenance schedule for each boiler; (iii) How any maintenance is expected to affect the methods of meeting electricity demands; (iv) The amount of coal and other fossil fuels or other materials to be used for each boiler in operational production; (v) The sulfur content (in pounds of sulfur dioxide per million BTU of heat input) of coal and other fossil fuels or other materials to be used for each boiler in operational production: (vi) The anticipated sulfur dioxide emissions from each boiler; (vii) Contingency plans for unexpected events or increased demand including a summary of generation costs and the anticipated additional costs for reducing sulfur dioxide emissions under those circumstances; (viii) The methods that will be used to achieve compliance with condition I.I.1.a.(1) in the following year including, if applicable, the provisions of any trading agreement under s. 285.41(2)(b)1., Wis. Stats.; (ix) The total anticipated annual sulfur dioxide emissions from all boilers under the ownership or control of the WE Energies for each of the next 3 years. [s. 285.41(3)(a), Wis. Stats.] * (2) WE Energies shall prepare an annual sulfur dioxide emission summary which outlines compliance status with condition I.I.1.a.(1) for each calendar year. [s. 285.41(6), Wis. Stats.] *	(1) WE Energies shall submit a copy of the Annual Compliance Plan required by condition I.I.1.b.(1) on or before October 1 of each year for the following calendar year to: (a) The Wisconsin Department of Natural Resources, Bureau of Air Management, Combustion Process Section, 101 South Webster Street, P.O. Box 7921, Madison, WI 53707; and (b) The Wisconsin Public Service Commission, 610 North Whitney Way, Madison, WI 53705. [s.285.41(3)(a), Wis. Stats.] * (2) The annual sulfur dioxide emission summary required by condition I.I.1.b.(2) shall be submitted by March 1 for the preceding calendar year to: (a) The Wisconsin Department of Natural Resources, Bureau of Air Management, Combustion Process Section, 101 South Webster Street, P.O. Box 7921, Madison, WI 53707; and (b) The Wisconsin Public Service Commission, 610 North Whitney Way, Madison, WI 53705. [s. 285.41(6), Wis. Stats.] *

1. Specific Conditions Applicable to WE Energies.

Condition Type	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Record- keeping and Monitoring Requirements
1. Sulfur Dioxide - (Continued) * (Continued on Next Page)		 (3) Alternate Scenario - Trading to Comply with Condition I.I.1.a.(1): (a) Two major utilities (as defined in s. 285.41(1)(f), Wis. Stats.) may enter into an agreement for trading emissions unless the sum of the proposed traded emissions and the projected annual emissions of the grantor major utility for the year to which the agreement will apply would exceed the actual annual emissions for the grantor major utility in 1985. (b) To determine whether the major utility that is the grantor in an agreement is in compliance with the emission rate in condition I.I.1.a.(1) in a given year, the Department shall add the traded emissions and the grantor's annual emissions and divide the sum by the annual heat input of the grantor. (c) To determine whether the major utility that is the grantee in an agreement is in compliance with the emission rate in condition I.I.1.a.(1) in a given year, the Department shall subtract the traded emissions from the grantee's annual emissions and divide the difference by the annual heat input of the grantee. [s. 285.41(2)(b), Wis. Stats.] * -continued- 	(3) Any requests for variance described in condition I.I.1.b.(4) shall be submitted to: (a) The Wisconsin Department of Natural Resources, Bureau of Air Management, Combustion Process Section, 101 South Webster Street, P.O. Box 7921 (AM/7), Madison, WI 53707; and (b) The Wisconsin Public Service Commission, 610 North Whitney Way, Madison, WI 53705. [s. 285.41(4)(a), Wis. Stats.] *

I. Specific Conditions Applicable to WE Energies.

Condition Type a. Limitations	b. Compliance Demonstration	c.	Reference Test Methods, Record- keeping and Monitoring Requirements
1. Sulfur Dioxide - (Continued) *	 (4) Alternate Scenario - Variance: A major utility may request a variance from the emission rate in condition I.I.1.a.(1) according to the following conditions: (a) A major utility may request a variance from the emission rate in condition I.I.1.a.(1) if the Department has not served the major utility with written notice under s. 285.83, Wis. Stats. that the major utility has violation condition I.I.1.a.(1); AND (b) if any of the following variance conditions exist: (i) A major electrical supply emergency within or outside this state. (ii) A major fuel supply disruption. (iii) An extended and unplanned disruption in the operation of a nuclear plant or low sulfur coal-fired boiler under the ownership or control of the major utility. (iv) The occurrence of an uncontrollable event not anticipated in the plan submitted under conditions I.I.1.b.(1) and c.(1). (v) A plan by the major utility to install and place into operation new technological devices that will enable it to achieve compliance with condition I.I.1.a.(1). (c) With the request for a variance, the major utility shall submit its plan for achieving compliance with condition I.I.1.a.(1). (d) If the request is based on the variance conditions specified under condition I.I.1.b.(4)(b)(i) through (iv), the request shall include an explanation of why the major utility cannot achieve or remain in compliance by using fuel with a lower sulfur content or by environmental dispatching. [s. 285.41(4)(a) - (b), Wis. Stats.] * 		

STATE OF WISCONSIN - ACID RAIN PORTION OF THE OPERATION PERMIT

Issued to:

WE Energies - South Oak Creek Power Plant

ORIS Code:

4041

Unit ID# ³⁴	Owned By:	Operated By:	Existing Unit Commence Operation Date	Existing Unit Monitor Certification Deadline Date
5	WE Energies (formerly WEPCO)	WE Energies (formerly WEPCO)	1960	N/A
6	WE Energies (formerly WEPCO)	WE Energies (formerly WEPCO)	1961	N/A
7	WE Energies (formerly WEPCO)	WE Energies (formerly WEPCO)	1965	N/A
8	WE Energies (formerly WEPCO)	WE Energies (formerly WEPCO)	1967	N/A

Operation Permit Effective Dates:

[insert date at permit issuance] through [insert issuance date + 5 yrs at permit issuance]

The acid rain portion of this operation permit took effect on January 1, 2000. [s. NR 409.11(1)(a)3., Wis. Adm. Code]

Duty to Re-apply: The designated representative shall submit a complete acid rain portion of an operation permit application at least 12 months, but not more than 18 months, before this permit expires. [s. NR 409.08(1)(c), Wis. Adm. Code]

Operation in accordance with the acid rain portion of this operation permit shall be deemed to be operation in compliance with the acid rain Permit Shield: program, except as provided in s. NR 409.06(7)(f), Wis. Adm. Code. [s. NR 409.10(2), Wis. Adm. Code]

Contents of Acid Rain Portion of the Operation Permit

- Statement of Basis 1.
- Unit Specific Requirements 2.
- Standard Requirements 3.
- General Requirements
- Comments, notes and justifications regarding permit decisions.

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³⁴ Provided by the National Allowance Database for the Federal Acid Rain Program.

Statement of Basis

Statutory and Regulatory Authorities: This portion of the operation permit is issued pursuant to ss. 285.60 to 285.66, Wis. Stats., Titles IV and V of the federal Clean Air Act (42 USC 7651 to 7661f), and chs. NR 407 and 409, Wis. Adm. Code.

Specific Requirements for Units 5, 6, 7, and 8

POLLUTANT	LIMITATION	COMPLIANCE PLAN
a. Sulfur Dioxide	 (1) Sulfur dioxide emissions from EACH unit may not exceed the number of allowances that the source lawfully holds under the acid rain program, including allowances allocated directly to the source through the acid rain program and allowances obtained through the emissions trading provisions of the acid rain program, subject to the following qualifications: [s. NR 407.09(2)(a), Wis. Adm. Code] (a) No permit revision may be required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that the increases do not require a permit revision under any other applicable requirement; (b) No limit may be placed on the number of allowances that may be held by the stationary source; (c) A stationary source may not use allowances as a defense to noncompliance with any applicable requirements other than the requirements of the acid rain program; and (d) Any acid rain allowance shall be accounted for according to the procedures established in the acid rain program. (2) The permittee shall operate EACH unit in compliance with the standard sulfur dioxide requirements of condition 3.c. of the acid rain portion of this permit. [s. NR 409.06(3)(a)2, Wis. Adm. Code] 	(3) The permittee shall, as of the allowance transfer deadline, ³⁵ for these phase II units, hold allowances in EACH units compliance sub account [after deductions under 40 CFR 73.34(c)] not less than the total annual emissions of sulfur dioxide from the unit. The permittee is not applying for any compliance options under 40 CFR 72.40(b) or s. NR 409.09(1)(b), Wis. Adm. Code. [s. NR 409.06(3)(a)1., Wis. Adm. Code.

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² The allowance transfer deadline is midnight of March 1 (or February 29 in a leap year) or, if March 1 (or February 29 in a leap year) is not a business day, midnight of the first business day thereafter. [s. NR 409.02(12), Wis. Adm. Code]

2. Specific Requirements for Units 5, 6, 7, and 8 (Continued)

POLLUTANT	LIMITATION	COMPLIANCE PLAN
b. Nitrogen Oxides	(1) Pursuant to s. NR 409.065(7), the Department approves a NOx emissions averaging plan for Unit 5, Unit 6, Unit 7 and Unit 8, effective from calendar years 2003 through 2008. Under the plan, neither Unit 5's nor Unit 6's NOx emissions may exceed the annual average alternative contemporaneous emission limitation of 0.24 lb/mmBtu. In addition, Unit 5 may not have an annual heat input less than 9,677,216 mmBtu. Also under the plan, neither Unit 7's nor Unit 8's NOx emissions may exceed the annual average alternative contemporaneous emission limitation of 0.28 lb/mmBtu. In addition, Unit 7 may not have an annual heat input less than 10,644,661 mmBtu and Unit 8 may not have an annual heat input less than 10,811,329 mmBtu. [s. NR 409.065(7)(a), Wis. Adm. Code] (2) Under the plan, the actual Btu-weighted annual average NOx emission rate for the units in the plan shall be less than or equal to the Btu-weighted annual average NOx emission rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations under s. NR 409.065(2), (3) or (4), except that for any early election units, the applicable emission limitations shall be under 409.065(4). If the designated representative demonstrates that the requirement of the prior sentence (as set forth in s. NR 409.065(7)(d)2.a.) is met for a year under the plan, then this unit shall be deemed to be in compliance for that year with its alternative contemporaneous annual emission limitation and annual heat input limit.	(5) For nitrogen oxides these units will meet the applicable emission limitations established by s. NR 409.065, Wis. Adm. Code, the applicable monitoring provisions of 40 CFR 75.10, 75.12 and 75.17, and the applicable reporting requirements of 40 CFR Part 75, Subpart G. [s. NR 409.065, Wis. Adm. Code, s. 285.65(12), Stats.]
	[s. NR 409.065(7)(d)2., Wis. Adm. Code]	
	(3) In accordance with 40 CFR 72.40(b)(2), approval of the averaging plan shall be final only when the State of Michigan Department of Environmental Quality has also approved this averaging plan.	
	[s. NR 409.02(29), Wis. Adm. Code, s. 285.65(12), Stats.]	
	(4) In addition to the described NO _X compliance plan, this unit shall comply with all other applicable requirements of 40 CFR part 76, including the duty to re-apply for an operation permit and a NO _X compliance plan approval, as well as requirements covering excess emissions.	
	[s. NR 409.12(6)(a)2., Wis. Adm. Code, s. 285.65(12), Stats.]	

3. Standard Requirements for all Affected Units

CONDITION	REQUIREMENTS
a. Permit	(1) The designated representative of each affected source and each affected unit at the source shall:
Requirements	(a) Except for a phase I acid rain permit to be issued by U.S. EPA, submit a complete acid rain portion of an operation permit application (including a compliance plan) under 40 CFR part 72 and ch. NR 409, Wis. Adm. Code in accordance with the deadlines specified in s. NR 409.08(1), Wis. Adm. Code and 40 CFR 72.30; and
	(b) Submit in a timely manner any supplemental information that the Department determines is necessary in order to review an acid rain portion of an operation permit application and issue or deny an acid rain portion of an operation permit application.
	[s. NR 409.06(1)(a), Wis. Adm. Code]
	(2) The owners and operators of each affected source and each affected unit at the source shall:
	(a) Operate the unit in compliance with a complete acid rain portion of an operation permit application or a superseding acid rain portion of an operation permit issued by the Department; and
	(b) Have an acid rain portion of an operation permit.
	[s. NR 409.06(1)(b), Wis. Adm. Code]
b. Monitoring Requirements	(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR parts 74, 75, and 76 and s. NR 409.065.
	[s. NR 409.06(2)(a), Wis. Adm. Code]
	(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 and s. NR 409.065 shall be used to determine compliance by the unit with the acid rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the acid rain program.
	[s. NR 409.06(2)(b), Wis. Adm. Code]
	(3) The requirements of 40 CFR parts 74 and 75 and s. NR 409.065 do not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the act and other provisions of the operation permit for the source.
	[s. NR 409.06(2)(c), Wis. Adm. Code]

- c. Sulfur Dioxide Requirements
- (1) The owners and operators of each source and each affected unit at the source shall:
 - (a) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount, after deductions under 40 CFR 73.34(c), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
 - (b) Comply with the applicable acid rain emissions limitations for sulfur dioxide.
- [s. NR 409.06(3)(a), Wis. Adm. Code]
- (2) Each ton of sulfur dioxide emitted in excess of the acid rain emissions limitations for sulfur dioxide shall constitute a separate violation.
- [s. NR 409.06(3)(b), Wis. Adm. Code]
- (3) An affected unit shall be subject to the requirements under condition 3.c.(1) of the acid rain portion of this permit as follows:
 - (a) Starting January 1, 2000, for an affected unit under s. NR 409.01(1)(a)2., Wis. Adm. Code; or
 - (b) Starting on the later of January 1, 2000 or the monitor certification deadline under 40 CFR part 75, for an affected unit under s. NR 409.01(1)(a)3, Wis. Adm. Code.
- [s. NR 409.06(3)(c), Wis. Adm. Code]
- (4) Allowances shall be held in, deducted from, or transferred among allowance tracking system accounts in accordance with the acid rain program.
- [s. NR 409.06(3)(d), Wis. Adm. Code]
- (5) An allowance may not be deducted in order to comply with the requirements under condition 3..c.(1)(a) of this permit prior to the calendar year for which the allowance was allocated.
- [s. NR 409.06(3)(e), Wis. Adm. Code]
- (6) An allowance allocated by the U.S. EPA under the acid rain program is a limited authorization to emit sulfur dioxide in accordance with the acid rain program. No provision of the acid rain program, the acid rain portion of an operation permit application, the acid rain portion of an operation permit or an exemption under ss. NR 409.04, 409.05 or 409.055, Wis. Adm. Code and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- [s. NR 409.06(3)(f), Wis. Adm. Code]
- (7) An allowance allocated by the U.S. EPA under the acid rain program does not constitute a property right. [s. NR 409.06(3)(g), Wis. Adm. Code]

d. Nitrogen Oxides Requirements

(1) General Provisions. The owners and operators of the source and each affected unit at the source shall comply with the applicable acid rain emissions limitation for nitrogen oxides. [s. NR 409.06(4), Wis. Adm. Code]

(2) Special Provisions for Averaging Plans.

(a) Emission Limitations

Each affected unit in an approved averaging plan is in compliance with the acid rain emission limitation for NOx under the plan only if the following requirements are met:

- i. For each unit, the unit's actual annual average emission rate for the calendar year, in lb/MMBTU, is less than or equal to its alternative contemporaneous emission limitation (ACEL) in the averaging plan, and
 - (i) for each unit with an alternative contemporaneous emission limitation less stringent than the applicable emission limitation in 40 CFR 76.5, 76.6 or 76.7, the actual annual heat input for the calendar year does not exceed the annual heat input limit in the averaging plan,
 - (ii) for each unit with an alternative contemporaneous emission limitation more stringent than the applicable emission limitation in 40 CFR 76.5, 76.6 or 76.7, the actual annual heat input for the calendar year is not less than the annual heat input limit in the averaging plan, or
- ii. If one or more of the units does not meet the requirements of a., the designated representative shall demonstrate, in accordance with 40 CFR 76.11(d)(1)(ii)(A) and (B), that the actual BTU-weighted annual average emission rate for the units in the plan is less than or equal to the BTU-weighted annual average rate for the same units had they each been operated, during the same period of time, in compliance with the applicable emission limitations in 40 CFR 76.5, 76.6 or 76.7.
- iii. If there is a successful group showing of compliance under 40 CFR 76.11(d)(1)(ii)(A) and (B) for a calendar year, then all units in the averaging plan shall be deemed to be in compliance for that year with their alternative contemporaneous emission limitations and annual heat input limits under a.

(b) Liability

The owners and operators of a unit governed by an approved averaging plan shall be liable for any violation of the plan or this section at that unit or any other unit in the plan, including liability for fulfilling the obligations specified in 40 CFR part 77 and sections 113 and 411 of the act.

(c) Termination

The designated representative may submit a notification to terminate an approved averaging plan, in accordance with 40 CFR 72.40(d), no later than October 1 of the calendar year for which the plan is to be terminated.

[s. NR 409.065(7)(d), Wis. Adm. Code]

CONDITION	REQUIREMENTS
e. Excess Emissions Requirements	(1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan to the U.S. EPA, as required under 40 CFR part 77, and submit a copy to the Department.
	[s. NR 409.06(5)(a), Wis. Adm. Code]
	(2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
	(a) Pay to the U.S. EPA without demand the penalty required, and pay to the U.S. EPA upon demand the interest on that penalty, as required by 40 CFR part 77; and
	(b) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.
	[s. NR 409.06(5)(c), Wis. Adm. Code]
f. Recordkeeping and Reporting Requirements	(1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the U.S. EPA or the Department:
	(a) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
	(b) All emissions monitoring information, in accordance with 40 CFR part 75; provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;
	(c) Copies of all reports, compliance certifications, and other submissions and all records made or required under the acid rain program; and,
	(d) Copies of all documents used to complete an acid rain portion of an operation permit application and any other submission under the acid rain program or to demonstrate compliance with the requirements of ch. NR 409, Wis. Adm. Code and the acid rain program.
	[s. NR 409.06(6)(a), Wis. Adm. Code]
	(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the acid rain program, including those under s. NR 409.13, Wis. Adm. Code and 40 CFR part 75.
	[s. NR 409.06(6)(b), Wis. Adm. Code]

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CONDITION	REQUIREMENTS
g. Liability	(1) Any person who knowingly violates any requirement or prohibition of the acid rain program, a complete acid rain portion of an operation permit application, an acid rain portion of an operation permit, or an exemption under ss. NR 409.04, NR 409.05 or 409.055, Wis. Adm. Code shall be subject to enforcement by the Department pursuant to ch. NR 494, Wis. Adm. Code and ss. 285.83 and 285.87, Wis. Stats. Any person who knowingly violates any requirement or prohibition of the acid rain program, a complete acid rain portion of an operation permit application, an acid rain portion of an operation permit, or an exemption under 40 CFR 72.7, 72.8 or 72.14, including any requirement for the payment of any penalty owed to the United states shall be subject to enforcement by the U.S. EPA pursuant to s. 113(c) of the Clean Air Act. [s. NR 409.06(7)(a), Wis. Adm. Code]
	(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement by the Department pursuant to ch. NR 494, Wis. Adm. Code and ss. 285.83 and 285.87, Wis. Stats. Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement by the U.S. EPA pursuant to s. 113(c) of the Clean Air Act and 18 U.S.C. 1001. [s. NR 409.06(7)(b), Wis. Adm. Code]
	(3) No permit revision may excuse any violation of the requirements of ch. NR 409, Wis. Adm. Code, and the acid rain program that occurs prior to the date that the revision takes effect. [s. NR 409.06(7)(c), Wis. Adm. Code]
	(4) Each affected source and each affected unit shall meet the requirements of ch. NR 409, Wis. Adm. Code, and the acid rain program. [s. NR 409.06(7)(d), Wis. Adm. Code]
	(5) Any provision of the acid rain program that applies to an affected source, including a provision applicable to the designated representative of an affected source, shall also apply to the owners and operators of such source and of the affected units at the source. [s. NR 409.06(7)(e), Wis. Adm. Code]
	(6) Any provision of the acid rain program that applies to an affected unit. including a provision applicable to the designated representative of an affected unit, shall also apply to the owners and operators of the unit. Except as provided under s. NR 409.09(2), Wis. Adm. Code, 40 CFR 72.41, 72.42, 72.43, 72.44 (Phase II repowering extension plans), 74.47 and 76.11 (NOx averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75, including 40 CFR 75.16, 75.17, and 75.18, the owners and operators and the designated representative of one affected unit are not liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative. [s. NR 409.06(7)(f), Wis. Adm. Code]
	(7) Each violation of a provision of ch. NR 409, Wis. Adm. Code and 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation. [s. NR 409.06(7)(g), Wis. Adm. Code]

CONDITION	REQUIREMENTS
h. Effect on Other Authorities	 (1) No provision of the acid rain program, an acid rain portion of an operation permit application, an acid rain portion of an operation permit, or an exemption under s. NR 409.04, NR 409.05 or 409.055, Wis. Adm. Code, or 40 CFR part 72.7 or 72.8 may be construed as doing any of the following: (a) Except as expressly provided in title IV of the act (42 USC 7651 to 7651o), exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the act, including the provisions of title I of the act relating to applicable national ambient air quality standards or state implementation plans; (b) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the act; (c) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding the state regulation, or limiting the state regulation, including any prudence review requirements under state law; (d) Modifying the federal power act (16 USC 791a et seq.) or affecting the authority of the federal energy regulatory commission under the federal power act; or, (e) Interfering with or impairing any program for competitive bidding for power supply in a state in which the program is established. [s. NR 409.06(8), Wis. Adm. Code]

4. General Requirements for all Affected Units

CONDITION	REQUIREMENTS
a. Reporting	(1) Annual Compliance Certification Report: For each calendar year in which a unit is subject to the acid rain emissions limitations, the designated representative shall submit to the U.S. EPA and to the Department within 60 days after the end of the calendar year, an annual compliance certification report for the unit in compliance with 40 CFR 72.90. For the purpose of determining compliance with the acid rain emissions limitations and reduction requirements, total tons for a year shall be calculated as the sum of all recorded hourly emissions rates, or the tonnage equivalent of the recorded hourly emissions rates, in accordance with 40 CFR part 75, with any remaining fraction of a ton equal to or greater than 0.50 ton deemed to equal one ton and any fraction of a ton less than 0.50 ton deemed not to equal any ton. ³⁶ [s. NR 409.13(1), Wis. Adm. Code]
b. Submissions	 (1) The designated representative shall submit a certificate of representation, and any superseding certificate of representation, to the U.S. EPA in accordance with subpart B of 40 CFR part 72 and, concurrently, shall submit a copy to the Department. The designated representative may disregard this requirement if the aforementioned certificate has already been submitted to the U.S. EPA and the Department. [s. NR 409.07(1)(a), Wis. Adm. Code] (2) Each submission under the acid rain program shall be submitted, signed and certified by the designated representative for all
	sources on behalf of which the submission is made.
	[s. NR 409.07(1)(b), Wis. Adm. Code]
	(3) In each submission under the acid rain program, the designated representative shall certify, by his or her signature:
	(a) The following statement, which shall be included verbatim in the submission: I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made.
	(b) The following statement which shall be included verbatim in the submission: I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best proof my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.
	[s. NR 409.07(1)(c), Wis. Adm. Code]

³⁶ Please note that your facility will have two (2) compliance certification reporting requirements: one for the operation permit portion, and one for the acid rain portion of this permit. Submitting a complete annual compliance certification in accordance with this condition will satisfy the compliance certification requirement for the acid rain portion of this permit. See the Total Facility portion of the operation permit portion for the other compliance certification reporting requirement.

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CONDITION	REQUIREMENTS
b. Submissions - continued	(4) The designated representative of a source shall serve notice on each owner and operator of the source and of an affected unit at the source:
	(a) By the date of submission, of any acid rain program submissions by the designated representative;
	(b) Within 10 business days of receipt of a determination, of any written determination by the U.S. EPA or the Department; and
	(c) Provided that the submission or determination covers the source or the unit.
	[s. NR 409.07(1)(e), Wis. Adm. Code]
	(5) The designated representative of a source shall provide each owner and operator of an affected unit at the source a copy of any submission or determination under condition 4.b.(4) of the acid rain portion of this permit, unless the owner or operator expressly waives the right to receive a copy.
1	[s. NR 409.07(1)(f), Wis. Adm. Code]
c. Appeal Procedures	(1) Appeals of the acid rain portion of this operation permit issued by the Department that do not challenge or involve decisions or actions of the U.S. EPA under 40 CFR parts 72, 73, 74, 75, 76, 77 and 78 shall be conducted according to the procedures in ch. NR 407 and ss. 285.13(1), 285.81 and 227.40 to 227.60, Wis. Stats. The permit shield under s. NR 409.10(2) shall continue to be in effect during the appeal process. Appeals of the acid rain portion of a permit that challenge or involve decisions or actions of the U.S. EPA shall follow the procedures under 40 CFR part 78 and section 307 of the act (42 USC 7607). Decisions or actions include, but are not limited to, allowance allocations, determinations concerning alternative monitoring systems and determinations of whether a technology is a qualifying repowering technology.
	[s. NR 409.11(2)(a), Wis. Adm. Code]
	(2) No state or administrative or judicial appeal of the acid rain portion of an operation permit may be allowed to commence more than 30 days following the issuance of the acid rain portion of an operation permit, as provided by ss. 285.81 and 227.53, Wis. Stats.
	[s. NR 409.11(2)(b), Wis. Adm. Code]
	(3) The U.S. EPA may intervene as a matter of right in any state administrative appeal of an acid rain portion of an operation permit or denial of an acid rain portion of an operation permit.
	[s. NR 409.11(2)(c), Wis. Adm. Code]

5. Comments, Notes and Justifications: None

PART II General Permit Conditions For Direct Stationary Sources

A. Scope.

This permit is valid only for the structure, building, facility, equipment or operation specifically identified herein. All emissions authorized hereby shall be in compliance with the terms and conditions of Parts I and II of this permit. [s. 285.60(7), Wis. Stats.]

B. Emissions Prohibited.

Unless the Department has approved an exception under s. NR 436.03(2), no person may cause, allow, or permit emissions of any air contaminant into the ambient air in excess of the limits set in chs. NR 400 to 499, Wis. Adm. Code. [s. NR 436.03(1), Wis. Adm. Code]

C. General Emission Limits.

C.1. Applicable to Insignificant Emissions Units.

The following general emission limitations may apply to one or more of the insignificant emission units identified in the preamble of this permit. It is the permittee's responsibility to comply with these requirements, if they do apply. Insignificant emission units typically are associated with inconsequential environmental impacts and present little potential for violations of these generally applicable requirements. If there were no observed, documented or known instances of noncompliance, certification of compliance is appropriate. Testing or monitoring to assure compliance is not required by this permit.

- C.1.a. Section NR 415.05, Wis. Adm. Code Particulate emission limits for processes;
- C.1.b. Section NR 415.06, Wis. Adm. Code Particulate emission limits for fuel burning installations;
- C.1.c. Section NR 415.07, Wis. Adm. Code Particulate emission limits for incinerators;
- C.1.d. Section NR 423.03, Wis. Adm. Code Solvent metal cleaning;
- C.1.e. Section NR 485.05, Wis. Adm. Code Visible emission limits for motor vehicles, internal combustion engines and mobile sources; and
- C.1.f. Section NR 485.055, Wis. Adm. Code Particulate emission limit for gasoline and diesel internal combustion engines.
- C.2. Applicable to Significant and Insignificant Emissions Units.

The following general emission limitations may apply to both significant and insignificant emission units. It is the permittee's responsibility to comply with these requirements, if they apply. Testing or monitoring to assure compliance with these general emission limits is not required by this permit.

For each significant emission unit, if a more specific emission limit is included in Part I of this permit for any of the pollutants listed below, then compliance with that more specific limit will constitute compliance with the general emission limit. If a more specific limit is not included in Part I of this permit, then that pollutant was determined to be insignificant for that emission unit.

For insignificant emission units, if there were no observed, documented or known instances of non-compliance, certification of compliance is appropriate.

- C.2.a. No person may cause, allow, or permit particulate matter to be emitted into the ambient air which substantially contributes to exceeding of an air standard, or creates air pollution. [s. NR 415.03, Wis. Adm. Code]
- C.2.b. No person may cause, allow, or permit any materials to be handled, transported, or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may a person allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. Such precautions shall include, but not be limited to the following [s. NR 415.04, Wis. Adm. Code]:
- C.2.b.(1) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, or construction operations.
- C.2.b.(2) Application of asphalt, oil, water, suitable chemicals, or plastic covering on dirt roads, material stockpiles, and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon, odor, or water pollution problem.
- C.2.b.(3) Installation and use of hoods, fans and air cleaning devices to enclose and vent the areas where dusty materials are handled.
- C.2.b.(4) Covering or securing of materials likely to become airborne while being moved on public roads, railroads, or navigable waters.
- C.2.b.(5) Conduct of agricultural practices such as tilling of land or application of fertilizers in such manner as not to create air pollution.
- C.2.b.(6) The paving or maintenance of roadway areas so as not to create air pollution.
- C.2.c. No person may cause, allow or permit emission of sulfur or sulfur compounds into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 417.03, Wis. Adm. Code]
- C.2.d. No person may cause, allow or permit organic compound emissions into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. No person may cause, allow or permit organic compounds to be used or handled without using good operating practices and taking reasonable precautions to prevent the spillage, escape or emission of organic compounds, solvents or mixtures. [s. NR 419.03, Wis. Adm. Code]
- C.2.e. No person may cause, allow or permit the disposal of more than 5.7 liters (1.5 gallons) of any liquid Volatile Organic Compound (VOC) waste, or of any liquid, semisolid or solid waste

materials containing more than 5.7 liters (1.5 gallons) of any VOC, in any one day from a facility in a manner that would permit their evaporation into the ambient air during the ozone season. This includes, but is not limited to, the disposal of VOC which must be removed from VOC control devices so as to maintain the control devices at their required operating efficiency. Disposal during the ozone season shall be by methods approved by the Department, such as incineration, recovery for reuse, or transfer in closed containers to an acceptable disposal facility, such that the quantity of VOC which evaporates into the ambient air does not exceed 15% (by weight) or 5.7 liters (1.5 gallons) in any one day, whichever is larger. [s. NR 419.04, Wis. Adm. Code]

- C.2.f. No person may cause, allow or permit emissions of carbon monoxide to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 426.03, Wis. Adm. Code).
- C.2.g. No person may cause, allow or permit emissions into the ambient air of lead or lead compounds which substantially contribute to the exceeding of an air standard or air increment, or which create air pollution. [s. NR 427.025, Wis. Adm. Code]
- C.2.h. No person may cause, allow, or permit nitrogen oxides or nitrogen compounds to be emitted to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 428.03, Wis. Adm. Code]
- C.2.i. No person may cause, allow or permit emission into the ambient air of any substance or combination of substances in such quantities that an objectionable odor is determined to result unless preventive measures satisfactory to the Department are taken to abate or control such emission. [s. NR 429.03(1), Wis. Adm. Code*]
- C.2.j. Open burning is prohibited except as provided in s. NR 429.04, Wis. Adm. Code. [s. NR 429.04, Wis. Adm. Code*]
- C.2.k. No person may cause, allow or permit emissions into the ambient air from any direct or portable source in excess of one of the limits specified in ch. NR 431, Wis. Adm. Code. Where the presence of uncombined water is the only reason for failure to meet the requirements of ch. NR 431, Wis. Adm. Code, such failure is not a violation of the chapter. [s. NR 431.03, Wis. Adm. Code]
- C.2.l. When the Department requires instrumentation to monitor the operation of air pollution control equipment, or to monitor source performance, the instrument shall measure operational variables with the following accuracy: [ss. NR 439.055(3) and NR 407.09(1)(c)1.c., Wis. Adm. Code]
- C.2.1.(1) The temperature monitoring device shall have an accuracy of 0.5% of the temperature being measured in degrees Fahrenheit or \pm 5°F of the temperature being measured, or the equivalent in degrees Celsius (centigrade), whichever is greater.
- C.2.1.(2) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater.
- C.2.1.(3) The current, voltage, flow or pH monitoring device shall be accurate to within 5% of the

specific variable being measured.

- C.2.m. All instruments used for measuring source or air pollution control equipment operational variables shall be calibrated yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent. [ss. NR 439.055(4) and NR 407.09(1)(c)1.c., Wis. Adm. Code]
- C.2.n. No person may cause, allow, or permit emissions into the ambient air of any hazardous substance in such quantity, concentration, or duration as to be injurious to human health, plant or animal life unless the purpose of that emission is for the control of plant or animal life. Hazardous substances include, but are not limited to, hazardous air contaminants listed in Tables 1 to 5 of s. NR 445.04, Wis. Adm. Code. [s. NR 445.03, Wis. Adm. Code*]
- C.2.o. Chapter NR 447, Wis. Adm. Code, applies to all air contaminant sources which may emit asbestos, to their owners and operators and to any person whose action causes the emission of asbestos to the ambient air, including demolition and renovation activities, Chapter NR 447, Wis. Adm. Code, establishes emission limitations for asbestos air contaminant sources, establishes procedures to be followed when working with asbestos materials and contains additional reporting and record keeping requirements for owners or operators of asbestos air contaminant sources in order to protect air quality. [ch. NR 447, Wis. Adm. Code]
- C.2.p. Accidental Release Prevention Requirements.

An owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates:

- June 21, 1999: C.2.p.(1)
- C.2.p.(2)Three years after the date on which a regulated substance is first listed under 40 CFR 68.130;
- The date on which a regulated substance is first present above a threshold quantity in a C.2.p.(3)process.

[40 CFR Part 68.10]

D. Reporting Requirements.

D.1. The Department shall be notified of the following events:

Event

Timing

D.1.a. Hazardous substance air spill.

Immediate call: 1-800-943-0003

D.1.b. Malfunction or other unscheduled event which causes or may cause any emission visible emission limit

Notification by next business day of any such event at the source which is not reported in adlimitation to be exceeded (except certain vance to the Department. Report the cause and exceedences duration of the exceedence, the period of time

Code.).

detected by a continuous emission monitor considered necessary for correction, and measures - see s. NR 439.03(4)(a)2., Wis. Adm. taken to minimize emissions during the period.

D.1.c. Deviation from any other condition Notification by next business day identifying the specified in this permit.

deviation, cause, duration and steps taken to prevent recurrence.

[ss. 285.65(10) and 292.11(2), Wis. Stats., and s. NR 439.03(4)*, Wis. Adm. Codel

D.2. Persons possessing or controlling a hazardous substance shall immediately notify the Department of any hazardous emission not in conformity with a permit or allowed by the Department under chs. NR 400 to 499. Notice shall be given as required by s. 292.11, Stats., and ch. NR 706.

Event

Timing

D.2.a. Hazardous substance air spill

Immediate call: 1-800-943-0003

[s. 292.11(2), Wis. Stats., and s. NR 445.08, Wis. Adm. Code*]

- D.3. The permittee shall report to the Department, in advance, schedules for planned shutdown and startup of air pollution control equipment and the measures to be taken to minimize the down time of the control equipment while the source is operating. Scheduled maintenance or any other scheduled event, including startup, shutdown or soot blowing procedures which have been approved by the Department under s. NR 436.03(2)(b), which causes an emission limit to be exceeded shall also be reported in advance to the Department. Advance reporting pursuant to this permit condition does not relieve any person from the duty to comply with any applicable emission limitations. Emissions in excess of the limits set in chs. NR 400-499, Wis. Adm. Code, may be allowed when the emissions are temporary and due to scheduled maintenance, startup or shutdown of operations carried out in accord with a plan and schedule approved by the Department. [s. NR 436.03(2)(b) and NR 439.03(6), Wis. Adm. Code]
- D.4. The permittee shall furnish to the Department, within a reasonable time specified by the Department, any information that the Department may request in writing to determine whether cause exists to revise, revoke or suspend this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Department copies of records required to be kept pursuant to this permit. [s. NR 407.09(1)(f)5., Wis. Adm. Code]
- D.5. The permittee shall submit the results of monitoring required by the permit to the Department according to the schedule established in Part I of this permit. Any such report shall clearly identify all instances of deviations from permit requirements. All such reports shall be signed by the responsible official for the source. [s. 285.17(2), Wis. Stats., and s. NR 439.03(1)(b), Wis. Adm. Code]
- Each report required under s. NR 439.03, Wis. Adm. Code, shall be certified by a responsible D.6. official as to its truth, accuracy and completeness. This certification and any other certification required under ch. NR 439 shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and

complete. [s. NR 439.03(10), Wis. Adm. Code*]

- D.7. Except for information determined to be confidential under s. 285.70(2), Wis. Stats., any information or reports obtained by the Department in the administration of ss. 285.01 to 285.87 and 299.15, Wis. Stats., will be available for public inspection at the offices of the Department. [s. 285.70(1), Wis. Stats.]
- D.8. All certifications made under s. NR 439.03, Wis. Adm. Code, and all material statements and representations made in any report or notice required by this operation permit shall be truthful. [s. NR 439.03(11), Wis. Adm. Code*]
- D.9. Any document required under this permit and submitted to the Department, including reports, shall contain a certification by a responsible official that meets the requirements of s. NR 407.05(4)(j), Wis. Adm. Code. [s. NR 407.09(4)(a)1., Wis. Adm. Code]

E. Right of Entry and Inspection.

The permittee shall allow authorized representatives of the Department to enter upon the permittee's premises, to have access to and examine any record relating to emissions or required to be kept, and to make any inspection necessary to ascertain compliance with air pollution control laws and the terms of this permit. The Department may, for the purpose of determining a source's compliance with applicable requirements, sample or monitor at reasonable times production materials or other substances or operational parameters. [ss. 285.13 and 285.19, Wis. Stats., and s. NR 439.05, Wis. Adm. Code]

F. Malfunction Prevention and Abatement Plans.

The owner or operator of any direct or portable source which may emit hazardous substances or emits more than 15 pounds in any day or 3 pounds in any hour of any air contaminant for which emission limits have been adopted shall prepare a written malfunction prevention and abatement plan to prevent, detect, and correct malfunctions or equipment failures which may cause any applicable emission limitation to be violated or which may cause air pollution. Any such plan shall be carried out by the owner or operator. The plan shall be updated at least every 5 years. The Department may require the plan to be submitted for review and approval. [s. NR 439.11, Wis. Adm. Code*]

G. Emission Control Action Plan.

For source(s) covered by this permit which emit 0.25 tons or more per day of any air contaminant for which air standards have been adopted, the permittee shall prepare an emission control action program, consistent with good industrial practice and safe operating procedures, for reducing the emission of air contaminants into the outdoor atmosphere during periods of an air pollution alert, air pollution warning or air pollution emergency declared under s. NR 493.03(2), Wis. Adm. Code. The emission control action program shall be in writing, available on the premises and is subject to review and approval by the Department on request. [s. NR 493.04, Wis. Adm. Code*]

H. Change in Ownership or Control.

In the event of a change in ownership or operational control of a source, the permittee shall file a

written request for an administrative permit revision in accordance with s. NR 407.11, Wis. Adm. Code. The request should include a written agreement between the current and new owner or operator which sets forth a specific date for transfer of permit responsibility, coverage and liability. If the Department determines that no other change in this permit is necessary, this permit may be revised according to the administrative revision procedures in s. NR 407.11, Wis. Adm. Code. [s. NR 407.11(3)(a), Wis. Adm. Code]

I. Permit Flexibility, Revision, Suspension, and Revocation.

- I.1. Changes to the source which are not modifications and changes in permit content are regulated under the permit flexibility provisions of s. 285.60(4m), Wis. Stats., and s. NR 407.025, Wis. Adm. Code, and the permit revision provisions in ss. NR 407.11, NR 407.12, NR 407.13, NR 407.14, and NR 407.16, Wis. Adm. Code.
- I.2. An operation permit may be suspended or revoked, in whole or in part, for cause. [ss. NR 407.09(1)(f)3. and NR 407.15, Wis. Adm. Code.]

J. Construction, Reconstruction, Replacement, Relocation or Modification.

- J.1. Unless the replacement is authorized by a permit or is exempt under s. NR 406.04, Wis. Adm. Code, replacement of the source(s) covered by this permit is prohibited. [s. 285.60(1)(a), Wis. Stats.]
- J.2. No person may commence construction, reconstruction, replacement, relocation or modification of a stationary source unless the person has a construction permit for the source or unless the source is exempt from the requirement to obtain a permit under s. 285.60(5), Wis. Stats., or under ch. NR 406, Wis. Adm. Code. Applications for the construction permit shall be submitted on forms which are available from the Department at its Madison headquarters and district offices. [s. 285.60(1)(a), Wis. Stats.]

Note: The address of the Madison headquarters is: Wisconsin Department of Natural Resources, Bureau of Air Management, PO Box 7921, Madison, WI 53707. Attention: Permit Application Forms.

J.3. For new or modified sources for which no construction permit is required, the application for an operation permit shall be filed before the source commences construction or modification. [s. NR 407.04, Wis. Adm. Code]

K. Circumvention.

- K.1. The installation or use of any article, machine, equipment, process, or method which conceals an emission which would otherwise constitute a violation of an applicable rule is prohibited unless written approval has been obtained from the Department. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance and the unnecessary separation of an operation into parts to avoid coverage by a rule that applies only to operations larger than a specified size. [s. NR 439.10, Wis. Adm. Code]
- K.2. No one may render inaccurate any monitoring device or method required under ch. NR 439, Wis.

- Adm. Code, or in this permit. [s. NR 439.03(12), Wis. Adm. Code*]
- K.3. No person may knowingly falsify, tamper with, render inaccurate or fail to install any monitoring device or method required to be maintained or followed under the Clean Air Act. [Clean Air Act s. 113(c)(2)(C); 42 USC 7413(c)(2)(C), s. 285.65(13), Wis. Stats.]

L. Civil/Criminal Liability.

- L.1. Nothing in this permit shall be construed to relieve the permit holder from civil and/or criminal penalties under ss. 285.87 and 299.15, Wis. Stats., for violation of the terms or conditions of this permit, or for violation of ss. 285.01 to 285.87, 292.11(2) and 299.15, Wis. Stats., or of any rule or any special order issued under those sections except where the operation permit shield provisions of s. 285.62(10)(b), Wis. Stats., are applicable. [s. 285.62(10)(b), Wis. Stats.]
- L.2. The permittee has the duty to comply with all conditions of the permit. Any noncompliance with this permit constitutes a violation of the Wisconsin statutes, the federal clean air act, or both, and is grounds for enforcement action; for permit suspension, revocation or revision; or, if allowed under s. 285.62(6), Wis. Stats., for denial of a permit renewal application. [ss. NR 407.14, NR 407.15, and NR 407.09(1)(f)1., Wis. Adm. Code, s. 285.60(7), Wis. Stats. and 42 USC 7661a]
- L.3. The following items are provided per s. NR 407.09(1)(d) and (f), Wis. Adm. Code:
- L.3.a. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit. [s. NR 407.09(1)(f)2., Wis. Adm. Code]
- L.3.b. The filing of a request by the permittee for a permit revision or revocation, or the filing of a notification of planned changes under s. NR 407.025, Wis. Adm. Code, or of anticipated noncompliance, does not stay any permit condition. [s. NR 407.09(1)(f)3., Wis. Adm. Code]
- L.3.c. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to private property or any invasion of personal rights. [s. NR 407.09(1)(f)4., Wis. Adm. Code]
- L.3.d. The provisions of this permit are severable. In the event of a successful challenge to any portion of the permit, all other portions of the permit remain valid and effective. [s. NR 407.09(1)(d), Wis. Adm. Code]

M. Recordkeeping Requirements.

- M.1. The permittee shall maintain the following records, per s. NR 439.04, Wis. Adm. Code:
- M.1.a. Records of all sampling, testing and monitoring conducted or required under chs. NR 400 to 499 or under this permit. Records of sampling, testing or monitoring shall include the following:
- M.1.a.(1) The date, monitoring site and time and duration of sampling, testing, monitoring or measurements.

- M.1.a.(2) The dates the analyses were performed.
- M.1.a.(3) The company or entity that performed the analysis.
- M.1.a.(4) The analytical techniques or methods used, including supporting information such as calibration and maintenance records of all original recording charts for continuous monitoring instrumentation including emissions or equipment monitors.
- M.1.a.(5) The results of the analyses.
- M.1.a.(6) The relevant operating conditions that existed at the time of sampling, testing, monitoring or measurement.
- M.1.b. Records detailing all malfunctions which cause any applicable emission limitation to be exceeded, including logs to document the implementation of the plan required under s. NR 439.11, Wis. Adm. Code;
- M.1.c. Records detailing all activities specified in any compliance schedule approved by the Department under chs. NR 400 to 499, Wis. Adm. Code; and
- M.1.d. Any other records relating to the emission of air contaminants which may be requested in writing by the Department.
- M.2. The owner or operator of a source not subject to s. NR 445.05(6), Wis. Adm. Code, shall maintain the following records in writing at the source, as appropriate:
- M.2.a. The hazardous air contaminants in Table 5 of s. NR 445.04 the source is capable of emitting.
- M.2.b. The allowable emissions for each hazardous air contaminant identified in M.2.a. above for each emissions unit.
- M.2.c. The methods used to calculate allowable emissions under M.2.b. above, including:
- M.2.c.(1) All calculations which show the dimensional units for all values used.
- M.2.c.(2) Emission factors used and reference to stack tests, mass balance calculations or EPA documents that the emission factor is based on.
- M.2.d. Information to support exemption claims including fuels used, laboratory status or downwash minimization stack height calculations as appropriate. [s. NR 445.05(4r)(c), Wis. Adm. Code*]
- M.3. Owners and operators of facilities required to file emission inventory reports shall keep accurate and reliable records sufficient to enable verification of the reports by the Department. [s. NR 438.03(4), Wis. Adm. Code]
- M.4. Copies of all records and reports required under this permit shall be retained by the permittee for a period of 5 years. [s. NR 439.04(2), Wis. Adm. Code]

N. Compliance Certification.

- N.1. The permittee shall submit compliance certifications to the Department, and part 70 sources shall also submit this compliance certification to the United States Environmental Protection Agency. [s. NR 439.03(1)(c) and (9), Wis. Adm. Code]
- N.1.a. The certification shall be submitted according to the schedule established in Part I of the permit. [s. NR 439.03(1)(c), Wis. Adm. Code]
- N.1.b. The certification shall include the following:
- N.1.b.(1) Identification of each permit term or condition that is the basis of the certification;
- N.1.b.(2) The compliance status of the source with respect to each term or condition identified in N.1.b.(1);
- N.1.b.(3) Whether compliance was continuous or intermittent;
- N.1.b.(4) Method(s) used for determining the compliance status, currently and over the previous 12 month period;
- N.1.b.(5) Compliance status with respect to 40 CFR 68 (Accidental Release Prevention) including registration and submission of the risk management plan, as specified in 40 CFR 68.160 and 68.150, respectively, if applicable.
- N.1.b.(6) Other information required to determine the compliance status of the source, as specified in this permit. [s. NR 439.03(8), Wis, Adm. Code]
- N.2. Compliance certifications shall be signed by a responsible official of the source. The responsible official shall certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [s. NR 439.03(10), Wis. Adm. Code]

O. Required Air Emission Inventory Reports.

The permittee shall annually submit to the Department an emission inventory report of annual, actual emissions or throughput information in accordance with ch. NR 438, Wis. Adm. Code. [s. NR 438.03, Wis. Adm. Code]

P. Annual Emission Fees.

The permittee shall pay an annual emissions fee to the Department at the rate specified in s. 285.69(2), Wis. Stats. [ss. NR 410.04 and NR 407.09(1)(e), Wis. Adm. Code]

Q. General Provisions for Hazardous Air Pollutant MACT Standards.

The general provisions in ch. NR 460, Wis. Adm. Code, apply to any permittee that is affected or becomes affected by a standard promulgated by EPA under section 112 of the act (42 USC 7412). [s. NR 460.01, Wis. Adm. Code]

R. Stratospheric Ozone Protection.

- R.1. Federal Requirements. (Call 1-800-296-1996 for information)
- R.1.a. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
- R.1.a.(1) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to section 82.106.
- R.1.a.(2) The placement of the required warning statement must comply with the requirements pursuant to section 82.108.
- R.1.a.(3) The form of the label bearing the required warning statement must comply with the requirements pursuant to section 82.110.
- R.1.a.(4) No person may modify, remove or interfere with the required warning statement except as described in section 82.112.
- R.1.b. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in 40 CFR Part 82, Subpart B:
- R.1.b.(1) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to section 82.156.
- R.1.b.(2) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to section 82.158.
- R.1.b.(3) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to section 82.161.
- R.1.b.(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to section 82.166 (the term, "MVAC-like appliance", is defined in section 82.152).
- R.1.b.(5) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to section 82.156.
- R.1.b.(6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to section 82.166.
- R.1.c. If the permittee manufactures, transforms, imports or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

- R.1.d. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo or system used on passenger buses using HCFC-22 refrigerant.
- R.1.e. The permittee may be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program.

[s. 285.65(12), Wis. Stats.]

- R.2. State Requirements. (Call 1-608-264-6049 for information)
- R.2.a. During the salvaging, dismantling or transporting of refrigeration equipment, no person may knowingly or negligently release ozone-depleting refrigerant to the environment, except for minimal releases that occur as a result of efforts to transfer ozone-depleting refrigerant into storage tanks. [s. 285.59(2r)(a), Wis. Stats.*]
- R.2.b. No person may knowingly or negligently release from a storage tank to the environment ozone-depleting refrigerant that was removed during the salvaging, dismantling or transporting of refrigeration equipment, except for minimal releases that occur as a result of efforts to transfer ozone-depleting refrigerant into refrigeration equipment or other storage tanks. [s. 285.59(2r)(am), Wis. Stats.*]
- R.2.c. No person may salvage or dismantle any refrigeration equipment unless:
- R.2.c.(1) That person holds and prominently displays an annual registration of certification obtained from the Department under s. NR 488.04, Wis. Adm. Code;
- R.2.c.(2) That person uses refrigerant recovery equipment approved by the Department under s. NR 488.07, Wis. Adm. Code, to transfer remaining ozone-depleting refrigerant from each piece of refrigeration equipment into storage tanks; and
- R.2.c.(3) Individuals who use the approved refrigerant recovery equipment have, or are working under the direct supervision of individuals who have, the qualifications required under s. NR 488.08, Wis. Adm. Code. [s. NR 488.03(3), Wis. Adm. Code*]
- R.2.d. Any person who sells, gives or transports refrigeration equipment to a scrap metal processor shall:
- R.2.d.(1) Transfer ozone-depleting refrigerant from the refrigeration equipment into a storage tank using approved refrigerant recovery equipment or obtain and possess documentation that another person performed the transfer; and
- R.2.d.(2) Provide documentation to the scrap metal processor that he or she has complied with

R.2.d.(1).

Note: Sample forms for the documentation of compliance with R.2.d.(1) are available from the Bureau of Air Management CFC Program.

Exemption: R.2.d.(1) and R.2.d.(2) do not apply to a person who sells, gives or transports refrigeration equipment to a scrap metal processor when that processor has agreed in writing to transfer the ozone-depleting refrigerant into a storage tank using approved refrigerant recovery equipment and that the processor is registered with the Department under s. NR 488.04. [s. NR 488.05, Wis. Adm. Code*]

R.2.e. Any person who transports, for the purposes of salvaging or dismantling, refrigeration equipment that contains ozone-depleting refrigerant shall certify to the Department that person will not knowingly or negligently release ozone-depleting refrigerant to the environment, except for minimal releases that occur as a result of refrigerant recovery efforts. This certification shall be submitted annually, along with a description of the safe transport methods to be used, and the fees required under s. NR 488.11, Wis. Adm. Code. [s. NR 488.10, Wis. Adm. Code*]

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> Of Counsel: Peter E. McKeever

June 14, 2006

VIA CERTIFIED MAIL and ELECTRONIC MAIL

Wisconsin Department of Natural Resources Central Office 101 S. Webster Street Box 7921 Madison, WI 53707-7921 Attn.: Roger Fritz.

> Re: Comments on the Proposed Draft Title V Operating Permit Renewal for the Oak Creek Power Plant, Located at 11060 S. Chicago, Oak Creek, Milwaukee County, Wisconsin, Air Pollution Operation Permit Renewal No. 241007690-P10

Dear Mr. Fritz,

These comments are submitted on behalf of the Sierra Club, Clean Wisconsin and Wisconsin Public Interest Research Group, pursuant to Wis. Stat. ch. 285, Wis. Admin. Code ch. NR 407, and 40 C.F.R. Pt. 70. As with prior permit comments submitted by these organizations, we appreciate the Department of Natural Resources' ("DNR") efforts in improving the Title V program in Wisconsin. In a cooperative effort with DNR, we are undertaking an effort to review and comment on permits for large sources of air pollution. As explained below, the proposed permit for the Oak Creek Power

Plant ("OCPP") must be modified in a number of ways to ensure adequate protection or air quality.

I. The Permit for OCPP Must Include A Compliance Schedule

Every Title V permit must "assure[] compliance by the source with all applicable requirements." CAA § 504(a); 40 C.F.R. § 70.1; Wis. Stat. § 285.64(1); Wis. Admin. Code § NR 407.09(4)(b). "Applicable requirements" include State Implementation Plan ("SIP") requirements and preconstruction requirements, including the requirement to obtain a preconstruction permit and apply best available control technology. 40 C.F.R. § 70.2; Wis. Stat. § 285.64(1); Wis. Admin. Code § NR 400.02(26). Further, every Title V permit application must disclose all applicable requirements and any violations at the facility. 42 U.S.C. § 7661b(b); 40 C.F.R. §§ 70.5(c)(4)(i), (5), (8); Wis. Admin. Code § NR 407.05(4)(h). For applicable requirements, including new source review requirements and other preconstruction permitting requirements, for which the source is not in compliance at the time of permit issuance, the source's application must provide a narrative description of how the source intends to come into compliance with the requirements. 42 U.S.C. § 7661b(b); 40 C.F.R. § 70.5(c)(8)-(9); Wis. Admin. Code § NR 407.05(4)(h)2.c. The application must also include a compliance schedule for any applicable requirements for which the source is not in compliance. 40 C.F.R. § 70.5(c)(8)(iii); Wis. Admin. Code § NR 407.05(4)(h)3.c. Additionally, WEPCO is

required to certify its compliance with its application and annually. Wis. Admin. Code § NR 407.05(4)(i). The U.S. EPA Administrator has described these requirements as follows:

40 C.F.R. § 70.5(c)(8)(iii)(C) and 70.6(c)(3) require that, if a facility is in violation of an applicable requirement and it will not be in compliance at the time of permit issuance, its permit must include a compliance schedule that meets certain criteria. For sources that are not in compliance with applicable requirements at the time of permit issuance, compliance schedules must include 'a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance.' 40 C.F.R. § 705(c)(8)(iii)(C).

In the Matter of Onyx Environmental Services, Order Responding to Petitioners' Request That the Administrator Object to Issuance of a State Operating Permit, pp. 6-7 (Adm'r Feb. 1, 2006) (hereinafter "Onyx").

Based on our review, WEPCO is not in compliance with all applicable requirements, specifically Prevention of Significant Deterioration ("PSD") permitting requirements, and failed to submit a compliance schedule or narrative description of how the source will achieve compliance with PSD.

A. <u>USEPA Found Violation of New Source Review At All WEPCO Plants.</u>

EPA explicitly found that WEPCO violated New Source Review (including PSD) requirements of the Clean Air Act and the Wisconsin SIP. EPA filed an enforcement action against WEPCO in federal court for these violations. *United States v. Wisconsin*

Electric, Case No. 03-C0371 (E.D.Wis., filed April 29, 2003). According to the allegations by the United States, "between 1982 and the present, Wisconsin Electric modified and thereafter operated certain coal-fired electricity generating units without first obtaining a PSD permit authorizing the construction and without installing the best available control technology to control emission of sulfur dioxide, nitrogen oxides, and particulate matter, as required by the Act, applicable federal regulations, and the... Wisconsin SIP[]." U.S. v. Wisconsin Electric, Case No. 03-C-0371, Compl. ¶ 2 (Apr. 29, 2003), Appx. 1-2. Specific to the OCPP, U.S. EPA and U.S. DOJ found:

At various times, Wisconsin Electric commenced construction and operating of major modifications... at its Oak Creek Plant in Wisconsin. These major modifications included, but were not limited to, replacement of economizers, induced draft fans, waterwall tubes, reheaters and superheaters on one or more units at the plant. These modifications resulted in significant net emissions increases, as defined by 40 C.F.R. § 52.21(b)(3)(i), of one or more of the following pollutants: NOx, SO2, and PM.

Wisconsin Electric violated and continues to violate Section 165(a) of the Act, 42 U.S.C. § 7475(a), and the PSD regulations set forth in 40 C.F.R. § 52.21, as incorporated into the Wisconsin SIP, by, inter alia, undertaking such major modifications at units located at the Oak Creek Plant and operating these modified units at the plant without: (a) obtaining a PSD permit, as required by 40 C.F.R. § 52.21(i) and the Wisconsin SIP; (b) applying best available control technology for NOx, SO2, and PM, as required by 40 C.F.R. § 52.21(j) and the Wisconsin SIP; (c) demonstrating that construction or modification would not cause or contribute to air pollution in violation of any national and/or

Wisconsin ambient air quality standard or any specified incremental amount, as required by 40 C.F.R. § 52.21(m) and the Wisconsin SIP; (d) performing an analysis of the ambient air quality in the area, as required by 40 C.F.R. § 52.21(m) and the Wisconsin SIP; (e) submitting to EPA or Wisconsin all information necessary to conduct the analysis or make the necessary determinations under 40 C.F.R. § 52.21, as required under 40 C.F.R. § 52.21(n); and (f) obtaining the required Wisconsin state permits.

Compl. ¶¶ 41, 43, Appx. 12-13.

These findings by USEPA conclusively demonstrate non-compliance for purposes of the Title V review process. *See e.g., New York Public Interest Research Group v. Johnson*, 427 F.3d 172, 180 (2nd Cir. 2005). The filing of a civil action is USEPA's official finding that the OCPP is in violation of PSD preconstruction permitting requirements. *Id.* at 181; 42 U.S.C. § 7413(a)(1). A failure to require compliance with PSD requirements that were triggered by unpermitted major modifications is a deficiency in the Title V permit. *See In re Onyx*, supra, p. 8.

B. OCPP has undergone a number of major modifications that subject the facility to PSD requirements.

Even if EPA had not identified PSD violations, records available to the public and the DNR show PSD violations.

1) The PSD Program.

The CAA's NSR program involves a permitting program for major sources, requiring such sources to undergo analysis of air quality impacts and install "best

available control technology for each pollutant" when the facility is either constructed or modified. 42 U.S.C. § 7475(a)(3)-(4); 40 C.F.R. § 52.21; Wis. Admin. Code § NR 405.08(3). Congress intended that the NSR program eventually apply to all large sources as they made modifications. *See e.g., WEPCO Power Co. v. Reilly*, 893 F.2d 901, 908 (7th Cir. 1990) (Congress deferred application of NSR requirements only until the source alters its equipment and increases emissions); *U.S. v. Ohio Edison Co.*, 276 F.Supp. 2d 829, 850 (S.D. Ohio 2003) (Congress did not intend that existing sources be granted perpetual immunity from installing modern pollution controls). Specifically, a modified source must meet the requirements in NR 405.08 through 405.16, including complying with an emission limit based on best available control technology ("BACT") and undergoing an analysis of impacts on ambient air. Wis. Admin. Code § NR 405.07.

A "major modification" is: "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any air contaminant subject to regulation under the [Clean Air Act]." Wis. Admin. Code § NR 405.02(21); In re Tennessee Valley Authority, 9 E.A.D. 357, 388 (EAB 2000) (citing WEPCo. v. Reilly, 893 F.2d 901, 907-09 (7th Cir. 1990)). The term "physical change" is very broad. "[T]he words 'any physical change' included in the definition of 'modification' must be given their plain meaning—that is , that any physical change to the units at issue trigger [PSD] compliances, assuming (1) the change also causes an

increase in emissions and (2) the change is not excluded by a regulatory exemption."

Ohio Edition, 276 F.Supp.2d at 854; New York v. EPA, Slip Op. pp. 10-15 (D.C. Cir. 2006).¹

To determine if a physical change results in a "significant net emissions increase," for an electric generating unit like OCPP, the historic "actual" emissions must be compared to the future projected emissions. For PSD purposes, an emission increase is measured as total annual emissions. 40 C.F.R. § 52.21(b)(3); WEPCo., 893 F.2d at 905; Ohio Edison, 276 F.Supp. 2d at 862-63; SIGCO, 245 F.Supp.2d at 998; Puerto Rican Cement Co. v. EPA, 889 F.2d 292, 298 (1st Cir. 1989). The historic actual emissions are the emission during the 24 months preceding the commencement of the modification. Wis. Admin. Code § NR 405.02(1)(a). The post-modification, projected emissions are calculated based upon the "representative actual emissions of the unit..." Wis. Admin. Code § NR 405.02(1)(d). The applicable regulations provide that future emissions should be projected based upon: historical system operations data, the company's own

A routine maintenance, repair, or replacement, by itself, is not a modification. However, very few physical changes are routine, and must meet a four-factor test including the nature, extent, purpose, frequency and cost of the work. WEPCo., 893 F.2d at 910 (quoting Sept. 9, 1988 Memorandum from Don R. Clay, USEPA, to David A. Kee, "Applicability of Prevention of Significant Deterioration (PSD) and New Source Performance Standards (NSPS) Requirements to the WEPCO Power Company Port Washington Life Extension Project."). Moreover, [r]outine maintenance, repair, and replacement occurs regularly, involves no permanent improvements, is typically limited in expense, is usually performed in large plants by in-house employees, and is treated for accounting purposes as an expense. In contrast to routine maintenance stand capital improvements which generally involve more expense, are large in scope, often involve outside contractors, involve an increase of value to the unit, are usually not undertaken with regular frequency, and are treated for accounting purposes as capital expenditures on the balance sheet." Ohio Edison, 276 F.Supp. 2d at 834 (citations omitted). Routine maintenance must be interpreted as very narrow. U.S. v. So. Ind. Gas & Elec. Co., 245 F.Supp.2d 994, 1009 (S.D. Ind. 2003) ("Giving the routine maintenance exemption a broad reading could postpone the application of NSR to many facilities, and would flout the Congressional intent evinced by the broad definition of medication."). None of the modifications addressed in these comments are routine. Moreover, it is WEPCo.'s burden to prove the application of the routine maintenance exemption and WEPCo. has never asked for a DNR determination, nor proven the application of the routine maintenance exception.

representations, filings with state or federal regulatory authorities and compliance plans. 40 C.F.R. §§ 52.21(b)(21)(ii), (b)(33)(i). In other words, for an electric generating unit, the post-modification emissions are presumed to be the emissions that will result from the expected operating hours and conditions, based on the fuel and operating conditions expected.

It is important to note that the determination of whether a change will result in a "significant net emission increase" must be based on the information available <u>before</u> the modification work begins, and not after the modification was complete. *Ohio Edison*, 276 F. Supp.2d at 865. PSD applicability is a pre-construction determination based on <u>projected</u> emissions. *Id.* at 884-85 ("It is the projected net emissions increase that the Defendant could have predicted prior to the projects being undertaken that determines whether there is a [PSD] violation."). When a physical change is made to reduce the frequency or duration of forced outages (i.e., replacing a troublesome part), the resulting increase in annual operating time results in increased emissions.

Wisconsin utilities typically determine the emission increased based on the expected decrease in forced outage time, multiplied by the emission rate. *See e.g.*, Wisconsin Power & Light, *Columbia Generating Station Unit 1*, *Economizer-Final Superheat Replacement (Aggregated)*, *Emissions Increase Based on Performance 24-Months Prior to Project (January 2003-December 2004)*, Appx. 17 ("Alliant Columbia 1 Estimate")

(estimating emissions increase for PSD applicability by multiplying expected increase in operating hours- or decrease in forced outage time- multiplied by emission rate). If the annual increase in emissions exceeds the "significance" threshold, the modification is subject to PSD. Wis. Admin. Code § NR 405.02(27)(a), Table A (see also 40 C.F.R. § 52.21(b)(2)(I))

2) WEPCO's Planned Replacement of High Pressure Turbine Steam Stop and Control Valves is Subject to PSD

WEPCO filed an application with the Public Service Commission of Wisconsin ("PSCW") on October 21, 2005. In its application, WEPCO sought permission to replace the high-pressure turbine main steam stop and control valves on Units 5 and 6 at a cost of \$14.9 million. WEPCO's basis for the request was that these parts were regularly causing forced outages of the Units, causing lost generating capacity. By replacing the steam stop and valves, WEPCO sought to reduce these outages, thereby increasing annual operating hours. Specifically, WEPCO provided the following justification to the PSCW:

Reason for the Project

The high-pressure turbine main steam stop and control valves on Units 5 and 6 at Oak Creek are original equipment that was installed in 1959 and 1961 respectively. The equipment has experienced maintenance problems and failures that have affected the availability and operation of the generating units. These failures are the result of a metallurgical process known as "creep" which affects a wide range of metals operated above 1050 degrees Fahrenheit.

The plant has experienced occurrences of the control valves becoming stuck, causing the units to be taken out of service or preventing them from returning to service in order to make repairs. The most serious of these incidents occurred in 2000 and 2003. In both cases the outages to repair the equipment were in excess of two weeks.

Additional major repairs that have required long outages have been related to cracks found in the stop valve bodies. The most extensive repair of this type occurred in 1997, and it required the unit to be out of service for twelve weeks. Since that time, other cracks have occurred and have required outages of two to three weeks to repair. Repairs to these valves are labor-intensive.

Application for Authority: Oak Creek Power Plant- Units 5 and 6; Main Steam Stop and Control Valve Replacement 1 (Oct. 21, 2005), Appx. 18-19 (emphasis added). The forced outages resulting from the replaced equipment exceeded 1,6742 hours over the 5 years preceding the application to the PSCW. *Id.* at 2. These hours are as follows:

² WEPCO later corrected this to 1666 hours. See WEPCO Resp. to PSCW Data Req., p. 5.

Year	Unit	Component	Problem	Hours
2001	6	Main Stop	Valves Binding/leakage	159
2002	6	Main Stop Valve 2	Severe leakage	510
2003	5	Cntrl Vlvs 1 & 3	Would not close	374
2003	6	Main Stop Valve	Binding/leakage	225
2005	5	Main Stop Valve	Binding valve	24
2005	6	Main Stop Valve	Severe leakage	<u>374</u>
		-	_	
Total				1666

See WEPCO Resp. to PSCW Data Req., p. 5; Appx. 27. Over five years, WEPCo averaged more than 330 hours of lost operation per year due to the valves and steam stops that it plans to replace as part of this project. WEPCO expects additional forced outages until the steam stops and control valves are replaced in 2007 and 2008, which will be during the term of the proposed permit. *Id.*

WEPCo's planned modification will trigger PSD requirements because they are physical changes that result in a significant net emission increase of PM, NOx, SO2, and other pollutants. OCPP emits approximately 0.44 tons of SO2 and 0.17 tons of NOx per hour from Unit 5; 0.43 tons of SO2 and 0.17 tons of NOx per hour from Unit 6; 0.58 tons of SO2 and 0.18 tons per hour of NOx per hour from Unit 7; and 0.56 tons of SO2 and 0.18 tons of NOx per hour from Unit 8. See USEPA Clean Air Markets, Unit Emissions Report for South Oak Creek (based on 2004 emissions); Appx. 29. At these rates, OCPP would have to regain only 91 hours per year to result in a significant net emission increase of SO2, and 235 hours per year to result in a significant net emission increase of

NOx. Based on WEPCo.'s own analysis submitted to the PSCW, WEPCo. intends to regain this much time, and more, by replacing the steam stops and valves.

These changes are also not routine. WEPCO admits that it has never replaced similar parts on any other unit. *See WEPCO Resp. to PSCW Data Request*, pp. 2-3 (Jan. 11, 2006); Appx. 24-25 (WEPCO has not replaced stop or control valves at any other unit). In fact, when asked, WEPCO knew of only one other similar replacement at any power plant, anywhere. *Id.* p. 3; Appx. 25. Therefore, an increase in hours of operation results in an increase in emissions and the Title V permit must require WEPCO to submit a preconstruction permit application for the proposed modifications.

3) WEPCO Disclosed Modifications to USEPA in Responses to USEPA's CAA § 114 Requests for Information.

In addition to WEPCo's planned major modification to replace valves and stops on Units 5 and 6, WEPCo undertook a number of historic changes that constitute major modifications without applying for the required PSD permits. Beginning in the late 1990s, the United States Environmental Protection Agency ("U.S. EPA") sent WEPCO requests for information pursuant to § 114 of the Clean Air Act. In response to U.S. EPA's requests, WEPCo. disclosed the following modifications at OCPP³:

³ Source: Response by WEPCo to EPA 114 Data Request Question Nos. 3 and 18; Appx. 147-152.

Modificati on	Approve d Date	În- Service Date	Approve d Amount	Total Expenditu re	PSC Appröval (If Known)4	Hours of Forced Outage During Baseline Attributable to Part Replaced or Modified (If Known) ⁵
Replace Economize r Unit 5	May, 1981	August, 1982	1,680,000	1,657,260		> 78.76
Replace Steam Air Heater Unit 5	October, 1981	August, 1982	870,000	857,852		>105.937
Replace Reheater Tubing Unit 7	Novemb er, 1985	January, 1987	997,865	1,074,141	PSCW granted a certificate of authority to WEPCO to replace the tubes in the boiler reheat section front wall, front and rear reheat pendant tube assemblies and crossover tubing associated with the Oak Creek Unit 7. See Oak Creek Unit 7 Boiler	594.54

Files of the Public Service Commission of Wisconsin; Appx. pp. 154-167.
 Based on GADS data reported by WEPCo. See summary of GADS data at Appx. pp. 49-146. Full GADS data at

pp. 190-339. WEPCo provided incomplete descriptions of cause of forced outage prior to 1982, therefore the number of hours is probably greater.

7 Id.

				ı·		
					Reheat Tube	
					Replacement, Case	·
					No. 6630-CE-115	
		·			(Ltr. Order Apr.	
					15, 1986).	
Upgrade						
controls,						
replace						
fans,						
convert to			İ			
direct fire,			ļ			
replace	İ					
boiler						
penthouse	February		26,847,26			
tubing and	, 1986	June, 1989	3	29,729,984		
1	, 1900		3			
structure,						
replace	ļ					
front						
waterwall						
tubing (to						
intermedia						
te header)						
on Unit 5						
Upgrade	ļ			! !		
controls,						
replace						
fan,						
convert to						
direct fire,	February	June-July,	30,065,80	37,490,398		> 1062.3
replace	, 1986	19898	2	01, 12 ,0,0,0		7 1002.5
steam air						
preheater,						
replace						
boiler						
penthouse						

⁸ WEPCo's response to data request No. 18 states July, 1988 as the date for replacement of the boiler reheat and superheat front pendants for Unit 6.

Public Comments on Draft Part 70 Permit Oak Creek Power Plant Page 15 of 39 June 14, 2006

tubing and						
structure,						
replace				,		
waterwall						
tubing to						
intermedia					1	
te header,						
replace		<u>.</u>				
reheater,						
replace						
superheate						
r pendants						
on Unit 6						
Replace air						
preheater	August,	December	449,500	412,320		
tubing on	1988	, 1988	, , , , , , ,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Unit 7						
Replace						
feedwater	Novemb	July, 1987	326,624	329,410		
heater Unit	er, 1986	, , ,				
5						
Replace feedwater	Turno	Λ1				
l .	June, 1988	April, 1988	546,000	587,788		
heater Unit	1900	1900				
Replace						
feedwater	Novemb	December				
heater Unit	er, 1987	, 1988	344,153	342,463		
7	e1, 1907	, 1900				
Replace air						
preheater	August,	December				
tubing	1988	, 1988	449,500	412,320		
Unit 7	1700	, 1,00				
Upgrade				 		
turbine						
governing	Novemb	February,	788,877	838,973		>3.5
system	er, 1988	1991				
Unit 5						
			J	_ 		<u> </u>

					·	
Upgrade turbine governing system Unit 6	Novemb er, 1988	March, 1990	799,090	991,321		> 89.48
Install gas ignition on Units 7 and 8	July, 1989	December , 1991	305,979	354,487		
Modificati ons to Steam headers on Units 5 and 6	August, 1989	December , 1989	2,396,773	2,565,594	Approved: See Application of Wisconsin Electric Power Co. for Authority to Install a Process Steam Header and Steam Distribution System at the Oak Creek Power Plant Located in the City of Oak Creek, Milwaukee County, Case No. 6630- CE-174 (Ltr. Order Nov. 21, 1989).	
Replace Economize r Unit 7	Decembe r, 1990	May, 1992	3,020,782	2,990,387	Approved: See Application of Wisconsin Electric Power Co. for Authority to Replace the Economizer Section of the Unit 7 Boiler at Its Oak Creek Power Plant in the City of Oak Creek, Milwaukee County,	> 59.48

		,			Case No. 6630- CE-188 (Ltr. Order Apr. 2, 1991).	
Replace Economize r Unit 8	Septemb er, 1991	July, 1995 ⁹	2,032,256	1,883,202		
Replace Reheat tubing Unit 8	Septemb er, 1991	Septembe r, 1995	652,062	650,069		> 406.89
Replace Economize r Unit 5	Novemb er, 1999	April, 2002	3,650,000			
Replace Economize r Unit 6	Novemb er, 1999	June, 2001	3,650,000			
Rewind generator Unit 5	Novemb er, 1997	February, 1999	2,182,500	2,198,966		
Replaceme nt of Tubing and Tubing Support System for Furnace Wall, Unit 5	Applied to PSCW on May 19, 1989	PSCW granted permissio n in August, 1989.			See Application by Wisconsin Elec. Power Co. for Authority to Replace the Tubing and Tubing Support System for the Furnace Rear Wall Radiant Superheater Section of Oak Creek Unit 5 Boiler, Milwaukee County, Case No. 6630-CE-166 (Ltr. Order Aug. 3, 1989)	> 105.65

⁹ WEPCo's response to Data Request No. 18 stated April, 1995 as the date that the economizer and reheat tube were replaced on Unit 8. This appears to be a discrepancy between the responses to Request 3 and Request 18.

Replaceme nt of Reheater Tubing at OCPP Unit 5.	PSCW granted a certificate of authority to WEPCO on July 22, 1986	See Replacement of the Unit 5 Reheater Tubing at the Oak Creek Power Plant, Case No. 6630- CE-119 (Ltr. Order July 22, 1986)	> 171.84
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Many of these modifications involve replacing troublesome parts that cause recurring forced outages. For example, it is well-known that boiler tube failures are the primary cause of forced outages and that replacement of tubes is the most effective method to regain lost generating hours. *See e.g.*, David N. French, *Metallurgical Failures in Fossil Fuel Boilers*, John Wiley & Sons, Inc., New York, 2nd Ed. 1993 p. xiii (Appx. p. 168, *et seq*). Through the use of General Availability Data System (GADS) information reported by WEPCo. to the North American Reliability Council, the number of hours of lost operating time attributable to major components can be determined. Because a utility company replaces troublesome parts on a boiler, at least in part, to increase availability of the unit, the physical changes result in projected increased hours of operation. The increase in annual emission can be calculated by the emission rate, multiplied by the number of projected increased hours of operation. For example, if a unit experiences a significant number of forced outages due to clogging of the superheater, the projected increase in operating hours is equal to the annual hours of

lost operating due to the superheater during the baseline period. The increased emissions are equal to the number of regained (i.e., increased) hours of operation multiplied by the emission rate. See e.g. Alliant Columbia 1 Estimate; Appx. 17. As noted above, OCPP emits approximately 0.44 tons of SO2 and 0.17 tons of NOx per hour from Unit 5; 0.43 tons of SO2 and 0.17 tons of NOx per hour from Unit 6; 0.58 tons of SO2 and 0.18 tons per hour of NOx per hour from Unit 7; and 0.56 tons of SO2 and 0.18 tons of NOx per hour from Unit 8. See USEPA Clean Air Markets, Unit Emissions Report for South Oak Creek (based on 2004 emissions); Appx. 29. OCPP's hourly SO2 emission rate decreased in the mid-1990s due to a fuel switch to lower sulfur coal. Before the coal switch OCPP's hourly SO2 emissions were at least double what they were after the fuel switch. Additionally, OCPP's NOx rates decreased between the late 1990s and 2004. See Appx. 340-42. Using the most conservative, 2004, emission rates, regaining 91 hours of operating time per year results in a significant net emission increase of SO2, and 235 hours per year results in a significant net emission increase of NOx. Using 1992 emission rates, it would take only approximately 40 hours for SO2 and 160 hours for NOx. Many of the modifications above should have been expected to result in significant net emission increases due to regaining annual operating hours. OCPP never received a permit for these modifications. The Part 70 permit must include a compliance schedule to bring OCPP into compliance with PSD permitting requirements.

C. <u>The Physical Changes At Units 5 and 6 Also Subject the Units to Lower</u> Particulate Matter Limits.

The Draft Permit establishes a particulate matter limit for B25 and B26 of 0.15 lb/MMBtu, based on Wis. Admin. Code § NR 415.06(1)(c)2. That section of the Administrative Code applies to sources that were constructed or last modified on or before April 1, 1972. Wis. Admin. Code § NR 415.06(1). However, because Units 5 and 6 boilers have been modified since April 1, 1972, the limit in Wis. Admin. Code § NR 415.06(2)(c) applies instead, and limits particulate matter to 0.10 lb/MMBtu.

A "modification," for purposes of Wis. Admin. Code sections 415.06, is defined as:

[A]ny physical change in, or change in the method of operation of, a stationary source that increases the amount of emissions of an air contaminant or that results in the emission of an air contaminant not previously emitted. A modification does not include any changes identified in s. NR 406.04 (4).

Wis. Admin. Code § NR 400.02(99). In other words, <u>any</u> physical or operational change that is not exempt under NR 406.04(4) and which results in <u>either</u> an increased emission of any air contaminant or in the emission of a new air contaminant is a modification.

An "air contaminant," in turn, is defined broadly to include any "dust, fumes, mist,

liquid, smoke, other particulate matter, vapor, gas, odors, substances or any combination therefore..." Wis. Stat. § 285.01(1); Wis. Admin. Code § NR 400.02(12). The projects listed above are all modifications that subject the units to lower PM limits in the SIP, in addition to PSD limits.

II. A Permit Shield Is Not Appropriate If The DNR Has Not Determined That A Requirement Does Not Apply.

The permit shield included in the draft permit exempts Units 5-8 from the New Source Performance Standard in Wis. Admin. Code §§ NR 440.19 and 440.20. Draft Permit p. 3. DNR claims that this exemption and accompanying shield is appropriate "because these units were constructed before August 17, 1971." Id. However, the NSPS standards for fossil-fuel-fired steam generators in NR 440.19 and NR 440.20 apply to any source that commences construction or modification after August 17, 1971, and September 18, 1978, respectively. Wis. Admin. Code §§ NR 440.19(1)(c), NR 440.20(1)(a)2. A "modification" includes "any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted." Wis. Admin. Code § NR 440.02(16) (emphasis added). If the boilers were modified since any applicable New Source Performance

Standard, much lower emission limits would apply—even if the boilers were "constructed" before 1971.

DNR makes no determination in the Analysis and Preliminary Determination ("PD") or public record for the Draft Title V Permit whether Nelson Dewey has been "modified" since 1971 or 1972. Even if it did, DNR has no basis for such a determination because it has not reviewed all historic physical changes to the facility to determine if any resulted in an emission rate increase. *See* Wis. Admin. Code § NR 440.14(1). Therefore, DNR must either remove the permit shield from the permit or conduct a thorough investigation into all historic physical and operational changes at the facility and determine that none resulted in an emission rate increase.

III. The Permit Should Clarify that Compliance With Each Permit Provision Is Mandatory.

The Draft Permit defines the different sections of the Draft Permit on page 3. It defines the "limitations" section as:

all applicable emission limitations that apply to the source, including case-by-case limitations such as Latest Available Control Techniques (LACT), Best Available Control Technology (BACT), or Lowest Achievable Emission Rate (LAER). It will also list any <u>voluntary restrictions</u> on hours of operation, raw material use, or production rate requested by the permittee to limit potential to emit.

(emphasis added). This reference to "voluntary restrictions" is confusing. Typically such restrictions are "voluntary" in the sense that the source accepts the limits rather

than accepting more stringent emission limits or additional regulations (i.e., synthetic minor limits avoid PSD limits). However, the restrictions are not "voluntary" in the sense that the source has the choice of whether to comply. Compliance with all permit terms is mandatory. 42 U.S.C. § 7661a. DNR should clarify that any "voluntary restrictions" within the permit are not "voluntary limits." A violation of any permit provision is a violation of the permit.

IV. The Draft Permit Must Be Modified to Comply With the Credible Evidence Rule.

The U.S. EPA and citizen suit litigants have the authority to bring enforcement actions "on the basis of any information available to the Administrator." 42 U.S.C. § 7413 (emphasis added). This has been interpreted to mean any "credible evidence" that a court would accept. Sierra Club v. Pub. Serv. Co. of Colorado, Inc., 894 F.Supp. 1455 (D.Colo. 1995) (neither CAA nor its implementing regulations limit the evidence of compliance or noncompliance to the methods set forth in a permit); Credible Evidence Revisions, 62 Fed. Reg. 8314 (Feb. 24, 1997); U.S. EPA Region 9 Title V Permit Review Guidelines, Sept. 9 1999, p. III-46. U.S. EPA has stated that this means that "any credible evidence can be used to show a violation of or, conversely, demonstrate compliance with an emissions limit." Id. Permit language may not exclude the use of any data that may provide credible evidence. Id. The U.S. EPA views permit conditions providing

enumerated compliance test methods as tacitly excluding the use of other data to demonstrate compliance or noncompliance. This tacit exclusion violates the credible evidence rule. "The permit must specify the source's obligations for monitoring in a way that does not establish an exclusive link between the test method and the emissions limit." *Id*.

The Draft Permit contains numerous conditions which violate the credible evidence rule by specifying certain types of data to be used to determine compliance. "Permit language may not [s]pecify that only certain types of data may be used to determine compliance." *Id.* Identifying such data is not necessary according to the U.S. EPA. "In general, the permit should simply tell the source what it must do . . . It is not necessary to say that a term assures compliance or that an activity is required to assure compliance." *Id.* at III-47; *see also Credible Evidence Revisions*, 62 Fed. Reg. 8314; 40 C.F.R. § 51.212; 40 C.F.R. § 52.23.

The Draft Permit divides permit provisions into separate columns for: (1) pollutant; (2) limitation; (3) compliance demonstration; and (4) reference test methods, recordkeeping, and monitoring requirements. *See* Draft Permit pp. 3-4. The Preamble to the Draft Permit states that the "Compliance Demonstration" provisions (column "b" throughout the Draft Permit) lists the methods that "may be used to demonstrate compliance with the associated emission limit or work practice standard..." Draft

Permit at p. 3. This provision impermissibly enumerates the evidence that "may be used" to determine compliance. Because this language has the potential to be interpreted as <u>limiting</u> the evidence that can be used to enforce the Permit's limits to only those items listed in the "Compliance Demonstration" column, it violates the credible evidence rule.

The fact that the Draft Permit defines "Compliance Demonstration" twice further adds to the problem. See Draft Permit at pp. 3-4. The second definition states that the "Compliance Demonstration" column of the permit "contains monitoring and testing requirements and methods to demonstrate compliance with the conditions." This provision further appears to limit the "methods to demonstrate compliance" to only those methods specifically listed in column "b" of the Permit. Again, this violates the credible evidence rule by drawing an exclusive link between the identified monitoring requirements in column "b" and compliance with the applicable limits.

DNR attempts to account for the Credible Evidence Rule by including the following statement in the permit:

Notwithstanding the compliance determination methods which the owner or operator of a source is authorized to use under ch. NR 439, Wis. Adm. Code, the Department may use any relevant information or appropriate method to determine a source's compliance with applicable emission limitations.

Draft Permit at 3 (emphasis added). There are two problems with this apparent attempt to comply with the credible evidence rule:

- 1) The sentence refers to the compliance demonstration methods in Wis. Admin. Code ch. 439, rather than those in the permit. It appears that DNR meant to say that "notwithstanding the provisions of this permit, any relevant information may be used to enforce applicable permit limits." In other words, the provision allowing DNR to use any evidence despite NR 439 does not cure the provisions in the permit, itself, which restrict the evidence that can be used to prove violations.
- 2) The provision states that "the <u>Department</u> may use any relevant information..." By only noting the DNR's ability to use any relevant evidence, the Draft Permit implies that U.S. EPA and citizens do not have the same ability. The credible evidence rule does not allow the DNR to limit EPA or citizens' ability to use any credible evidence. Therefore, the carve-out for DNR enforcement authority fails to cure the credible evidence problems in the permit.

V. The Permit Must Establish Compliance Demonstration Requirements that Ensure Continuous Compliance With Emission Limits.

The permit should explicitly state that a violation of a "compliance demonstration" provision is a violation the underlying emission limit. *See* Wis. Admin. Code §§ NR 407.09(1)(c)(1)b. (monitoring must ensure compliance with reliable data for the relevant time period), NR 407.09(4)(a)1. (all operating permits shall contain compliance requirements "sufficient to assure compliance with the terms and conditions of the permit"). Moreover, the permit must establish a method to ensure continuous compliance with all permit limits. 40 C.F.R. §§ 70.6(a)(3)(i)(B); Wis. Admin.

Code § NR 407.09(1)(c)1.b.

The "periodic monitoring rule," 40 C.F.R. § 70.6(a)(3)(i)(B), requires that "[w]here the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of record keeping designed to serve as monitoring), [each title V permit must contain] periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit. Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement.

In the Matter of Midwest Generation, LLC, Waukegan Generation Station, Order Responding to Petitioner's Request That the Administrator Object to Issuance of a State Operating Permit at p. 19 (September 22, 2005) (hereinafter "Waukegan") (citing 69 Fed. Reg. at 3202, 3204 (Jan. 22, 2004)); see also, Appalachian Power Co. v. EPA, 208 F.3d 1015 (D.C. Cir. 2000); Carraway, Candace, U.S. EPA Office of Air Quality Planning and Standards, How Do I Review Each Applicable Requirement for Adequate Periodic Monitoring? at p. 2 (June 2000).

In the past, DNR has asserted that a permittee's failure to comply with the compliance demonstration requirements in a Title V permit does not constitute a violation of the underlying limit.¹⁰ This is erroneous. As noted above, because the

¹⁰ Note that a source's failure to comply with the 'compliance demonstration' permit provisions will also constitutes a violation of the monitoring requirement, in addition to a violation of the emission limit. Wis. Admin. Code § NR 407.09(1)(f)1. ("permittee has the duty to comply with <u>all conditions</u> of the permit" (emphasis added)).

underlying SIP limit in NR 415 does not include a monitoring requirement, the Title V permit's compliance demonstration provisions must be sufficient to yield continuous data from which the source's compliance can be determined at any given point in time. 40 C.F.R. §§ 70.6(a)(3)(i)(B); Wis. Admin. Code § NR 407.09(1)(c)1.b. In other words, the "compliance demonstration" provisions in the permit must be sufficient such that the data collected and recorded can be used to demonstrate non-compliance with the underlying limit, without the need for additional testing. DNR must set compliance demonstration requirements that directly correlate to compliance or non-compliance. The permit must require the source to comply with a specific parameter range that correlates to compliance with the PM limit, and to monitor and record parameter values to prove compliance.

The Draft Permit requires the use of an Electrostatic Precipitator ("ESP") as the method to demonstrate compliance with the permit limits for PM. Draft Permit §§ I.A.1.b.(3), I.B.1.b.(3). The Draft Permit also requires the source to monitor the primary voltage, secondary voltage, primary current in amps, and secondary current in amps. Draft Permit §§ I.A.1.b.(4), I.B.1.b.(4). However, the Draft Permit fails to "include a correlation between these measurements and compliance with the PM emission limitations." Waukegan, supra, p. 20; see also In Re Port Hudson Operation Georgia Pacific, Petition No. 6-03-01, at pages 37-40 (May 9, 2003) ("Georgia Pacific"); In Re Doe Run

Company Buick Mill and Mine, Petition No. VII-1999-001, at pages 24-25 (July 31, 2002) ("Doe Run").

U.S. EPA has determined that if opacity is used as a surrogate for continuous PM monitoring, the permit must <u>specify the opacity range</u> that shows PM compliance based on stack testing. Waukegan at pp. 20-21. Alternatively, if ESP parameters are used, USEPA has consistently required the permit to specify the upper and/or lower range for each parameter that establishes compliance with the PM limit. *Id.*; *In the Matter of Dunkirk Power LLC*, Order Objecting to Proposed Operating Permit No. II-2002-02 at 20 (Adm'r July 31, 2003) ("Once the operating ranges have been established for the ESP operating parameters [based on emission stack tests], operating the ESP outside of any of these ranges would constitute a violation of the title V permit."); *In the Matter of Oxy Vinyls, LP, Louisville, Kentucky*, Objection to Proposed Part 70 Operating Permit No. 212-99-TV (Feb. 1, 2001) ("The permit must specify the parametric range or procedure used to establish that range, as well as the frequency for re-evaluating the range.").¹¹ For example, USEPA objected to a proposed Title V permit for Tampa Electric's F.J. Gannon Station for failing to include a parameter range that correlates to an emission rate:

While the permit does include parametric monitoring of emission unit and control equipment operations in the O & M plans for these units... the parametric monitoring scheme that has been specified is not adequate. The parameters to

These USEPA decisions are based on 40 C.F.R. § 70.06(a)(1), and any modification to USEPA's interpretation of 40 C.F.R. § 70.6(c) would not change the requirement to correlate a parameter range and the emission rate.

be monitored and the frequency of monitoring have been specified in the permit, but the parameters have not been set as enforceable limits. In order to make the parametric monitoring conditions enforceable, a correlation needs to be developed between the control equipment parameter(s) to be monitored and the pollutant emission levels. The source needs to provide an adequate demonstration (historical data, performance test, etc.) to support the approach used. In addition, an acceptable performance range for each parameter that is to be monitored should be established.

In the Matter of Tampa Electric Co., F.J. Gannon Station, Objection to Proposed Part 70

Operating Permit No. 0570040-002-AV (Sept. 8, 2000) (emphasis added); see also In the Matter of the Huntley Generating Station, Order Objecting to Operating Permit No. II2002-01 at 21-22 (Adm'r July 31, 2003) (same).

Additionally, the Permit should contain the requirements of the Compliance Assurance Monitoring Rule. 40 C.F.R. pt. 64. The boilers (Units 5-8) at OCPP are a major source that uses a control device to control PM and has pre-control potential emissions of PM over 100 tons per year. *See* 40 C.F.R. § 64.2. Further, if P31 has maximum theoretical emissions greater than 100 tons per year, it must be included in the CAM plan. *Id.* The draft permit did not include a CAM plan, and there was no opportunity for public review of the CAM plan. Sierra Club was able to obtain a proposed CAM plan from DNR's files, but it is not clear whether this CAM plan is the

one DNR intends to incorporate into the final permit.¹² If so, there are a number of problems with the proposed plan.

The plan establishes an opacity to PM correlation whereby WEPCO will determine a PM violation if its opacity exceeds 20% for three consecutive hours excluding startup, shutdown and malfunction. The proposed CAM plan notes that this averaging period was selected based on the typical time required to conduct an emission stack test. However, the applicable PM limits in NR 415.06 are <u>instantaneous</u> limits, not three hour averages. The fact that a stack test may take 3 hours does not change the instantaneous limit in NR 415.06. The proposed CAM plan effectively rewrites the applicable limit as if it were a 3 hour average. Moreover, even if NR 415.03 was based on a three hour average, the CAM plan does not use a three-hour <u>average</u>. Instead, the proposed CAM plan would require opacity greater than 20% for an <u>entire</u> three consecutive hours, rather than the average opacity to be over 20% for three hours. In other words, under WEPCO's proposed CAM plan, if opacity was 99% for two hours and fifty-nine minutes, and 19% for the last minute, it would not trigger any requirements under the CAM plan.

Furthermore, the proposed CAM plan is misleading because it is based on the use of Method 17 to test PM. Method 17 does not measure condensible fraction

¹² We Energies Oak Creek Power Plant Compliance Assurance Monitoring CAM Plan (August 28, 2003), attached to Letter from Paul White, Wisconsin Energy, to Keith Pierce, WDNR (Sept. 5, 2003).

particulate matter, despite the fact that the limits in NR 415.06 apply to total PM (filterable and condensible). WEPCO's proposed plan is based on incomplete sampling for PM and, therefore, is insufficient to determine whether the proposed 20% opacity surrogate is sufficient to demonstrate compliance with the applicable limits.

Additionally, the PM limits in NR 415.06 apply at <u>all</u> times, including startup, shutdown, and malfunction. However, WEPCO's CAM plan excludes opacity monitoring as a surrogate for PM during startup, shutdown, and malfunction. This effectively creates a startup/shutdown/malfunction exemption from the NR 415 PM limits despite the fact that none exists in NR 415.06.¹³ The CAM plan and the permit must state that any exceedances of 20% opacity- not a 3 hour average and including startup/shutdown/malfunction- is a violation of the PM limit. For each of these reasons, the CAM plan is flawed.

VI. The Permit Illegally Exempts The Facility From Applicable Limits During Startup, Shutdown and Malfunction Periods.

The draft permit purports to exempt excess emissions during startup and shutdown. For example, the opacity limits in sections I.A.2.a.(1) and I.B.5.a.(1) of the Draft Permit exempt excess opacity emissions during "periods of normal start-up and shut-down," which are defined "in the start-up and shut-down plan." Normal startup and shutdown periods, however, are not exempted from the emission limit cited in the permit: NR 431.04(2). Instead, only the exemptions in NR 431.05 apply. NR 431.05

¹³ There is no shutdown or malfunction exemption from the applicable 20% opacity limit either. This is addressed below.

states "[w]hen combustion equipment is being cleaned or a new fire started, emissions may exceed number 1 of the Ringlemann chart or 20% opacity but may not exceed number 4 of the Ringlemann chart or 80% opacity for 6 minutes in any one hour. Combustion equipment may not be cleaned nor a fire started more than 3 times per day." Wis. Admin. Code NR 431.05(1). Additionally, emissions may exceed 20% opacity as permitted by DNR for operating tests, use of emergency equipment or other good cause. Wis. Admin. Code NR 431.05(2). Notably NR 431.05 does not contain an exception from the opacity limit for shutdown periods. Nor is the exception for startup without limitation- the opacity during startup cannot exceed 80% for more than 6 minutes and startup cannot occur more than 3 times per day.

The draft permit cites to NR 436.03(2)(b) for the startup/shutdown exemption. However, NR 436.03(2), and its prior version in NR 154.09, were never incorporated into the Wisconsin State Implementation Plan ("SIP"). Therefore, to the extent that NR 436.03(2) exempts emissions that are otherwise prohibited by the SIP (*i.e.*, opacity greater than 20% during shutdown), NR 436.03(2) is invalid. Once EPA approves a SIP, it becomes binding federal law until EPA approves a modification. *See American Lung Assoc. v. Kean*, 871 F.2d 319, 322 (3rd Cir. 1989); *Ford Motor Co.*, 814 F.2d 1099 (6th Cir. 1987); *Coalition for Clean Air, Inc. v. So. Coast Air Quality Mgmt. Dist.*, 1999 WL 33842864, * 1 (C.D. Cal. 1999); *Oregon Environmental Council v. Oregon Dept. of Environmental Quality*, 1992 WL 252123 (D.Or. 1992). Because EPA has never approved NR 436.03(2), DNR cannot grant exceptions under that provision. *In the Matter of Dunkirk Power LLC*, Order Objecting to Proposed Operating Permit No. II-2002-02 at 14 (Adm'r July 31, 2003) (state cannot grant a startup/shutdown/malfunction exemption on a state rule that has not been approved into the SIP); *In the Matter of the Huntley Generating Station*, Order Objecting to Operating Permit No. II-2002-01 at 15 (Adm'r July 31, 2003) (same).

In the past, there has been confusion about whether chapter NR 436, in its entirety, was incorporated into the SIP in 64 Fed. Reg. 28,745 (May 27, 1999). It was not. While EPA amended Wisconsin's SIP through that rulemaking, and mentioned NR 436, EPA did not adopt all of NR 436 into the SIP. Specifically, EPA's rulemaking adopts "[t]he following sections of the Wisconsin Administrative Code... Both rule packages, AM-27-94 and AM-9-95...." 64 Fed. Reg. at 28,747. EPA notes that rule package AM-9-95 "modifies Chapter NR, Sections... 436..." However, the fact that AM-9-95 modified parts of chapter NR 436 does not mean that AM-9-95 modified all of NR 436. Specifically, NR 436.03(2) was not modified by AM-9-95. In fact, AM-9-95 never mentions NR 436.03(2)- that section does not even appear in AM-9-95. Therefore, to the extent that DNR relies upon the EPA's rulemaking in 64 Fed. Reg. 28,745 to assert that NR 436.03(2) is in the SIP, DNR is mistaken.

In any event, DNR cannot use NR 436.03(2) to exempt emissions that would otherwise violate provisions of the Wisconsin SIP. DNR must remove the exemptions for startup and shutdown from the permit.

VII. The Permit Must Incorporate, and The Public Must Be Allowed To Review And Comment On The Startup, Shutdown, and Malfunction Plans (Malfunction Prevention Plan) and The Fugitive Dust Control Plans.

Throughout the permit, DNR relies on a "malfunction prevention and abatement plan" ("MPAP") to assure compliance with applicable standards. *See e.g.*, Draft Permit § I.A.1.b.(5). Additionally, the DNR relies upon Quality Control and Quality Assurance Plans ("QCQAP") to ensure compliance. *See e.g.*, Draft Permit § I.B.2.b.(3). This requirement is insufficient for a number of reasons. First, if DNR is relying on the

MPAP or QCQAP to ensure compliance, the Plan must be provided in the application. 40 C.F.R. § 70.5(a)(2) (a complete application must contain sufficient information to determine all applicable requirements), 70.5(c) (application cannot "omit information needed to determine the applicability of, or impose, any applicable requirement..."), 70.5(c)(3)(vi) (application must include any "work practice standards"). However, DNR merely requires that the Plan be "approved." The Plan was not included with the public review documents, therefore it must be assumed that the Plan will be approved by DNR separate from, and later than the Title V permit. This violates Part 70, which requires the Plan to be included in the application.

Second, DNR must determine that the permit requirements (including the Malfunction Plan) assure compliance with all applicable requirements. 40 C.F.R. §§ 70.6(a)(1), 70.7(a)(iv). DNR cannot possibly rely on the Plan for its conclusion that the facility will comply with all requirements, when DNR has not yet reviewed the Plan. See Environmental Defense Center, Inc. v. EPA, 344 F.3d 832, 855-56 (9th Cir.2003) ("[P]rograms that are designed by regulated parties must, in every instance, be subject to meaningful review by an appropriate regulating entity to ensure that each such program [complies with the relevant statutory standard]."); In re RockGen Energy Center, 8 E.A.D. 536, 553-54 (EAB 1999) (remanding DNR permit requirement for a startup/shutdown plan that was not reviewed by DNR before permit issuance).

Third, because compliance with the Plan constitutes a Permit requirement, the Plan must be subject to public notice and comment. The public cannot comment on the sufficiency of the Permit, which incorporates the Plan, when the Plan is not part of the permit record. 40 C.F.R. § 70.7(h); see e.g., Waterkeeper Alliance v. EPA, 399 F.3d 486, 503-04 (2nd Cir. 2005) (invalidating EPA regulation that allowed Nutrient Management Plans to be submitted after public comment and after a NPDES permit was issued); In re

RockGen Energy Center, 8 E.A.D. at 553-54 (remanding permit requirement for a startup/shutdown plan that was not subject to public notice and review).

Therefore, DNR must require all MPAP and QCQAP plans to be provided in the application, must review any such plan to determine that the plan will ensure compliance, and provide the plan(s) for public notice and comment before DNR can issue the Title V permit.

VIII. All Monitoring Data and Recordkeeping Must Be Submitted to DNR; It is Not Sufficient That the Monitoring Results Be Kept At the Source.

The permit should explicitly require the source to submit <u>all records</u> of monitoring results to the DNR. Throughout the permit, DNR only requires that monitoring results be maintained at the facility, but fails to require such results be provided to DNR. *See e.g.*, Draft Permit § I.H.1.a.(3). However, Wis. Admin. Code § NR 439.03(1)(b) expressly requires the source to "submit <u>the results</u> of monitoring required

by the permit... no less often than every 6 months..." (emphasis added). There is no limit on this requirement, but instead, it requires all monitoring results to be submitted. This requirement applies to <u>any</u> monitoring required by the permit, including parametric monitoring results (*i.e.*, records of ESP volts and amp readings). The applicable SIP regulations provide that DNR may require sufficient summary reporting, but do not allow DNR cannot waive the requirement to submit monitoring records altogether. Wis. Admin. Code §§ NR 407.09(1)(c)3.a., NR 439.03(1)(a)(b). Even when the DNR allows "summary" reporting, the summary must "include sufficient data for the department to determine whether the source is in compliance with the applicable requirements..." *Id.* In other words, all information necessary to determine compliance with every applicable requirement must be contained within the summary report. If DNR would have to ask for additional information to determine compliance, the reporting is insufficient.

The requirement to submit monitoring records is not a mere formality. Without the records submitted to DNR, and therefore publicly available, the public cannot monitor the source's compliance or bring enforcement actions. *See e.g.*, U.S. EPA, "Effective" Limits on Potential to Emit: Issues and Options, Jan. 31, 1996 at p. 11. Unless the actual results of continuous monitoring (i.e., the volts and current of the ESP) are submitted, the public has no way to determine whether the source is in compliance.

Additionally, the public cannot determine if the source is complying with monitoring and recordkeeping if the source does not supply the results to the DNR. Because the records are not submitted to DNR, the public has no way to determine whether additional violations occurred, but were undetected by the permittee because the monitoring records are not submitted to DNR and publicly available. By way of example, experiences at the Madison Gas & Electric Blount Street station shows how monitoring and reporting violations were not detected and reported. A third-party audit of MG&E records discovered a number of monitoring and recordkeeping violations that the company and DNR had not discovered. MG&E Baseline Report 2003 pp. 28-43 (available at http://www.mge.com/images/PDF/ECA/BaselineReport.pdf).

Thank you again for the opportunity to provide these comments. If you have any questions, or if you would like any additional information that we can provide, please do not hesitate to contact us.

Very Truly Yours,

GARVEY MCNEIL & MCGILLIVRAY, S.C.

David C. Bender

Attorneys for Sierra Club, Clean Wisconsin and Wisconsin Public Interest Research Group Public Comments on Draft Part 70 Permit Oak Creek Power Plant Page 39 of 39 June 14, 2006

cc: Kevin Kessler, WDNR

Jeffrey Hanson, WDNR Marcia Penner, WDNR Daniel Schramm, WDNR

GARVEY McNEIL & McGILLIVRAY, S.C.

ATTORNEYS AT LAW

Edward R. Garvey Kathleen G. McNeil Pamela R. McGillivray Christa O. Westerberg David C. Bender Carlos A. Pabellon

> Of Counsel: Peter E. McKeever

February 20, 2007

VIA ELECTRONIC MAIL

Wisconsin Department of Natural Resources

Attn: Roger Fritz

Email: roger.fritz@Wisconsin.gov

Re: Proposed Title V Air Pollution Operation Permit Renewal for Wisconsin

Electric's Oak Creek Power Plant.

Dear Mr. Fritz,

In an email dated today, you asked about comments submitted last summer regarding the proposed Title V permit for the Oak Creek Power Plant. In your email, you note that NR 436 is referenced in 40 C.F.R. § 52.2570(c)(98)(i). You interpret that reference to incorporate chapter NR 436 into the Wisconsin State Implementation Plan ("SIP"). That is an incorrect interpretation of what 40 C.F.R. § 52.2570(c)(98) states.

40 C.F.R. § 52.2570(c)(98)(i) does not state that NR 436 is incorporated in its entirety. Rather, the provision states that two rulemaking packages-- AM-27-94 and AM-9-95—are incorporated by reference. I am attaching those rulemaking orders. As you will note from those orders, nowhere in either AM-27-94 or AM-9-95 is chapter NR 436 incorporated. As 40 C.F.R. §

52.2570(c)(98)(i) notes, rule package AM-9-95 modifies limited subsections of NR 436. It does not address, nor incorporate the startup/shutdown exemption in NR 436.03. In short, the mere fact that the Wisconsin SIP includes rulemaking order AM-9-95, which happens to modify limited sections of chapter NR 436, cannot be read as incorporating all sections of NR 436. NR 436.03(2) is not in the SIP and cannot be used to excuse periods of startup, shutdown, and malfunction from the requirements of sections NR 431.04 and 431.05.

Notably, in response to similar comments by Sierra Club regarding the Weston Generating Station in Marathon County, the Department agreed that NR 436 is not in the SIP and stated:

There is no language for the exclusion of startup and shutdown other than the specific language regarding an exception for up to 80% opacity for 6 minutes in any one hour when combustion equipment is being cleaned or a new fire started with the provision that combustion equipment may not be cleaned nor a fire started more than 3 times per day. Therefore, conditions I.A.2.a.(1) and I.B.2.a.(1) will be changed to read as follows:

(1) Opacity may not exceed 40% or number 2 of the Ringlemann chart except when combustion equipment is being cleaned or a new fire started, emissions may exceed number 2 of the Ringlemann chart or 40% opacity but may not exceed number 4 of the Ringlemann chart or 80% opacity for 6 minutes in any one hour. Combustion equipment may not be cleaned nor a fire started more than 3 times per day. Emissions may exceed number 1 of the Ringlemann chart or 20% opacity for stated periods of time, as permitted by the department, for such purpose as an operating test, use of emergency or reserve equipment, or other good cause, provided no hazard or unsafe condition arises. [s. NR 431.04(1) and 431.05(1)&(2), Wis. Adm. Code]

See Memorandum from Steve Dunn, WDNR, to Permit File for Permit# 737009020-P02 at p. 2 (Sept. 28, 2006). We ask that the Department similarly remove startup and shutdown exemptions for the Oak Creek plant based on NR 436. Please let me know if you have any further questions about this matter, or about our permit comments generally.

Sincerely,

GARVEY MCNEIL & MCGILLIVRAY, S.C.

David C. Bender

cc: Thomas Steidl, WDNR

Jeffrey Hanson, WDNR

Bruce Nilles, Sierra Club

Katie Nekola, Clean Wisconsin

David Bender

From: David Bender

Sent: Friday, May 18, 2007 3:11 PM

To: 'Roger.Fritz@Wisconsin.gov'

Subject: Oak Creek

Roger,

These comments are submitted on behalf of Sierra Club. As you know, Sierra Club commented on the first draft permit for the Oak Creek Power Plant Title V renewal. DNR released a second draft and asked again for public comment. We have not been able to access any DNR response to comments on the first draft. However, our review of the 2nd draft indicates that few of Sierra Club's comments were incorporated into the permit. Sierra Club reaffirms its prior comments, which are attached.

Additionally, Sierra Club offers the following additional comments:

- 1) In section I.A.1.b.(6), DNR should specify what it means by "when running the type of coal used in the compliance emission test." Additionally, it is not clear why the source should be able to avoid the requirement to use flue gas conditioning by changing coal type. The intent appears to be that if the sources uses flue gas conditioning to pass the compliance test, it should be required to use flue gas conditioning during all operating periods, regardless of coal type. DNR should provide that if flue gas conditioning is required at all times if used during the preceding emission test.
- 2) In section I.A.2.a.(2), DNR inappropriately exempts startup and shutdown. It should be noted that DNR grant an exemption if it would cause or contribute to a violation of NAAQS or increment. There is nothing in the record for this permit showing that the emission rate (lb/hour) of particulate matter during periods of startup or shutdown does not violate NAAQS or increment. In fact, there is no determination of what the emission rate is during periods of startup and shutdown. Rather, DNR appears to have modeled with an assumed emission rate representative of normal operations. Without knowing the emission rate during startup/shutdown (non-typical operating periods), DNR cannot determine that it does not violate NAAQS and increment and cannot grant an exemption from the visible emission limit. Moreover, because NR 436.03(2) is not in the SIP, it cannot be relied upon to grant an exemption that is not in the SIP.
- 3) The permit does not appear to incorporate the limits required in NR 445.10, which become effective during the permit term.
- 4) The permit purports to grant exemptions not found in the SIP, and contrary to the SIP, based on a cooperative agreement. (see e.g., fn 24, page 29) This is only lawful if the cooperative agreement has been approved into the SIP. Please confirm that EPA has approved the cooperative agreement as a SIP modification.
- 5) Section I.H.2.a.(2) requires operating in conformance with good engineering practices and manufacturer's specifications. These references are not found in the permit. Please specify what good engineering practices require and specifically what the manufacturer's specification are that must be conformed to.
- 6) Please clarify how 20% opacity was determined to be representative of compliance with the applicable PM limits in the CAM plan. Sierra Club did not see this connection explicitly made in the permit materials available for public review.
- 7) The emission limits in NR 415 apply at all times, including startup and shutdown. The CAM plan apparently uses opacity as a surrogate for compliance with the PM limits in NR 415. (See section I.H.5.) However, the source only monitors opacity as a surrogate during normal operations-- and excluding startup and shutdown. How can the CAM plan ensure compliance with NR 415 during startup and shutdown when monitoring and recording is excluded during these periods? (see e.g., section I.H.5.a.(1) (d) and (e)).
- 8) Section I.H.5.a.(3)(a) should be modified to require the disclosure of the extent of excursion (i.e., the opacity readings) in addition to the other information.

David C. Bender Garvey McNeil & McGillivray, S.C. 634 W Main Street, Ste 101 Madison, WI 53703 Tel. 608.256.1003 DATE:

April 13, 2007

FILE CODE: 4560 FID #: 241007690

TO:

Jeff Hanson

FROM:

Roger Fritz

SUBJECT:

Addendum to the Preliminary Determination for WE Energies, Oak Creek Station, Permit

241007690-P10.

The Department received comments from the applicant, WE Energies, and from David Bender representing Sierra Club, Clean Wisconsin and Wisconsin Public Interest Research Group.

One comment from both WE energies and David Bender regarded the Compliance Assurance Monitoring (CAM) Plan. The plan was not addressed in the draft permit and PD. WE Energies submitted a CAM plan 5/30/2002. Additional supporting material was submitted 9/5/2002. The plan indicates that the plan only applies to PM emissions from the boilers because SO₂, NO_x and opacity are already monitored by CEM, and the coal piles and combustion turbine do not require control devices. The CAM plan proposes to use opacity monitoring to identify situations when corrective action is needed and to identify excursions. The proposed permit includes the monitoring provisions from the CAM plan with clarification of the averaging periods, and requires corrective action to address malfunctions. The proposed permit would also require a quality improvement plan if there are excessive excursions, and requires reporting on excursions in the semiannual monitoring report.

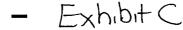
WE Energies requested removal of numerous provisions in the permit that required updating and resubmittal of various types of plans. These provisions are removed from the proposed permit. They also requested that allowable sulfur dioxide test methods be expanded to allow use of methods 6A and 6C as provided under s. NR 439.06(2), Wis. Adm. Code. These test methods are allowed under the proposed permit.

WE Energies noted the stack height for S14 should be 553 feet. The PD listed the stack height as 557 feet and modeling used 141.1 meters (463 feet). Since modeling verified emissions meet ambient standards at a lower stack height, the proposed permit will revise I.B.1.b.(2)(a) to 553 feet.

David Bender at I. indicated the permit must be modified to include a compliance schedule for PSD permitting requirements based on EPA legal action, applications to PSC, and historic changes. Also, these physical changes to Units 5 and 6 would be modifications and therefore require lower PM emission limits under ch. NR 415, Wis. Adm. Code.

Response: The Department has <u>not</u> made a finding that the facility has violated PSD requirements nor has the facility reported to the Department that such violations have occurred. If such a finding is made in the future, then the Department will take appropriate actions to revise the operation permit as needed. Without a finding of violation, the Department will not be including a compliance plan or other requirements pertaining to PSD. [note that the draft consent decree between EPA and Wisconsin Electric includes the following: WHEREAS, Wisconsin Electric has denied and continues to deny





the violations alleged in the Complaint, maintains that it has been and remains in compliance with the Act and is not liable for civil penalties or injunctive relief, and states that it is agreeing to the obligations imposed by this Consent Decree solely to avoid the costs and uncertainties of litigation, and to reduce its emissions; [

David Bender at II. indicated the permit must be modified to remove the NSPS permit shield or DNR must conduct a thorough investigation to actually review historical physical and operational changes and any resulting emission increases, and determine if these actions were modifications subject to NSPS requirements.

Response: The NSPS permit shield was removed from the permit.

David Bender at III. indicated Preamble to the permit should be modified to clarify that "voluntary limits" are mandatory.

Response: The Department disagrees. The information in the Preamble is standard language in every permit issued by the Department and has never been known to cause non-compliance due to the confusion suggested. In this permit a footnote is used to identify more stringent requirements that were requested by the applicant. The applicable authority for each provision is included with each provision.

David Bender at IV. indicated the permit must be modified to comply with the credible evidence rule.

Response: The credible evidence rule gives EPA and citizens the ability to sue based on evidence they have, independent of the language in the permit. Mr. Bender believes language in the permit may unnecessarily restrict the use of credible evidence. The Department disagrees. The phrases Mr. Bender wants to change are standard language used in every permit issued by the Department, and have never been shown to restrict the use of credible evidence.

David Bender at V. indicated the permit must be modified to ensure continuous compliance with the emission limits. He wants the Preamble to indicate that a violation of compliance demonstration is a violation of an emissions limit. He wants the permit to include the Compliance Assurance Monitoring (CAM) plan. He wants changes to the CAM plan.

Response: The Department disagrees that a violation of a compliance demonstration requirement is automatically a violation of an emission limit. The Department agrees the permit must include the monitoring requirements of the CAM plan and will include that portion of the plan in the permit.

The Department disagrees with the requested changes to the CAM plan. Considering the operational realities of a power plant, using a longer averaging time (3 hours) to define an excursion rather than a lower opacity threshold is reasonable. Because condensible emissions at a power plant typically represent a small fraction of total PM emissions, developing the CAM plan based on tests using Method 17 (filterable PM) is reasonable. As explained with comment VI, the exclusion for startup and shutdown is appropriate.

Including the CAM provisions is a significant change to the draft permit and requires re-issuing the public notice and associated public review and comment period.

David Bender at VI. indicated the permit must be modified to remove the exemption from emission limits applying during periods of startup, shutdown or malfunction because the exemption under s. NR 436.03(2)(b), Wis. Adm. Code, is not included in the State Implementation Plan (SIP).

Response: The Department disagrees. The provision regarding allowing emissions in excess of the emission limit due to normal startup or shutdown carried out in accord with the approved startup and shutdown plan was approved in the state SIP as s. NR 154.09, Wis. Adm. Code, and later included as the renumbered s. NR 436.03(2)(b), Wis. Adm. Code. In a proposed SIP revision rule, EPA specifically cites the exemption from emissions limitations due to startup or shutdown (page 41816, FR 8/18/1981) before finalizing the revision to s. NR 154.09, Wis. Adm. Code (FR 11/27/1981).

David Bender at VII. indicated the permit must be modified to incorporate various plans required under the permit, and to provide public access to these plans (SSM and dust control) as required under federal law.

Response: The Department disagrees. These procedures for handling such plans in permits are typical for any permit issued by the Department. Permits are routinely submitted to EPA for review and the Department's Title V permit program has been audited by EPA. EPA has not identified this issue as a problem.

David Bender at VIII. indicated the permit must be modified to require submittal of all monitoring data and recordkeeping to DNR, instead of being kept at the facility.

Response: The Department disagrees that the permit needs modification. The requirement to submit monitoring results under s. NR 439.03(1)(b), Wis. Adm. Code, is already in the permit at I.H.1.a.(1) and I.H.1.b.(1). The comment reads more like Mr. Bender disagrees with what the Department has accepted as a summary of data at another facility, and disagrees with the option provided under s. NR 439.03(1)(b), Wis. Adm. Code, to allow submission of a summary in lieu of all monitoring results.

DNR field staff noted some additional items. The nitrogen oxide emission limits of s. NR 428.05, Wis. Adm. Code, were not cited for Boilers 5 & 6 in the draft renewal permit.

Response: The proposed permit includes the NOx requirements, and omits the testing required under I.B.3.b.(1) since the facility has already completed this emission test and has demonstrated compliance. Including the NOx emission limits is a significant change to the draft permit and requires reissuing the public notice and associated public review and comment period.

Also, construction permit 03-RV-166-R1 for the Elm Road facility addresses changes to the fly ash handling facility which is P31 in the draft operation permit renewal for Oak Creek.

Response: If the construction under 03-RV-166-R1 is accomplished, then the Oak Creek Operation Permit will need to be revised to reflect the changes.

cc: Thomas Zelinski - Southeast Region Headquarters

CORRESPONDENCE/MEMORANDUM ·

DATE:

June 27, 2007

FILE CODE: 4560 FID #: 241007690

TO:

Jeff Hanson

FROM:

Roger Fritz

SUBJECT:

Second Addendum to the Preliminary Determination for WE Energies, Oak Creek Station,

Permit 241007690-P10.

The Department received comments during the second public comment period from the applicant, WE Energies, and from David Bender representing Sierra Club.

David Bender reaffirmed Sierra Club's previous comments on the first draft permit, and noted they did not have access to the DNR response to comments on the first draft. Refer to the First Addendum memo for responses to the previous comments.

The following comments are listed in the order they apply to provisions of the draft permit. In addition, typographical errors that were noted have been corrected in the Proposed Permit.

We Energies noted that they expect the reclaim storage pile (S16), the outdoor storage pile at coal dock (S17) and in-plant coal transfer (S18) to be retired in 2007, and would be replaced under permit 03-RV-166-R1 once those new units are operational.

Response: Footnotes were added to the Stack and Process Index section of the Proposed Permit to highlight that the applicable provisions may be subject to change in the near future.

We Energies requested that the Sodium Hypochlorite Storage Tank (5,000) and Sodium Bisulfate Tank (5,000) be removed from the list of **Insignificant Emission Units** because they are out of service (part of the old zebra mussel treatment). In addition, the Sodium Hydroxide and Sulfuric Acid (not listed) bulk tanks (6,000 each) will be going out of service by the end of 2007 with the replacement of the demineralizer system. The new de-mineralizer will use the following chemicals: Sulfuric Acid (400 gallon tote), Sodium Hydroxide (400 gallon tote), Hypersperse MDC 220 (200 gallon tote) and Sodium Metabisulfite (400 gallon tote).

Response: The tanks related to zebra mussel control were removed for the Proposed Permit. The changes to the de-mineralizer system are already reflected under Demineralization and Oxygen Scavenging of Water for Boilers.

At I.A.1.b.(6), David Bender indicated DNR should clarify the meaning of "when running the type of coal used in the compliance emission test", and suggested the permit should require that flue gas conditioning is required at all times if used during the preceding emission test.

Response: Section I.A.1.b.(6) is clear enough and remains unchanged in the Proposed Permit.



At I.A.2.a.(2), David Bender indicated DNR inappropriately exempts startup and shutdown.

Response: As noted in the first response to comments, the provision regarding allowing emissions in excess of the emission limit due to normal startup or shutdown carried out in accord with the approved startup and shutdown plan was approved in the state SIP as s. NR 154.09, Wis. Adm. Code, and later included as the renumbered s. NR 436.03(2)(b), Wis. Adm. Code. In a proposed SIP revision rule, EPA specifically cites the exemption from emissions limitations due to startup or shutdown (page 41816, FR 8/18/1981) before finalizing the revision to s. NR 154.09, Wis. Adm. Code (FR 11/27/1981).

At I.A.3.b.(5), I.A.3.b.(9), I.B.2.b.(6), I.B.2.b.(10) and elsewhere, We Energies requested the provision be changed to remove the new requirement to update the plan.

Response: This is similar to comments from We Energies on the first draft permit. Similarly, we hope this time all of these provisions are removed from the Proposed Permit.

At I.A.4. and I.B.3, We Energies proposed that the NOx permit condition language be consistent throughout the permit for Units 5 and 6 (S13) and Units 7 and 8 (S14) boilers with the exception that Units 7 and 8 shall be controlled by the use of low NOx burners.

Response: The Proposed Permit reflects the suggested changes.

At I.A.5.a.(1), I.A.5.b.(1) and (2), and I.A.5.c.(2); and similarly at I.B.6.a.(1), I.B.6.b.(1) and (2), and I.B.6.c.(2), We Energies requested consideration of general emission limitations, rather than the current specific concentration limitations, related to the burning of boiler chemical cleaning waste liquid.

Response: Specific limitations are preferred and remain in the Proposed Permit.

At I.B.1.c.(6), We Energies requested that the word "initials" be changed to "name" as a similar provision is worded in condition I.A.1.c.(5).

Response: The Proposed Permit reflects the suggested change.

At I.B.4.c.(3), We Energies requested that the reporting be semi-annual (rather than quarterly) and within 45 days (rather than 30 days) of the end of the reporting period which would be consistent with the rest of the permit.

Response: The cooperative agreement, which is the basis of the semi-annual (rather than quarterly) and 45 days (rather than 30 days) expires by the end of September 2007. The Proposed Permit retains the Administrative Code requirements for quarterly reporting within 30 days, with footnotes indicating deviations are allowed when a cooperative agreement is in effect and the deviations are consistent with the SIP. However, the cooperative agreement did not include carbon monoxide emission reports with the other deviations from the reporting requirements. Therefore, the requirements of s. NR 439.09(10), Wis. Adm. Code, apply to this specific provision at all times.

At I.E.1.c.(1), We Energies requested that the reference test method be changed in order to be consistent with the citation.

Response: The Proposed Permit uses the appropriate citation and retains the requirement to use test Method 22.

At I.F.1.b.(2), WE Energies noted that wet fly ash loading to open trucks is an alternative loading method. The following description is for the wet fly ash unloader for Unit 7. The wet fly ash unloader systems for Units 5, 6, and 8 are not used with PRB ash. The wet fly ash unloader is used to remove fly ash from a storage bin, condition it with proper quantity of water to minimize dusting, and to discharge the conditioned ash to the plant's disposal vehicles. The unloader is started and stopped via push-button by the operator of the unloader's local control station located at the discharge end of the unloader. The ash enters the mixer first. The water flow is started and stopped by an automatic control system which is designed to extend the water cycle beyond the fly ash charging cycle in order to minimize "dusting". Ash flow into the mixer is controlled to allow it to blend with water. A metering device maintains a 10-12% water content by weight of the mixing batch.

Response: The proposed permit allows loading of wet fly ash to open trucks, using language similar to the provisions for loading bottom ash. A footnote explains only unit 7 currently uses wet loading to open trucks.

At footnote 24 to I.H.1.c.(1)(b), David Bender requested confirmation that the granting of deviations from report submittal requirements in accordance with the cooperative agreement have been approved as a SIP modification. He contends that deviations from the SIP, based on the cooperative agreement, are only lawful if the cooperative agreement has been approved into the SIP.

Response: The cooperative agreement expires by the end of September 2007. The Proposed Permit retains the Administrative Code based reporting requirements, with footnotes indicating deviations are allowed when a cooperative agreement is in effect and the deviations are consistent with the SIP.

At I.H.2.a.(2), David Bender requested that the permit specify what good engineering practices require and specifically what the manufacturer's specification are that must be conformed to.

Response: The permit simply includes the Administrative Code requirement. Additional related specifics are provided in I.H.2.b. and c. and the materials those provisions require.

At I.H.5.a.(1)(c), WE Energies clarified that one-hour block averages are to mean clock hours (i.e. the block starts at the top of the hour).

Response: The Proposed Permit includes a footnote expressing this clarification.

At I.H.5.a.(1)(d) & (e), David Bender asked how can the CAM plan can ensure compliance with NR 415 emission limits during startup and shutdown when monitoring and recording is excluded during these periods?

Response: As described in the Preamble to the CAM rule, monitoring is required during periods such as startup and shutdown to aid in the evaluation of emissions during periods that may only be subject to the general duty clause. The permit does require monitoring and recording during startup and shutdown.

At I.H.5.a.(1)(e), David Bender requested clarification of how 20% opacity was determined to be representative of compliance with the applicable PM limits in the CAM plan.

Response: WE Energies submitted a CAM plan 5/30/2002. Additional supporting material was submitted 9/5/2002. These materials are available in the public file for the facility. The plan shows that for the range of operating scenarios including operating only one or both boilers feeding a stack and one or both control devices malfunctioning, opacity provides an indicator of compliance with the emission limits. The facility developed relationships for opacity to mass emissions for each unit including higher emission rates when the control device was operated to simulate a malfunction. Adding the emission rate in lb/mmBtu at 20% duct opacity for units 5 & 6 (0.06 + 0.055 = 0.11 lb/mmBtu) which emit to a common stack, the applicant was able to demonstrate 20% stack opacity would demonstrate compliance with the 0.15 lb/mmBtu emission limit. Similarly, for units 7 & 8 (0.044 + 0.052 = 0.09 lb/mmBtu) which would demonstrate compliance with the 0.10 lb/mmBtu emission limit.

At I.H.5.a.(3)(a), David Bender requested a revision to require the disclosure of the extent of excursion (i.e., the opacity readings) in addition to the other information.

Response: The extent of excursion is available in the monitoring records and is not explicitly required under 40 CFR 64.9. The Proposed Permit remains unchanged from the draft.

David Bender noted the requirements of s. NR 445.10, Wis. Adm. Code, regarding the handling and storage of coal, were not included in the draft permit.

Response: I.H.6 was added to the proposed permit addressing the s. NR 445.10, Wis. Adm. Code, requirements. The provision was added to I.H. - Conditions Applicable to the Entire Facility, because the coal pile and some of the coal handling sources are expected to be replaced in 2007.

cc: Thomas Zelinski - Southeast Region Headquarters



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Scott McCallum, Governor Darrell Bazzell, Secretary

101 S. Webster St.
Box 7921
Madison, Wisconsin 53707-7921
Telephone 608-266-2621
FAX 608-267-3579
TTY 608-267-6897

July 16, 2002

IN REPLY REFER TO: 4560

FID: 241007690

Mr. Robert Hall, Asset Manager Wisconsin Electric Power Oak Creek 4801 E. Elm Road Oak Creek, WI 53154

SUBJECT:

Renewal Application for Existing Source Air Permit.

Dear Mr. Hall:

The Department of Natural Resources received your renewal application for your Part 70 source air pollution control operation permit on May 31, 2002 for your existing source at 4801 E. Elm Road, Oak Creek, Milwaukee County, Wisconsin.

In the event the Department does not issue your renewal application prior to expiration of your existing operation permit, your air pollution source may then continue to operate in compliance under the "application shield" clause in s. 285.62(8), Stats. The "application shield" clause states that if a person submits a complete application and submits any additional information requested within the time set by the Department, the existing source may not be required to discontinue operation and the person may not be prosecuted for lack of an operation permit. However, per s. NR 407.06(2), Wis. Adm. Code, the Department is not precluded from requiring submittal of additional information to process the application.

When the process of reviewing the air permit for your source has begun, a permit review engineer will notify you. If you have any questions about the content of this letter or about any other operation-permit related items, please feel free to call me at (608)267-0562.

Sincerely, Keith Wriene

Keith W. Pierce

Operation Permit Team Leader Bureau of Air Management

cc:

Dan Schramm -SER/Milwaukee - (w/application)

- Exhibit D



we energies

231 W. Michigan St. Milwaukee, WI 53290-0001

www.we-energies.com

June 7, 2002

Mr. Keith Pierce Wisconsin Department of Natural Resources Bureau of Air Management AM/7 Operating Permit Team Leader P.O. Box 7921 Madison, WI 53707-7921

Dear Keith:

SUBJECT: Operating Permit Renewal Application Revision for Oak Creek Power Plant

FID# 241007690

Enclosed are two copies of a minor permit revision Wisconsin Electric (WE) is requesting for S15-P30 (Unit 9) the 20 MW simple cycle turbine. This submittal is an addendum to our initial Title v renewal application submitted to the Department on May 30, 2002.

The changes WE is requesting are as listed below:

1) Lowering the allowable particulate matter emission rate from 0.15#/Mbtu to 0.05#/Mbtu, and

2) Natural gas will be the only fuel used as fuel in the unit.

I have enclosed the completed minor permit revision form 4530-136 and the appropriate 4530-118 through 4530-128 forms.

If you have any questions, please contact me at (414) 221-2219 or paul.white@we-energies.com.

Sincerely,

Paul H. White

Senior Air Quality Engineer Wisconsin Energy Corporation

Attachments

cc:

Mr. Steve Jorgenson

Environmental Engineer - Air Management Southeast Region

Wisconsin Department of Natural Resources

2300 N. Dr. Martin Luther King Drive, Box 12436

Milwaukee, WI 53212-0436

PERMIT REVISION OR RENEWAL REQUEST

SEE INSTRUCTIONS ON REVERSE SIDE

Department of Natural Resources

FOR PROPOSED CONDITION CHANGES
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-136 Rev. 12/99 Information attached? __ (y/n)

1. Facility name and	Name	Wisconsin Electric Power Oak Creek		
mailing address	Street or Route	4801 E. Elm Road		
	City, State, Zip Code	Oak Creek WI. 53154		
2. New Parent corporation	Name		DECEIVE	
or Facility name	Street or Route			
(if name change being	City, State, Zip Code		10 11 001 1 200	
requested)	Country (if not U.S.)		AIR MANAGEMENT	
3. Type of Permit Revision:	☐ Administrative	■Minor □ Sig	nificant	
4. Facility identification number: 24	1007690	5. Permit #(s) to be revised:	: 241007690-P02	
6. Describe the proposed revision below (attach additional sheets if necessary). For a Renewal Request for Proposed Condition Changes, list the affected permit conditions here and attach additional sheets with the proposed changes identified. See Letter and attachments				
7. SIGNATURE OF RESPONSIBL	E OFFICIAL			
A. STATEMENT OF COMPLE	TENESS			
I have reviewed this application in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the				
statements and information contained in this application are true, accurate and complete.				
B. CERTIFICATION OF FACILITY COMPLIANCE STATUS (check one box only) THIS IS ONLY A REQUIREMENT FOR PART 70 SOURCES REQUESTING SIGNIFICANT REVISIONS OR RENEWAL CHANGES.				
Li certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements.				
☐ I certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements,				
except for the following emissions unit(s):				
(list all non-com	plying units)		·	
Printed or Typed Name Robert Hall			Title Asset Manager	
Signature South So	rel		Date Signed 6/5/02	

COMPLIANCE CERTIFICATION - MONITORING AND REPORTING DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE Form 4530-118 11-93 Information attached? ____ (y/n)

All applicants except non-Part 70 sources are required to certify compliance with all applicable air pollution permit requirements by including a statement within the permit application of the methods used for determining compliance (please see sec. NR 407.05(4)(i), Wis. Adm. Code.) This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually, and may need to be more frequent if specified by the underlying applicable requirement or by the Department.

SEE INSTRUCTIONS ON REVERSE SIDE	·				
1. Facility name Wisconsin Electric Power Oak Creek	2. Facility identification number: : 241007690				
3. Stack identification number S15	4. Unit identification number: P30				
5. This Unit will use the following method(s) for determining con and attach the appropriate form(s) to this form).	npliance with the requirements of the permit (check all that apply				
☐ Continuous Emission Monitoring (CEM) - Form 4530-1 Pollutant(s):	19				
☐ Periodic Emission Monitoring Using Portable Monitors - Pollutant(s):	Form 4530-120				
☐ Monitoring Control System Parameters or Operating Par Pollutant(s):	ameters of a Process - Form 4530-121				
☐ Monitoring Maintenance Procedures - Form 4530-122 Pollutant(s):					
☐ Stack Testing - Form 4530-123 Pollutant(s):					
☐ Fuel Sampling and Analysis (FSA) - Form 4530-124 Pollutant(s): ■ Recordkeeping - Form 4530-125 Pollutant: PM- Use of natural gas only					
☐ Other (please describe) - Form 4530-135 Pollutant(s):					
 6. Compliance certification reports will be submitted to the Destart date: July 1, 2002 and every 12 months thereafter. Compliance monitoring reports will be submitted to the 					
Start date: July 1, 2002 and every 6 months thereafter.					

COMPLIANCE DEMONSTRATION BY RECORDKEEPING AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-125 11-93

Information attached? __ (y/n)

Recordkeeping may be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the emission rate of a particular pollutant is established in the form of a curve or chart of emission rate versus parameter values. This correlation may constitute the certification of the system. It should be attached for Department approval. If it is not attached, please submit it within 60 days of the startup of the system.

SEE INSTRUCTIONS ON REVERSE SIDE				
1. Facility name: Wisconsin Electric Power Oak Creek	2. Facility identification number: 241007690			
3. Stack identification number: S15	4. Unit identification number: P30			
5. Pollutant(s) being monitored: S0 ₂ NO _x	6. Material or parameter being monitored and recorded: Fuel usage- Natural gas only			
7. Method of monitoring and recording:				
8. List any EPA methods used:				
9. Is this an existing method of demonstrating compliance? ■ Yes □ No	10. Installation date: July 1, 2002			
11. Backup system: None				
12. Compliance shall be demonstrated: ■Daily □ Weekly □ Monthly □ Batch				
13. Indicate by checking:				
assurance procedures. A quality assurance/quality of	performance specifications, calibration requirements, and quality control plan for the recordkeeping system is attached for ease submit it within 60 days of the startup of the recordkeeping t on			
***** The compliance records shall be available for Department certification report and the excess emission report shall format for the compliance certification report and excessame time as the application.	all be approved by the Department. A proposed			
***** The source shall record any malfunction that causes or may cause an emission limit to be exceeded. *****				

Malfunctions shall be reported to the Department the next business day. Hazardous air spills shall

be reported to the Department immediately.

EMISSION UNIT SUMMARY AIR POLLUTION CONTROL PERMIT APPLICATION Form 4530-128 11-93 Information attached? _ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Wisconsin Electric Power Oak Creek 2. Facility identification number: 241007690

3. Stack identification number: S15 4. Unit identification number: P30

5. Complete the following emissions summary for the following pollutants. Attach sample calculations and emission factor references. Attached? No

references. Attacl	ied? No		·····				····				
Aur pollulant ke		Acti		Maxin T 201	umul missi	eorepcal ons	Potential I	iemit Kara	Maxii		llowable (#
		U	TPY		U	TPY				U	TPY
Particulates				0.05	2	88.9	48.4	TPY	0.05	2	48.4
Sulfur dioxide						1.1	0.58	TPY			1.1
Organic compounds						3.7	2.03	TPY			3.7
Carbon monoxide						145.8	79.3	TPY			145.8
Lead								ТРҮ			
Nitrogen oxides					<u> </u>	569.1	309.5	TPY			569.1
Total reduced sulfur					<u> </u>			TPY			
Mercury								TPY			
Asbestos							· · · · · · · · · · · · · · · · · · ·	TPY			
Beryllium								TPY			
Vinyl chloride					<u> </u>			TPY			
		_						TPY			
<u> </u>								TPY			
								TPY			
								TPY			
			_					TPY			

Units (U) should be entered as follows:

^{1 =} lb/hr

^{2 =} lb/mmBTU

^{3 =} grains/dscf

^{4 =} lb/gallon

^{5 =} ppmdv

^{6 =} other (specify)

^{7 =} other (specify)

^{8 =} other (specify)

we energies

231 W. Michigan St. Milwaukee, WI 53290-0001

www.we-energies.com

May 30, 2002

Mr. Keith Pierce Wisconsin Department of Natural Resources Bureau of Air Management AM/7 Operating Permit Team Leader P.O. Box 7921 Madison, WI 53707-7921

Dear Keith:

Operating Permit Renewal Application for Oak Creek Power Plant SUBJECT:

FID# 241007690



The complete operation permit renewal application, required by § NR 407.05, Wisconsin Administrative Code, for Oak Creek Power Plant (OCPP) (Permit #241007690-P02), is enclosed. In addition, the facility was issued a construction permit #01-RV-103 on October 9, 2001 to construct and operate Low NO_x Boilers (LNB) on units B27 and B28. On December 14, 2001 Wisconsin Electric Power company (WE) submitted a construction permit to build two Super Critical Pulverized Coal (SCPC) units and one Integrated Gasification Combined Cycle (IGCC) unit on the site.

There are two paper copies of the forms, and other supplemental materials referenced in the forms. WE is in the process of installing Low NO_x boilers (LNB) on unit B28. B27 was converted in January 2002. The conversion of these units is covered by Construction permit #01-RV-103 issued October 9, 2001. The required operation permit application forms were submitted with the initial application. In addition, WE has submitted a construction application on December 14,2001 to construct and operate two Super Critical Pulverized Coal (SCPC) units and one Integrated Gasification Combined Cycle (IGCC) unit. Action is pending on this submittal.

OCPP is subject to the compliance assurance monitoring (CAM) rule promulgated by US EPA in the 40 CFR Part 84 on October 22, 1997. Under § 64.5(a), for existing major emission units that submitted complete Title V operating permit applications by April 20, 1998, i.e. OCPP, a CAM plan submittal must be part of the source's application for the renewal of the operating permit.

OCPP is not subject to CAM for SO₂, NO_x and opacity because the compliance demonstration method for these pollutants is continuous emission monitoring. The plant is not subject to CAM for particulate matter (PM) from the combustion turbine (P30) and from the outdoor coal storage pile because there are no particulate matter emission control devices required. However, the plant is subject to CAM for particulate matter from Boilers B25, B26, B27 and B28 because electrostatic precipitators (ESP) are the control devices used on each boiler to reduce the particulate matter emissions.

The PM CAM plans follows the current permit requirements and generally follow the EPA's presumptively acceptable CAM plans submittals for ESPs in its technical guidance. The plan also follows the recommended outline for the CAM plans shown in the EPA technical guidance for ESPs.

I have also attached a section (Permit Language Changes and Updates) of recommended language updates or changes. I have attached the appropriate 4530-136 form.

If you have any questions, please contact me at (414) 221-2219 or paul.white@we-energies.com.

Sincerely,

Paul H. White

Senior Air Quality Engineer Wisconsin Energy Corporation

Attachments

cc: Mr. Steve Jorgenson

Environmental Engineer - Air Management Southeast Region

Wisconsin Department of Natural Resources

2300 N. Dr. Martin Luther King Drive, Box 12436

Milwaukee, WI 53212-0436

Wisconsin Department of Natural Resources

1. Facility name and

SEE INSTRUCTIONS ON REVERSE SIDE

Name

Street or Route

PERMIT REVISION OR RENEWAL REQUEST FOR PROPOSED CONDITION CHANGES

AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-136 Rev. 12/99

4801 E. Elm Road

Wisconsin Electric Power Oak Creek

Information attached? __ (y/n)

ode Oak Creek WI. 53154 ode S.) Minor
S.) Minor Significant
S.) Minor Significant
S.) Minor Significant
■Minor □ Significant
5. Permit #(s) to be revised: 241007690-P02
ed on information and belief formed after reasonable inquiry, I certify that the on are true, accurate and complete. E STATUS (check one box only) TO SOURCES REQUESTING SIGNIFICANT REVISIONS OR RENEWAL
on permit application is fully in compliance with all applicable requirements.
ion permit application is fully in compliance with all applicable requirements,
•
Title Asset Manager
,

Permit Language Changes and Updates

Changing Calibration Frequency of Differential Pressure Alarms and Gauges

Part II, General Permit Conditions, II.C.13 addresses the annual calibration frequency for all instruments used for measuring source or air pollution control equipment performance. These instruments shall be calibrated yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent. WE has many years of operating and maintaining these types of devices. Our operating experience would typically check and adjust the calibration every other or every third year.

Taking the following language from the cooperative agreement issued to Pleasant Prairie Power Plant, WE requests the following change. "The company shall calibrate all instruments used for measuring source or air pollution control equipment operational variables during major maintenance outages or following good engineering practices, but not less frequently than once every twenty-four (24) months. The company shall keep records documenting any calibration activities. Requirements for calibrating continuous emission monitors and continuous opacity monitors are not superseded by this section".

Major outages now occur at frequencies greater than 12 months making it difficult to check and adjust instruments yearly.

Eliminating the Requirement to Record Precipitator Voltage and Current Readings

In section I.A.1.b(4) and I.B.1.b(4), the permit requires monitoring and recording of five operating parameters for the electrostatic precipitators (ESP). The five parameters are:

- 1. Primary voltage, in volts.
- 2. Secondary voltage, in volts.
- 3. Primary current, in amps.
- 4. Secondary current, in amps.
- 5. Spark rate, in sparks per minute.

The permit further requires the plant to record these parameters once each operating shift [I.A.1.c.(4) and I.B.1.c.(4)]. The purpose of monitoring and recording these parameters is to ensure that the ESP is being operated correctly to prevent excessive or unusual particulate matter emissions. With the implementation of the CAM plan for the ESPs, WE feels it's unnecessary to require the tracking and recording of these operating parameters. These precipitators have a wide margin of performance. These units operate at levels significantly lower than the emission limit of 0.15 lbs./mmBtu for B25 and B26 and 0.10 lbs./mmBtu for B27 and B28., as demonstrated in the biennial PM tests. It's because of this outstanding performance that WE believes opacity is a good indicator of precipitator performance.

For these reasons, WE requests that the requirements in sections I.A.1.b(4) and I.B.1.c(4) be eliminated from the permit.

COMPLIANCE ASSURANCE MONITORING PLAN ELECTROSTATIC PRECIPITATOR (ESP) FOR PM CONTROL OAK CREEK POWER PLANT

I. Background

A. Emission Units

Description: Coal-fired boilers
 Identification: B25, B26, B27, B28
 APCD ID: C25, C26, C27, C28

4. Permit No: 230006260-P02 and 01-RV-103

5. Facility: Oak Creek Power Plant

B. Applicable Regulation, Emission Limit and Monitoring Requirements

- 1. Emission Limits
 - a) PM for B25, B26 0.15 lbs./mmBtu
 - b) PM for B27, B28 0.10 lbs./mmBtu
- 2. Current monitoring requirements

Monitor control system parameters, specifically primary voltage in volts, secondary voltage in volts, primary current in amps, secondary current in amps, and sparking rate, in sparks per minute. [Note: Continuous opacity monitors (COM) are used to assure compliance with the opacity limits. Continuous Emission Monitors (CEM) systems are used to assure compliance with NO_x and SO₂ limits, but that monitoring is not addressed here].

C. Emission Control Technology:

Electrostatic Precipitator (ESP)

II. Monitoring Approach

WE believes that opacity monitoring can be used to demonstrate continuous compliance with PM. WE intends to establish a correlation between opacity reading (%) and particulate matter emissions. The best way to establish this correlation is through simultaneous emission testing and parameter measurement.

Monitoring Approach Elements

Indicator	Stack opacity data		
Measurement Approach	Using a certified stack opacity monitor (PS-1 certified)		
Indicator Range	An excursion is defined when opacity average is a		
·	certain percent opacity for three block hours.		
·	Excursions trigger an investigation, corrective action		
	and reporting requirements. The excursion percent will		
	be established during the testing.		
Performance Criteria	Opacity and PM correlation testing will be completed		
A. Data Representativeness	by March 1, 2003. Results will be submitted to the		
	WIDNR by April 15, 2003.		
B. Verification of Operating Status	The opacity monitor shall be operating whenever either		
	boiler is in service.		
C. QA/QC Practices and Criteria	The data acquisition and handling system (DAHS)		
	automatically checks the calibration-of the monitor at		
	the zero and span levels each day. Once a quarter, a		

·	three-point audit check is performed.
D. Monitoring Frequency	Continuously. Data points are collected every ten seconds. Thirty-six (36) equally spaced data points are used to calculate the six-minute average.
Data Collection Procedure	The six-minute averages are calculated and recorded by the DAHS.
Averaging Time	1 hour block average

III. Monitoring Approach Justification

A. Background

The pollutant-specific emission control devices are four by four field ESPs, controlling particulate matter from each boiler. Units 5 & 6 (B25 and B26) are arch-fired boilers, while units 7 & 8 (B27 and B28) are tangentially-fired boilers. Each pair of units discharge into a common stack (Unit 5 & 6 into common stack 3 [stack S13] and units 7 & 8 into common stack 4 [stack S14]). Units 5 & 6 and 7 & 8 are paired units (identical design, construction, fuel consumption and operation). Each pair of units burns the same fuels (subbituminous coal from the Powder River Basin).

B. Rationale for Selection of Performance Indicators

These precipitators have a wide margin of performance. Emissions are significantly less than 0.15 lbs./mmBtu. for B25 and B26 and 0.10 lbs/mmbtu for B27 and B28, as demonstrated in the biennial PM tests. It's because of this outstanding performance that WE believes opacity is a good indicator of precipitator performance.

The PM levels have been low enough to successfully petition the Department for an exemption for biennial stack testing in accordance with NR 439.075(4)1.b. For example, Unit 7 testing on March 19, 2002 showed PM emissions at 0.0094 lbs./mmBtu, which is 9% of the limit, Unit 8 testing on April 15, 1999 showed PM emissions at 0.0302 lbs./mmBtu, which is 30% of the limit, Unit 5 testing on October 17, 2000 showed PM emissions at 0.0216 lbs./mmBtu, which is 14% of the limit and Unit 6 testing on October 18, 2000 showed PM emissions at 0.018 lbs./mmBtu, which is 12% of the limit.

Our stack opacity monitors have been installed, and certified according to Performance Specification 1, 40 CFR 60 [Performance Specification 1 – Specifications and Test Procedures for Continuous Opacity Monitoring Systems in Stationary Sources].

To use opacity as an indicator of precipitator performance, WE intends to perform testing on each pair of units to develop a particulate matter versus opacity correlation curve. Since each pair of units sharing a common stack are identical to each other, testing will be conducted on one unit in each pair of units. Even though the compliance opacity monitor is located on the stack, each unit has an opacity monitor mounted on the precipitator discharge ductwork. It is not certified, and it's main purpose is to serve as an operating tool.

WE will perform a series of PM tests on the discharge side of the precipitator, measuring the grain loading in the ductwork. In the vicinity where the particulate tests will be performed, an opacity monitor is located. During the testing, we will record minute opacity readings from that monitor electronically.

To develop a PM mass versus opacity correlation requires increasing the PM loading in the ductwork, measuring the output of the duct opacity monitors and the PM loading in the duct. At the same time, PM levels will be determined using Performance Specification Method 5 in 40 CFR Part 60 including backhalf.

The actual PM loading in the discharge duct will be determined through at least three sets of emission tests, at each PM loading condition, using EPA reference method listed above.

The various PM loading conditions will be established by de-tuning the precipitators. The low loading condition will be established with all the fields in service. The mid loading condition will be created by removing a number of transformer rectifier (TR) sets from service. For the high loading condition, several more sets will be shutdown.

Each pair of units discharge into a common stack (Unit 5 & 6 into common stack 3 [stack S13] and units 7 & 8 into common stack 4 [stack S14]). Testing will take place on a unit. Even though the compliance monitors for opacity are located on the stack, throughout this testing program, WE will be very conscious of keeping opacity and PM below the permit limits on the unit that being tested.

The testing team is very conscious of the PM limit for the unit, which is 0.10 lbs./mmBtu, or 0.15 lbs./mmBtu and the stack opacity limit of 20%. We point out that these readings are being taken from a duct opacity monitor that is handing gas flow from a single unit and one-half of the gas flow being discharged into the stack. During our testing, as during all times of operation, every effort will be made to keep instantaneous and six minute duct opacity readings below 20%.

From the data collected during the PM study, WE expects to see that opacity levels will reach their limit of 20% long before any unit reaches their relevant PM emission limit. It is for this reason that WE believes opacity is an appropriate indicator of precipitator performance under the requirements of CAM.

Units 5 & 6 and 7 & 8 are paired units (identical design, construction, fuel consumption and operation). Each pair of units burns the same fuels (subbituminous coal from the Powder River Basin). Because the paired units are identical units, WE is proposing to only test on one of the pairs of units. WE will test either units 5 or 6, and 7 or 8, and apply the results to both units of that pair.

C. Rationale for Selection of Indicator Ranges

Since the compliance demonstration method called out in the permit is three runs of at least 60 minutes, using U.S. EPA Method 5, an excursion is defined as a 3-hour block average period in which the opacity is greater than the determined opacity percent. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required correcting the situation. All excursions will be documented and reported.

FACILITY IDENTIFICATION AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-100 Rev. 12-99

Information attached? __ (y/n)

1. Facility name and	Name	Wisconsin Electric Power Oak Creek
mailing address	Street or Route	4801 E. Elm Road
· <u> </u>	City, State, Zip Code	Oak Creek WI. 53154
2. Facility location	Street Address	4801 E. Elm Road
	City, County	Oak Creek Milwaukee County
3. Parent corporation	Name	Wisconsin Electric Power Co.
	Street or Route	231 W. Michigan
	City, State, Zip Code	Milwaukee, WI. 53201
	Country (if not U.S.)	
4. Responsible	Name	Robert Hall
official	Title	Asset Manager
	Telephone	(414) 571-3291
5. Permit contact person	Name	Paul White
	Title	Senior Environmental Engineer
	Telephone	(414) 221-2219
6. SIC code: 4911		7. Facility identification number: 241007690
8. Primary activity of the oper	ating establishment: Electrica	I power generation
9. Type of permit		
☐ Construction permit		☐ Operation Permit OR 🔳 Operation Permit Renewal
Anticipated start date	e for construction: //	Part 70 Source Application
Anticipated start date	e for operation: //	□ Non - Part 70 Source Application
This application is review (see instruction	☐ Synthetic Minor, Non - Part 70 Source Application	
··- ·		☐ Elective operation permit
10. If facility is located in an OZONE	n area designated as "nonattair	nment", indicate the pollutant for the nonattainment designation.
	mits and orders issued to this f permit). Construction permit	facility (if a renewal application, just list those issued since the issuance date of #01-RV-103
12. If Renewal Application:	List all air pollution control r	permit applications you have submitted on which the Department has not yet

13. If Renewal Application: List all permit exemptions received from the Department since the issuance date of your existing operation permit. (Reference these by the date of the exemption letter or the exemption number if one was assigned.) See Section 12 above

Construction Permit dated December 14, 2001 to construct and operate two two Super Critical Pulverized Coal (SCPC) units and one

Integrated Gasification combined Cycle (IGCC) unit. Permit exemption request dated April 11, 2002 for ash storage facility.

taken action. (If no permit number has been assigned yet, indicate the date of the application)

If so, what material does the pile(s) consist of? Coal

Are there any dirt roads or unpaved parking lots on the facility site?

FACILITY PLOT PLAN AIR POLLUTION CONTROL PERMIT APPLICATION Form 4530-101 Rev. 12-99

Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

In order for a comprehensive air quality analysis to be accomplished, a facility plot plan MUST be included with the permit application. If the application is for an initial operation permit, submit the elements under #2 below. If the application is for a renewal, answer #1 below first.

1. Have there been changes to the facility plot plan since the previous operation permit application was submitted?

	th the original application can be used for the renewal. attached. See construction application submittal for December 14, 2001. or
•	an since the last operation permit application submittal, RESUBMIT an up-to-date permit application will be deemed incomplete:
FOR DEPARTMENT USE ONLY	
COMPLETE INCOMPLETE NOT APPLICABLE	
	1. A building layout (blueprint, plan view) including all buildings occupied by or located on the site of the facility.
	2. The maximum height of each building (excluding stack height).
	3. The location and numerical designation of each stack. Please ensure these designations correspond to the appropriate stacks listed on the other permit forms in this application.
	4. The location of fenced property lines (if any).
	5. Identify direction "North" on all submittals.
	6. All drawings shall be to scale and shall have the scale graphically depicted.
	7. An additional regional map depicting the facility location in relation to the surrounding vicinity (roads or other features) shall be included.
Are there any outdoor storage piles on the facility	site?

Yes

□ No

SOURCE AND SITE DESCRIPTIONS AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-102 Rev. 12-99

Information attached? __(y/n)

Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

1. Briefly describe the proposed project or existing Unit(s) to be permitted. Attached supplemental forms as needed.

Oak Creek Plant consists of 4 coal-fired boilers and 1 combustion turbine, ranging in capacity from 265 MW (units B25 and B26) to 307 MW (B27 and B28). The gas-fired combustion turbine is rated at 21 MW. The main fuel supply is pulverized coal along with natural gas and propane used for coal flame stabilization at low loads and boiler start up. Coal is delivered by rail cars and/or lake barges and stored on the property. Approximately 700,000 tons of coal is stored in 2 storage piles. This represents approximately 70 days supply. Average daily plant consumption is 5,000-10,-000 tons (depending on system demands.). Particulate emissions are controlled by high efficiency electrostatic precipitators.

-	n .		
HOT	Renewal	Ann	lications:

- 1. Were any new or modified emissions units installed/modified at the facility since the last operation permit issuance date?
 - ☐ No. Proceed to form 4530-102A.
 - Yes. Answer the following questions:
- Briefly describe any new/modified emissions units installed at the facility since the last operation permit issuance date and include the following information. Attach supplemental forms as needed.
 Low NOx Boilers
 - a. List the Department issued construction and/or operation permit number as applicable (identifying which units were covered by which permit if multiple permits issued).
 #01-RV-103 Low NOx Boilers
 - If operation permit application forms were submitted for the new emission unit(s) covered by the construction permit mentioned above, reference the date of that application. #01-RV-103 July 20, 2001
 - ii. For Part 70 Sources Only: If no operation permit application forms were submitted for the new emissions unit(s) covered by the construction permit mentioned above, complete the appropriate forms 4530-118 through 4530-125.
 - b. Include the Department issued construction permit exemption number, if one was assigned, or reference the date of the letter of the exemption.

2. Site Description

The plant is located at 4801 E. Elm road in the City of Oak Creek, Milwaukee County., approximately 20 miles south of Milwaukee. The site occupies more than 400 acres of land on the shores of Lake Michigan.

SOURCE DESCRIPTION - SUPPLEMENTAL AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-102A Rev. 12-99

Information attached? __ (y/n)

Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

1. List all <u>significant</u> existing or proposed air pollution units, operations, and activities at the facility. A short narrative of the inventory of air pollution emissions unit (e.g., boiler, printing line, etc.) followed by equipment specifications will suffice. If the facility consists of several individual emission units, present this information in an outline format. (See instruction booklet for an example Unit description.)

A) Boiler: Unit 5, B25, S13, C25 Manufacturer: Foster Wheeler

Type: Wall (Arch) Fired, Dry Bottom

Firing Mode: Single

Max Heat Input: 2488 million BTU/Hr Max Hourly Coal Use: 100 Tons/Hr

Air Pollution Control: Electrostatic Precipitator

Notes: Natural gas for ignition

B) Boiler: Unit 6, B26, S13, C26 Manufacturer: Foster Wheeler

Type: Wall (Arch) Fired, Dry Bottom

Firing Mode: Single

Max Heat Input: 2516 million BTU/Hr Max Hourly Coal Use: 100 Tons/Hr

Air Pollution Control: Electrostatic Precipitator

Notes: Natural gas for ignition

C) Boiler: Unit 7, B27, S14, C27

Manufacturer: Combustion Engineering Type: Tangential Fired, Dry Bottom

Firing Mode: Single

Max Heat Input: 2856 million BTU/Hr Max Hourly Coal Use: 120 Tons/Hr

Air Pollution Control: Electrostatic Precipitator

Notes: Natural gas for ignition

D) Boiler: Unit 8, B28, S14, C28

Manufacturer: Combustion Engineering Type: Tangential Fired, Dry Bottom

Firing Mode: Single

Max Heat Input: 3009 million BTU/Hr Max Hourly Coal Use: 120 Tons/Hr

Air Pollution Control: Electrostatic Precipitator

Notes: Natural gas for ignition

E) Combustion Turbine: Unit 9, P30, S15

Manufacturer: Westinghouse

Type: Simple Cycle

Air Pollution Control: None

Fuel: Natural gas with #2 oil back-up

Notes: Peaking generator and for plant start-up/shutdown activities

F) Coal Pile #1: S16, F01 Storage Area: 5.5 acres Nominal Storage: 68,000 tons G) Coal Pile #2: S17, FO2 Storage Area: 18.5 acres

Nominal Storage: 383,000 tons

H) Ferric Chloride Tank: TO1

Tank Size: 11.75ft * 12ft diameter Tank Capacity: 4 inch to outside air Vent Size: 4 inch to outside air Annual Throughput: 135,450 gallons Calculated Emissions: 734 Lbs/Yr

For Renewal Applications:

1. If there were any new or modified emissions units installed/modified at the facility since the last operation permit issuance date:

- a. If any of these new/modified units were exempt from construction permit requirements, but are significant emissions units and operation permit application(s) for the new unit(s) were submitted to the Department reference the date of those submittals.
- b. If any of the new/modified units are insignificant emissions units list them on form 4530-102B.
- c. If any of the new/modified emissions units do not fit any of the above categories, fill out the appropriate forms for each emissions unit as follows:
 - i. For Part 70 Sources: Fill out the appropriate forms 4530-103 through 4530-133; OR
 - ii. For Synthetic Minor Non Part-70 Sources and Non-Part 70 Sources: Fill out the appropriate forms 4530-103 through 4530-117 and 4530-126 through 4530-129.

SOURCE DESCRIPTION - SUPPLEMENTAL AIR POLLUTION CONTROL PERMIT APPLICATION Form 4530-102B Rev. 12-99 Information attached? __ (y/n)

Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

any outer purposes.
1. Mark all insignificant existing or proposed air pollution units, operations, and activities at the facility listed below. If not listed, provide a short narrative of the inventory of air pollution emissions unit (e.g., boiler, printing line, etc.) followed by equipment specifications. If the facility consists of several individual emission units, present this information in an outline format. For Renewal Applications, identify those that are new since the last update to your application. (See instruction booklet for an example Unit description.)
Maintenance of Grounds, Equipment, and Buildings (lawn care, painting, etc.)
■ Boiler, Turbine, and HVAC System Maintenance
Pollution Control Equipment Maintenance
■ Internal Combustion Engines Used for Warehousing and Material Transport
■ Fire Control Equipment
Janitorial Activities
Office Activities
Convenience Water Heating
Convenience Space Heating (< 5 million BTU/hr Burning Gas, Liquid, or Wood)
■ Fuel Oil Storage Tanks (< 10,000 gal.)
■ Demineralization and Oxygen Scavenging of Water for Boilers
■ Purging of Natural Gas Lines
■ Sanitary Sewer and Plumbing Venting
Sodium Hypochlorite Storage Tank This is a 5,000 gallon storage tank which provides Sodium Hypochlorite used to combat the growth of Zebra Mussel colonies in the plant water system and miscellaneous service water systems. Emission levels fall below inclusion levels for this permit.
Sodium Bisulfite Storage Tank This is a 5,000 gallon storage tank which provides Sodium Bisulfite to the plant circulating water discharge. This chemical neutralizes any uncombined Sodium Hypochlorite used for Zebra Mussel control before the water is returned to Lake Michigan. Emission levels fall below inclusion levels for this permit.

Sodium Hydroxide Storage Tank

This is a 12,000 gallon storage tank which provides caustic for pH control of plant wastewater. Emission levels fall below inclusion levels for this permit.

SIGNATURE OF RESPONSIBLE OFFICIAL					
A.STATEMENT OF COMPLETENESS					
I have reviewed this application in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this application are true, accurate and complete.					
B.FOR RENEWALS ONLY	•				
I have reviewed this application, the original operation permit application dated permit number <u>241007690-P01</u> in their entirety and, based on information and certify that the statements and information contained in this renewal application	l belief formed after reasonable inquiry, I				
C.CERTIFICATION OF FACILITY COMPLIANCE STATUS (check one box only) THIS IS NOT A REQUIREMENT OF NON-PART 70 SOURCES.					
I certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements.					
☐ Certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements, except for the following emissions unit(s):					
(list all non-complying units)					
Printed or Typed Name Robert Hall	Title Asset Manager				
Signature Sall	Date Signed 5/29/02				

SEND ALL MATERIALS TO:

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
BUREAU OF AIR MANAGEMENT
OPERATION PERMIT TEAM LEADER
P.O. BOX 7921
MADISON, WI 53707-7921

U.S. DISTRICT C

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF WISCONSING 19 135

UNITED STATES OF AMERICA,

Plaintiff,

v.

Civil Action No.

WISCONSIN ELECTRIC

Defendant.

COMPLAINT

The United States of America ("United States"), by authority of the Attorney General of the United States and through the undersigned attorneys, acting at the request of the Administrator of the United States Environmental Protection Agency ("EPA"), alleges as follows:

NATURE OF THE ACTION

- This is a civil action brought against the Wisconsin Electric, ("Wisconsin Electric")

 pursuant to Sections 113 and 167 of the Clean Air Act ("the Act"), 42 U.S.C. §§ 7413 and

 7477, for injunctive relief and the assessment of civil penalties for violations of the

 Prevention of Significant Deterioration ("PSD") provisions of the Act, 42 U.S.C.

 §§ 7470-92, and the federally approved and enforceable Michigan and Wisconsin State

 Implementation Plans (the "Michigan and Wisconsin SIPs").
- 2. As set forth more fully herein, between 1982 and the present, Wisconsin Electric modified and thereafter operated certain coal-fired electricity generating units without

first obtaining a PSD permit authorizing the construction and without installing the best available technology to control emissions of sulfur dioxide, nitrogen oxides, and particulate matter, as required by the Act, applicable federal regulations, and the Michigan and Wisconsin SIPs.

NATION OF

- 3. As a result of Wisconsin Electric's operation of these unlawfully modified electricity generating units without appropriate pollution controls, massive amounts of sulfur dioxide, nitrogen oxides, and particulate matter have been, and still are being, released into the atmosphere.
- 4. Sulfur dioxide, nitrogen oxides, and particulate matter, when emitted into the air, can each adversely impact the environment and human health. Electric utility plants like Wisconsin Electric's collectively account for about 70 percent of annual SO₂ emissions and 30 percent of NO₂ emissions in the United States.
- Sulfur dioxide, or "SO₂," interacts with other chemicals in the atmosphere to form sulfate aerosols, which can be transported long distances. In the eastern United States, sulfate aerosols make up about 25 percent of all inhalable particles. According to recent studies, high levels of sulfate aerosols in the air are associated with increased sickness and mortality from lung disorders, such as asthma and bronchitis. A decrease in sulfate aerosol emissions from electric utility plants may significantly reduce the incidence and severity of asthma and bronchitis and associated hospital admissions and emergency room visits resulting from these ailments.
 - 6. Nitrogen oxides, or "NO_x," have numerous adverse effects on health and welfare. NO_x reacts with other pollutants and sunlight to form ground-level ozone, which scientists

have long recognized as harming human health and causing environmental damage. Ozone can inflame and potentially cause permanent damage to human lungs, triggering respiratory problems and decreasing lung capacity, especially among children who are active outdoors. In addition, ozone can damage vegetation. Nitrogen dioxide ("NO₂"), a type of NO_x, is a dangerous pollutant that can cause people to have difficulty breathing by constricting lower respiratory passages. It can also weaken a person's immune system, causing increased susceptibility to pulmonary and other forms of infections. While children and asthmatics are the most sensitive, individuals suffering from bronchitis, emphysema, and other chronic pulmonary diseases also have a heightened sensitivity to NO₂ exposure.

- SO₂ and NO_x interact in the atmosphere with water and oxygen to form nitric and sulfuric acids, commonly known as acid rain. Acid rain, which also comes in the form of snow or sleet, "acidifies" lakes and streams, rendering them uninhabitable for aquatic life, and damages trees at high elevations. It also accelerates the decay of building materials and paints, including irreplaceable buildings, statues, and sculptures that are part of our nation's cultural heritage. SO₂ and NO_x gases and their particulate matter derivatives, sulfates and nitrates, contribute to visibility degradation and adversely impact public health.
- 8. Particulate matter, or "PM," is the term for solid or liquid particles found in the air.

 Smaller PM of a diameter of 10 micrometers or less is referred to as PM-10. Power plants are a major source of PM. Breathing PM at concentrations in excess of existing ambient air standards may damage lung tissue and increase the chances of respiratory

disease, cancer, and premature death. The elderly, children, and people with chronic lung disease, influenza, or asthma, are especially sensitive to the effects of PM. PM can also reduce visibility and damage man-made materials. A reduction in the amount of PM illegally released into the atmosphere by Wisconsin Electric and others will significantly reduce the serious health and environmental effects caused by airborne PM.

JURISDICTION AND VENUE

- 9. This Court has jurisdiction of the subject matter of this action pursuant to Sections 113(b) and 167 of the Act, 42 U.S.C. §§ 7413(b) and 7477, and 28 U.S.C. §§ 1331, 1345, and 1355.
- 10. Venue is proper in this District pursuant to Section 113(b) of the Act, 42
 U.S.C. § 7413(b), and 28 U.S.C. § 1391(b) and (c), because some of the violations that are the subject of this Complaint occurred at a Wisconsin Electric facility within this District.

NOTICES

- In accordance with Section 113(a)(1), 42 U.S.C. §§ 7413(a)(1), EPA has provided the States of Michigan and Wisconsin with actual notice of Wisconsin Electric's violations. EPA, Michigan, and Wisconsin have jointly discussed the Wisconsin Electric alleged violations at Wisconsin Electric's Oak Creek Generating Station in Wisconsin through oral and written communications among the three agencies.
- 12. The 30-day period between Michigan's and Wisconsin's receipt of actual notice and commencement of this civil action, as required by 42 U.S.C. § 7413(a)(1), has elapsed.

Notice of the commencement of this action has also been given to Michigan and Wisconsin, as required by Section 113(b) of the Act, 42 U.S.C. § 7413(b).

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THE DEFENDANT

- At all times relevant to this action, including the present, Wisconsin Electric owned and operated the electricity generating units at the Presque Isle Generating Station in Marquette County, Michigan, the Oak Creek Generating Station in Milwaukee County, Wisconsin, the Pleasant Prairie Generating Station in Kenosha County, Wisconsin, the Port Washington Generating Station in Ozaukee County, Wisconsin, and the Valley Generating Station in Milwaukee County, Wisconsin. Wisconsin Electric is also the current owner and operator of these plants and electricity generating units.
- 15. Wisconsin Electric is incorporated under the laws of the State of Delaware, and is a "person" within the meaning of Section 302(e) of the Act, 42 U.S.C. § 7602(e).

STATUTORY AND REGULATORY BACKGROUND

16. The Clean Air Act was designed to protect and enhance the quality of the nation's air so as to promote the public health and welfare and the productive capacity of its population.

See CAA § 101(b)(1), 42 U.S.C. § 7401(b)(1).

A. The National Ambient Air Quality Standards

17. Section 108(a) of the Act, 42 U.S.C. § 7408(a), requires the Administrator of EPA to identify and promulgate air quality criteria for each air pollutant which may endanger public health or welfare when emitted, and which results from numerous or diverse mobile or stationary sources. For each such pollutant, Section 109 of the Act, 42 U.S.C. § 7409, requires EPA to promulgate national ambient air quality standards ("NAAQS")

requisite to protect the public health and welfare. Pursuant to Sections 108 and 109, EPA has identified and promulgated NAAQS for NO₂, SO₂, PM (now measured in the ambient air as PM10, previously measured as TSP) and ozone. See 40 C.F.R. §§ 50.4 - 50.11.

- Under Section 107(d) of the Act, 42 U.S.C. § 7407(d), each state is required to designate those areas within its boundaries where the air quality is better or worse than the NAAQS for each criteria pollutant, or where the air quality cannot be classified due to insufficient data. An area that meets the NAAQS for a particular pollutant is an "attainment" area. An area that does not meet the NAAQS is a "nonattainment" area. An area that cannot be classified due to insufficient data is "unclassifiable."
- 19. At all times relevant to this action, the plants comprising the Wisconsin Electric System were located in areas that had been classified as attainment or unclassifiable for SO2, NO2, and PM/PM10/TSP, except the Valley Power Plant, which was located in an area that had been classified as nonattainment for SO2 and TSP.

B. The Prevention of Significant Deterioration Requirements

20. Part C of Title I of the Act, 42 U.S.C. §§ 7470-7492, sets forth requirements for the prevention of significant deterioration ("PSD") of air quality in those areas designated as either attainment or unclassifiable for purposes of meeting the NAAQS standards. These requirements are designed to protect public health and welfare, to assure that economic growth will occur in a manner consistent with the preservation of existing clean air resources, and to assure that any decision to permit increased air pollution is made only after careful evaluation of all the consequences of such a decision and after public

the "PSD program."

- 21. Sections 110(a) and 161 of the Act, 42 U.S.C. §§ 7410(a) and 7471, require each state to adopt a state implementation plan ("SIP") that contains emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality in areas designated as either in attainment with NAAQS or unclassifiable.
- 22. A state may comply with Sections 110(a) and 161 of the Act by having its own PSD regulations approved by EPA as part of its SIP, which must be at least as stringent as those set forth at 40 C.F.R. § 51.166. If a state does not have a PSD program that has been approved by EPA and incorporated into the SIP, the federal PSD regulations set forth at 40 C.F.R. § 52.21 may be incorporated by reference into the SIP. 40 C.F.R. § 52.21(a).
- Up until May 27, 1999, Wisconsin's SIP incorporated by reference the federal PSD regulations of 40 C.F.R. § 52.21(b) through (w). See 40 C.F.R. § 52.2581(d) and (e); 45 Fed. Reg. 52741 (August 7, 1980), as amended at 46 Fed. Reg. 9585 (January 29, 1981); 64 Fed. Reg. 28748 (May 27, 1999). In 1999, EPA approved new Wisconsin-specific PSD regulations for PSD permitting. See 64 Fed. Reg. 28748 (May 27, 1999) (final rule). These new requirements are federally enforceable. Chapter NR § 405. See 64 Fed. Reg. 28748 (May 27, 1999).
- 24. Any major stationary source in an attainment or unclassifiable area that intends to construct a major modification or new major source must first obtain a PSD permit. See 40 C.F.R. § 52.21.

- Under the PSD program, a "major stationary source" is defined to include fossil fuel-fired steam electric plants of more than 250 million British thermal units (Btu) per hour heat input which emit or had the potential to emit one hundred tons per year or more of any regulated air pollutant. 40 C.F.R. § 52.21(b)(1)(i)(a).
- The PSD program defines the term "construction" as "any physical change or change in the method of operation (including fabrication, erection, installation, demolition, or modification of an emissions unit) which would result in a change in emissions." 40 C.F.R. § 52.21(b)(8). See also 42 U.S.C. § 7479(2)(C) ("construction" includes the "modification" of a source or facility).
- 27. The PSD program defines the term "major modification" as any physical change in or change in the method of operation of a major stationary source that would result in a significant net emission increase of any pollutant subject to regulation under the Act. 40 C.F.R. § 52.21(b)(2).
- 28. "Net emissions increase" means "the amount by which the sum of the following exceeds zero: (a) Any increase in actual emissions [as defined by 40 C.F.R. § 52.21(b)(21)] from a particular physical change or change in method of operation at a stationary source; and (b) any other increases and decreases in actual emissions [as defined by 40 C.F.R. § 52.21(b)(21)] at the source that are contemporaneous with the particular change and are otherwise creditable." 40 C.F.R. § 52.21(b)(3)(i). "Significant" means a rate of emissions that would equal or exceed any of the following rates for the following pollutants: NO_x, 40 tons per year; SO₂, 40 tons per year; and PM, 25 tons per year. 40 C.F.R. § 52.21(b)(23)(i).

- As set forth at 42 U.S.C. § 7475(a)(4) and 40 C.F.R. § 52.21(j), a source with a major modification in an attainment or unclassifiable area must install and operate the best available control technology ("BACT"), as defined in 40 C.F.R. § 52.21(b)(12) and 42 U.S.C. § 7479(3), where the modification would result in a significant net emissions increase of a pollutant subject to regulation under the Act. 42 U.S.C. § 7475(a)(4).
- 30. Any application for a PSD permit must be accompanied by an analysis of ambient air quality in the area. 40 C.F.R. § 52.21(m).
- The PSD program also requires any person who wishes to modify a major source in an attainment area to demonstrate, before construction commences, that the construction will not cause or contribute to air pollution that is in violation of any national ambient air quality standard or the maximum allowable increase in emissions of that pollutant. 40 C.F.R. § 52.21(k).
- 32. In addition, the owner or operator of a proposed source or modification must submit all information necessary to perform any analysis or make any determination required under 40 C.F.R. § 52.21(n).

C. Clean Air Act Enforcement Provisions

33. Section 113(a)(1) of the Act, 42 U.S.C. § 7413(a)(1), provides that:

Whenever, on the basis of any information available to the Administrator, the Administrator finds that any person has violated or is in violation of any requirement or prohibition of an applicable implementation plan or permit, the Administrator shall notify the person and the State in which the plan applies of such finding. At any time after the expiration of 30 days following the date on which the notice of violation is issued, the Administrator may . . .

- (C) bring a civil action in accordance with subsection (b) of this section.
- 34. Section 113(a)(3) of the Act, 42 U.S.C. § 7413(a)(3), provides that:
 - "except for a requirement or prohibition enforceable under the preceding provisions of this subsection, whenever, on the basis of any information available to the Administrator, the Administrator finds that any person has violated, or is in violation of, any other requirement or prohibition of this subchapter . . . including, but not limited to, a requirement or prohibition of any rule, plan, order, waiver, or permit promulgated, issued or approved under those provisions or subchapters . . . the Administrator may . . . bring a civil action in accordance with subsection (b) of this section"
- 35. Section 113(b)(1) of the Act, 42 U.S.C. § 7413(b)(1), and 40 C.F.R. § 52.23 authorize the Administrator to initiate a judicial enforcement action for a permanent or temporary injunction, and/or for a civil penalty of up to \$25,000 per day of violation for violations occurring before January 30, 1997 and \$27,500 per day for each such violation occurring on or after January 30, 1997, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461, as amended by 31 U.S.C. § 3701, against any person whenever such person has violated, or is in violation of any requirement or prohibition of an applicable implementation plan.
- 36. Section 113(b)(2) of the Act, 42 U.S.C. § 7413(b)(2), authorizes the Administrator to initiate a judicial enforcement action for a permanent or temporary injunction, and/or for a civil penalty of up to \$25,000 per day of violation for violations occurring before January 30, 1997 and \$27,500 per day for each such violation occurring on or after January 30, 1997, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461, as amended by 31 U.S.C. § 3701, against any person whenever

such person has violated, or is in violation of, requirements of the Act other than those specified in Section 113(b)(1), 42 U.S.C. § 7413(b)(1), including violations of Section 165(a), 42 U.S.C. § 7475(a).

37. Section 167 of the Act, 42 U.S.C. § 7477, authorizes the Administrator and a state to initiate an action for injunctive relief, as necessary, to prevent the construction, modification or operation of a major emitting facility that does not conform to PSD requirements.

E. General Allegations

- 38. At all times pertinent to this civil action, Wisconsin Electric has been the owner and operator of the plants identified in Paragraph 14 of this Complaint, including all of the boilers at those facilities.
- 39. At all times pertinent to this civil action, the electricity generating units at the plants identified in Paragraph 14 were each a "major stationary source," within the meaning of the Act for NO_x, SO₂, and PM for purposes of the PSD program. Each of these plants was also a "source" or "facility" within the meaning of the attainment and nonattainment Michigan and Wisconsin SIP general permit requirements.

CLAIM FOR RELIEF

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(PSD Violations at Wisconsin Electric's Oak Creek Plant)

- 40. Paragraphs 1 through 39 are realleged and incorporated herein by reference.
- At various times, Wisconsin Electric commenced construction and operation of major modifications, as defined in Paragraph 27 herein, at its Oak Creek Plant in Wisconsin.

 These major modifications included, but were not limited to, replacement of economizers, induced draft fans, waterwall tubes, reheaters and superheaters on one or more units at the plant. These modifications resulted in significant net emissions increases, as defined by 40 C.F.R. § 52.21(b)(3)(i), of one or more of the following pollutants: NO₂, SO₂, and PM.
- 42. Upon information and belief, Wisconsin Electric undertook similar major modifications at one or more of its other facilities which resulted in significant net emissions increases, as defined by 40 C.F.R. § 52.21(b)(3)(i), of one or more of the following pollutants: NO_x, SO₂, and PM.
- Wisconsin Electric violated and continues to violate Section 165(a) of the Act, 42 U.S.C. § 7475(a), and the PSD regulations set forth in 40 C.F.R. § 52.21, as incorporated into the Wisconsin SIP, by, *inter alia*, undertaking such major modifications at units located at the Oak Creek Plant and operating these modified units at the plant without: (a) obtaining a PSD permit, as required by 40 C.F.R. § 52.21(i) and the Wisconsin SIP; (b) applying best available control technology for NO_x, SO₂, and PM, as required by 40 C.F.R. § 52.21(j) and the Wisconsin SIP; (c) demonstrating that construction or modification would not cause or contribute to air pollution in violation of any national and/or Wisconsin ambient

air quality standard or any specified incremental amount, as required by 40 C.F.R. § 52.21(m) and the Wisconsin SIP; (d) performing an analysis of the ambient air quality in the area, as required by 40 C.F.R. § 52.21(m) and the Wisconsin SIP; (e) submitting to EPA or Wisconsin all information necessary to conduct the analysis or make the necessary determinations under 40 C.F.R. § 52.21, as required under 40 C.F.R. § 52.21(n); and (f) obtaining the required Wisconsin state permits.

- Based upon the foregoing, Wisconsin Electric has violated and continues to violate

 Section 165(a) of the Act, 42 U.S.C. §7475(a), 40 C.F.R. § 52.21, as incorporated into the

 Wisconsin SIP. Unless restrained by an order of this Court, these and similar violations

 of the PSD provisions of the Act will continue at the Oak Creek Plant and at other plants.
- As provided in Section 113(b) of the Act, 42 U.S.C. § 7413(b), and Section 167 of the Act, 42 U.S.C. § 7477, the PSD violations set forth above subject Wisconsin Electric to injunctive relief and civil penalties of up to\$25,000 per day for each violation at the Oak Creek Plant prior to January 30, 1997, and \$27,500 per day for each such violation on or after January 30, 1997, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461, as amended by 31 U.S.C. § 3701.

PRAYER FOR RELIEF

WHEREFORE, based upon all the allegations contained in paragraphs 1 through 45 above, the United States of America requests that this Court:

1. Permanently enjoin Wisconsin Electric from operating the electricity generating units at its Oak Creek Generating Station, including the construction of future modifications, except in accordance with the Clean Air Act and any applicable regulatory requirements;

- 3. Order Wisconsin Electric to apply to the Michigan Department of Environmental Quality and the Wisconsin Department of Natural Resources for permits that are in conformity with the requirements of the PSD program as well as the Michigan and Wisconsin SIP;
- 4. Order Wisconsin Electric to submit an analysis of ambient air quality in the area for each modification project as it was completed;
- 5. Order Wisconsin Electric to submit an analysis of the impairment to visibility, soils, and vegetation that occurred as a result of the accomplishment of the modification projects;
- 6. Order Wisconsin Electric to conduct audits of its operations to determine if any additional modifications have occurred that would require it to meet the requirements of the PSD program and report the results of these audits to the United States;
- 7. Order Wisconsin Electric to take other appropriate actions to remedy, mitigate, and offset the harm to public health and the environment caused by the violations of the Clean Air Act alleged above;
- 8. Assess a civil penalty against Wisconsin Electric of \$25,000 per day for each violation of the Clean Air Act and applicable regulations, and \$27,500 per day for each such violation after January 30, 1997;
 - 9. Award Plaintiff its costs of this action; and,

10. Grant such other relief as the Court deems just and proper.

Respectfully Submitted,

THOMAS L. SANSONETTI
Assistant Attorney General
Environment and Natural Resources
Division

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United States Attorney

Eastern District of Wisconsin

United States Department of Justice



Wisconsin Electric 231 W. Michigan Milwaukee, WI 53201-2048 Phone 414 221-2345

February 16, 2001

Roud 2:40pm H.G. 2-16-01

VIA HAND DELIVERY

Attn: David Schultz, Regional Power Industry Expert, AE-17J Air Enforcement and Compliance Assurance Branch U.S. Environmental Protection Agency, Region V 77 West Jackson Boulevard Chicago, Illinois 60604

Re: Request for Information from the Wisconsin Electric Power Company Pursuant to Section 114 of the Clean Air Act

Dear Mr. Schultz:

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The purpose of this letter and the enclosed documents is to respond to Bharat Mathur's letter, dated December 7, 2000, requesting certain information pursuant to Section 114 of the Clean Air Act concerning Wisconsin Electric Power Company's ("WE") coal-fired power plants (the "Information Request"). WE received this Information Request on December 15, 2000. Due to the difficulties associated with responding to the Information Request by January 14, 2001, as required by the letter, on December 22, 2000, WE requested an extension of the deadline for responding to this request until January 29, 2001. This request for an extension was granted on December 26, 2000. Subsequently, WE requested and received an additional extension until February 16, 2001 to respond to the Information Request.

General Objections

While WE has made a good faith effort to respond to the Information Request, WE notes, for the record, that it has several objections to both the form and content of the Information Request.

WE objects to the Information Request on the grounds that it is overly broad and unduly burdensome; it seeks information for an unreasonably long time - well beyond most recordkeeping requirements implemented under the Clean Air Act; it is vague and ambiguous; and it requires legal conclusions to be made in response to it. WE also objects to the Information Request on the grounds that it exceeds the United States Environmental Protection Agency's ("U.S. EPA's") authority under § 114(a) of the Clean Air Act and to the extent that it attempts to create a duty to supplement this response with additional information - an attempt that exceeds the Agency's authority under § 114(a).

WE also objects to the Information Request to the extent that it requests information that is subject to attorney-client privilege or other applicable privilege, or that constitutes attorney work product or is otherwise not discoverable.

Mr. David Schultz February 16, 2001 Page -2-

To the extent that the questions are vague, ambiguous, overly broad, or otherwise exceed U.S. EPA's authority under § 114(a), WE has made appropriate and reasonable efforts to respond to the questions to the best of its ability, and it has reasonably interpreted the questions. These interpretations are discussed further below. Certain information provided in response to the Information Request is "confidential business information," as defined by 40 CFR Part 2, Subpart B. WE has marked these documents as confidential in accordance with 40 CFR Part 2, Subpart B.

Subject to and without waiving these general objections, WE responds as follows to the Information Request.

Scope of WE's Response

This response contains information responsive to each of the five questions set forth in Appendix A to the Information Request with regard to WE's Oak Creek, Pleasant Prairie, Port Washington, Valley, and Presque Isle facilities. WE has also provided certain information responsive to Question 1 for four (4) facilities, which began operation on or after January 1, 1930 and which are not currently capable of being operated. Additionally, WE has an ownership interest, but not operational responsibility, for Wisconsin Power and Light's ("WP&L") Edgewater Unit 5. WE understands that WP&L, as operator, has provided information regarding Edgewater Unit 5 to U.S. EPA. WE has not included that unit in its response.

WE has made its best efforts to compile information responsive to U.S. EPA's Information Request. The Information Request, however, is yague and ambiguous to the extent that it requests information on WE's coal burning facilities. WE, therefore, has made its best efforts to interpret the scope of this request.

First, WE interpreted this request as inapplicable to its County Plant, which is an 11 MW coal-fired plant. WE acquired this plant in 1995. Prior to WE's ownership of this plant, it was publicly owned. Due to its size, County is not an "affected source" for purposes of the federal Acid Rain Program, and it is not an "electric utility steam generating unit" for purposes of the New Source Performance Standards ("NSPS") contained in 40 CFR Part 60. Therefore, WE has interpreted your Information Request as inapplicable to the County Plant.

WE has also interpreted your Information Request to apply to its Port Washington facility in the years following issuance of a Prevention of Significant Deterioration ("PSD") determination by U.S. EPA, dated June 8, 1990, and a PSD permit by the Wisconsin Department of Natural Resources ("WDNR") on September 9, 1990. The PSD permit authorized certain physical and/or operational changes to four units at WE's Port Washington plant and was based upon a Best Available Control Technology ("BACT") analysis performed for the four units at

¹ Copies of U.S. EPA's PSD determination, dated June 8, 1990, and the PSD permit, issued September 9, 1990, are attached as Attachment A to this Information Request.

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Mr. David Schultz February 16, 2001 Page -4-

of the Clean Air Act. Subject to and without waiving its objections, WE has made its best efforts to respond to this question. WE notes that this question is vague and ambiguous in that it does not define the terms "original design heat input capacity," "current boiler heat input capacity," "original design gross generating capacity," "original design net generating capacity," "current gross generating capacity," "current net generating capacity," and "emissions control." WE has made its best efforts to interpret these ambiguous terms as follows:

"Original Design Heat Input Capacity": The term "original design boiler heat input capacity" does not have a commonly accepted meaning within the industry. WE has assumed, however, that U.S. EPA is requesting information concerning the units' maximum boiler heat input capacity at the time of their commissioning. Based upon WE's investigation of its records, it does not have information demonstrating the "original design boiler heat input capacity" for its units. WE has, however, calculated an engineering estimate of the "original design boiler heat input capacity." The basis for this engineering estimate is the vendor's "guarantee" for boiler operation. Vendors include margins in their designs to assure meeting their "guaranteed" performance. The "guaranteed" heat input capacity, therefore, does not represent the maximum boiler heat input capacity of a boiler; the maximum boiler heat input capacity would be higher. WE has estimated, based upon typical industry practice, that the "original design heat input capacity" would be a range of between 10% and 15% above the "guaranteed" heat input capacity. Since WE has estimated the "original design heat input capacity" of its boiler based upon the guaranteed capacity, WE has also provided information concerning the guaranteed design capacity for each of its boilers for reference purposes.

"Original Design Gross Generating Capacity": The term "original design gross generating capacity" does not have a commonly accepted meaning in the industry. WE has assumed that U.S. EPA is requesting information concerning the units' gross maximum design generating capacity. The value provided by WE in this response for "original design gross generating capacity" is the generator nameplate rating at a power factor of 1.0.

"Original Design Net Generating Capacity": The term "original design net generating capacity" does not have a commonly accepted meaning in the industry. WE has assumed that U.S. EPA is requesting information concerning the units' net maximum design generating capacity. Based upon WE's investigation of its records, it does not have information demonstrating the "original design net generating capacity" for its units. At the time that the units were commissioned, the vendors did not provide this information. Instead, they provided "guaranteed" gross generating capacity. The net capacity of the units would be determined by estimating the units' design auxiliary loads. WE has not been able to gather the information necessary to calculate the original design net generating capacity for its boilers, and it does not believe that it could gather this information if it had additional time to respond to this question.

"Current Boiler Heat Input Capacity": The term "current boiler heat input capacity" does not have a commonly accepted meaning in the industry. WE has assumed that U.S. EPA is requesting information concerning the current maximum heat input capacity of its units. WE notes that it does not have information demonstrating the actual current maximum heat input

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Mr. David Schultz February 16, 2001 Page -5-

capacity of its boilers. For purposes of this Information Request, however, WE has based the current boiler heat input capacity of its boilers on the most recent unit electrical capability testing conducted for accreditation purposes in the Mid-American Interconnected Network, Inc. ("MAIN") power pool and the demonstrated thermal performance during 2000.

"Current Gross Generating Capacity" and "Current Net Generating Capacity": The terms "current gross generating capacity" and "current net generating capacity" do not have a commonly accepted meaning in the industry. WE has assumed that U.S. EPA is requesting information concerning the current maximum electrical output of its units. For purposes of this Information Request, WE has based the current gross and net generating capacity on the most recent unit electrical capability testing conducted for accreditation purposes in the MAIN power pool.

"Emissions Control": The term "emission control" was not defined in the Information Request. For purposes of this response, WE has interpreted emission control to include the methods used by WE to comply with applicable state and federal emission control requirements, including NSPS requirements. These methods include the use of pollution control devices, as well as emission reductions achieved due to boiler design. WE has also noted those instances in which a unit burns low sulfur coal.

WE further notes that it has provided information concerning only the years of operation for its Commerce Street, East Wells, and Lakeside plants. These plants have all been retired, and boiler records for these plants could not be located.

Question 2

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WE objects to Question 2 because it is unduly burdensome, overly broad, ambiguous, and it requires WE to obtain information for an unreasonably long period of time and from an unreasonably large number of sources. Subject to and without waiving these objections, WE has compiled information responsive to this question. Based upon a review of records, WE has provided a variety of documents in response to Question 2. In those instances that data was not available in the precise form requested by U.S. EPA, WE has provided documents that it believes are reasonably responsive to U.S. EPA's request. WE has attached the following documents in response to this question:

- 1. Spreadsheets containing the information requested in this Question for its Oak Creek, Pleasant Prairie, and Valley power plants for the years January 1975-December 1985 and January 1990-December 1999; for its Presque Isle plant for the years January 1990-December 1999, and for its Port Washington plant for January 1990-December 1999.
- 2. "Monthly Operation Summaries" for its plants as follows:
 - a) Presque Isle: January 1989, March 1989-December 1989;

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- b) Oak Creek: January 1989-June 1989, December 1989;
- c) Pleasant Prairie: January 1989-December 1989;
- d) Valley: January 1989-March 1989; May 1989-December 1989;
- 3. Summary Reports for the Presque Isle facility from 1976-June, 1987;
- 4. Energy Information Association ("EIA") forms for its Oak Creek, Pleasant Prairie and Valley plants for the years 1986-1989 and for its Presque Isle plant for the years 1982-1989; and
- 5. Meter Readings for the Presque Isle plant for the years 1981-1987.
- 6. A spreadsheet containing the following information not included in the EIA forms for its plants:
 - a) Oak Creek: Information concerning monthly and annual gross generation, monthly and annual net generation, and monthly and annual average heat rates for the years 1986-1988. Monthly gross generation, monthly net generation, and average heat rates for July Nov. 1989.
 - b) Pleasant Prairie: Information concerning monthly and annual gross generation, monthly and annual net generation, and monthly and annual average heat rates for the years 1986-1988.
 - c) Presque Isle: Information concerning monthly and annual gross generation, monthly and annual net generation, and monthly and annual average heat rates for 1988. Monthly gross generation, monthly net generation, and average heat rates for Feb. 1989.
 - d) Valley: Information concerning monthly and annual gross generation, monthly and annual net generation, and monthly and annual average heat rates for the years 1986-1988. Monthly gross generation, monthly net generation, and average heat rates for April 1989.

As stated above, Wisconsin Electric purchased its Presque Isle facility on December 31, 1987 and has few records concerning that plant's operation prior to its purchase. A review of the Presque Isle plant's records disclosed the Summary Reports prepared by the prior owner that are discussed above. The Summary Reports prepared by the prior owner for the Presque Isle plant may not have been consistently maintained. WE has also included records of meter readings collected at the Presque Isle plant by the prior plant owners. These records contain information on gross and net generation over the time period provided. WE cannot and does not certify to the

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Mr. David Schultz February 16, 2001 Page -7-

accuracy or completeness of the Summary Reports or records of meter readings. WE further notes that information responsive to this question for the Presque Isle plant for 1975 could not be located.

Question 3

WE objects to Question 3 because it is unduly burdensome, overly broad, and ambiguous. It requires WE to provide information on numerous capital projects over the period of 25 years. Subject to and without waiving its objections, WE has provided the information requested by U.S. EPA. For purposes of responding to this question, WE has interpreted the Information Request to request information concerning capital projects associated with the units identified in response to Question 2 for which total capital expenditures exceeded \$250,000. Based upon this interpretation, WE has not provided information concerning capital projects which cost less than \$250,000 to complete, and it has not provided information concerning capital projects that either were not associated with an identified unit or did not have the potential to impact the operation of a identified unit. WE has also interpreted this question to apply to capital projects at existing units. WE, therefore, has not provided capital cost information for the initial construction of units on which construction commenced after 1975. To the extent that capital projects concerning the identified units have been approved but have not been completed, WE has provided information for those projects with approved expenditures of at least \$250,000. Due to the financial nature of this information, WE has designated these documents as Confidential Business Information in accordance with 40 CFR Part 2, Subpart B, and has appropriately marked these documents.

In addition to the information provided concerning capital projects undertaken by WE at its Presque Isle plant from the years 1988 forward, WE has also provided in response to Question 3, information concerning capital projects undertaken by the prior owner of the plant during the years 1978-1982. WE notes that the information provided concerning capital projects undertaken by the prior owner does not completely address U.S. EPA's question. WE, however, has not located any additional documents concerning capital projects that occurred at the Presque Isle facility prior to its purchase of the plant in 1987. While WE has provided this information concerning capital projects at Presque Isle, it cannot and does not certify that this information is true, accurate, and complete.

WE further notes that it has only provided information concerning projects at the Port Washington facility that were undertaken after issuance of the PSD permit for that plant and that were not associated with the projects authorized under that permit, as explained above.

³ WE notes that it received construction permits for all units on which construction commenced after 1975.

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Mr. David Schultz February 16, 2001 Page -8-

Question 4

WE objects to this question because it is unduly burdensome, overly broad, and as such, it exceeds U.S. EPA's authority under § 114(a) of the Clean Air Act. Subject to and without waiving these objections, WE has made its best efforts to provide GADs data for the 25-year period for it plants. During its investigation, WE discovered that GADs data could not be located for its Valley plant for the years 1975-1982. WE has provided data for the Valley plant for the years 1983 forward. WE has also included in its response certain "GADs-like" data, collected by the prior owners of the Presque Isle facility, for certain years prior to WE's purchase of the plant. WE cannot and does not certify to the accuracy or completeness of this data. For the Port Washington facility, WE has provided information for the years 1990-1999.

Question 5

WE objects to this question because it is unduly burdensome, overly broad, and as such, it exceeds U.S. EPA's authority under § 114(a) of the Clean Air Act. Subject to and without waiving these objections, WE is providing the summary results pages of its available stack tests for particulate matter ("PM"), sulfur dioxide ("SO2"), and nitrogen oxide ("NOx") for the time period requested. As discussed above, WE has not provided the summary test pages for stack tests conducted for the Port Washington facility prior to the compliance tests that were performed on the respective units following completion of the projects authorized under the PSD permit. WE has, however, provided summary results pages containing the results for PM, SO2 and NOx for the compliance tests conducted following completion of the physical changes made to the units under the PSD permit and any stack tests conducted in the proceeding years. WE has also provided summary test results pages for certain draft stack tests performed where final test reports could not be located. WE does not certify that the results contained in these draft reports were the same results reported in the final reports prepared for these tests.

Pursuant to our conversations with you, WE has not provided RATA test results for the period 1994 forward.

Conclusion

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In conclusion, WE has conducted a diligent, good faith effort to provide all information responsive to your Information Request. WE's production of documents, however, does not represent or act as an admission by WE that the contents of documents that were produced in response to the Information Request but were not prepared by WE for the purpose of the responding to this information request are true, complete, or accurate. WE further notes that it cannot and does not certify that the documents relating to the operation of the Presque Isle plant prior to WE's purchase of the plant on December 31, 1987 are true, complete, or accurate. Additionally, this production of documents does not act to authenticate the documents for the purposes of admissibility in any administrative or judicial proceeding.

Mr. David Schultz February 16, 2001 Page -9-

Attached is the certification of Kristine Krause, Vice-President, Environmental, that is being submitted with this response in accordance with your Information Request. If you have any questions concerning this response, please do not hesitate to contact me at (414) 221-2712.

Sincerely,

Susan Martin

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Counsel

Wisconsin Electric Power Company

cc: Bharat Mathur (U.S. EPA) (w/o enc.)
Bill Bauman (WDNR) (w/enc.)
Dan Schramm (WDNR) (w/enc.)
Barbara Rosenbaum (MDEQ) (w/enc.)

Kristine Krause (w/o enc.) Cynthia Faur (w/o enc.)

11243034

Wisconsin Electric Power Company Section 114 Response Dated: February 16, 2001

CERTIFICATION

To the best of my knowledge and belief, after due inquiry, I hereby certify that the response of Wisconsin Electric Power Company to the Request to Provide Information Pursuant to the Clean Air Act dated December 12, 2000, by the United States Environmental Protection Agency is true and complete.

I note that we have submitted certain documents on the Presque Isle, Michigan facility in our possession, but which cover a time period pre-dating Wisconsin Electric Power Company's ownership and control of the facility. For those documents, it was not possible to determine whether the information contained in those documents is true or complete. Nonetheless, I have no reason to believe that those documents contain information which is not true and complete.

My certification is based upon the interpretations and assumptions employed in responding to U.S. EPA's request, as set forth in our response.

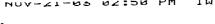
Kristine Krause

Vice-President - Environmental Wisconsin Electric Power Company

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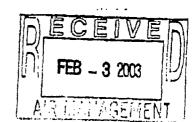
We energies

231 W. Michigan St. Milwaukee, WI 53290-0001 www.we-energies.com

January 30, 2003

VIA FEDERAL EXPRESS

Attn: Compliance Tracker, AE-17J Air Enforcement and Compliance Assurance Branch U.S. Environmental Protection Agency, Region V 77 West Jackson Boulevard Chicago, Illinois 60604



Re: Request for Information from the Wisconsin Electric Power Company Pursuant to Section 114 of the Clean Air Act

Dear Sir or Madam:

The purpose of this letter and the enclosed documents is to respond to Steve Rothblatt's letter, dated December 11, 2002, requesting certain information pursuant to Section 114 of the Clean Air Act concerning Wisconsin Electric Power Company's d/b/a We Energies ("We Energies" or the "Company's") coal-fired power plants (the "Information Request"). We Energies received this Information Request via facsimile on December 11, 2002. This Information Request included 19 questions, and an additional request that We Energies supplement its response to the United States Environmental Protection Agency's ("U.S. EPA's" or the "Agency's") initial request for information, dated December 7, 2000 (the "Initial Information Request") with certain information concerning operations at its Port Washington facility before September 9, 1990, which We Energies did not believe was initially requested.

Pursuant the Information Request, We Energies was required to supplement its response to the Initial Information Request with regard to Port Washington and to respond to Questions 1-4 of the Information Request by January 10, 2003. Responses to the remaining questions were to be submitted by February 9, 2003. On December 17, 2002, We Energies requested and received an extension of the deadline for responding to this first portion of the request until January 31, 2003, and an extension of the deadline to respond to the second portion of the request until February 28, 2003. Subsequently, We Energies requested and received an additional extension until February 28, 2001 to respond to Question 1 of the Information Request and to supplement its response to the Initial Information Request with regard to Port Washington. When requesting this additional extension, We Energies indicated that it would respond to Questions 12-18 of the Information Request by January 31, 2003. Accordingly, this letter and the attached documents respond to Questions 2-4 and 12-18 of the Information Request.

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January 30, 2003 Page -2-

General Objections

While We Energies has made a good faith effort to respond to the Information Request, We Energies has several objections to both the form and content of the Information Request.

We Energies objects to the Information Request on the grounds that it is overly broad and unduly burdensome; it seeks information for an unreasonably long time - well beyond most recordkeeping requirements implemented under the Clean Air Act; it is vague and ambiguous; and it requires legal conclusions to be made in response to it. We Energies also objects to the Information Request on the grounds that it exceeds U.S. EPA's authority under § 114(a) of the Clean Air Act and to the extent that it attempts to create a duty to supplement this response with additional information, an attempt that also exceeds the Agency's authority under § 114(a).

We Energies also objects to the Information Request to the extent that it requests information that is subject to attorney-client privilege or other applicable privilege, or that constitutes attorney work product or is otherwise not discoverable.

To the extent that the questions are vague, ambiguous, overly broad, or otherwise exceed U.S. EPA's authority under § 114(a), We Energies has made appropriate and reasonable efforts to respond to the questions to the best of its ability, and it has reasonably interpreted the questions. These interpretations are discussed further below. Certain information provided in response to the Information Request is "confidential business information", as defined by 40 CFR Part 2, Subpart B. We Energies has marked these documents as confidential in accordance with 40 CFR Part 2, Subpart B.

Subject to and without waiving these general objections, We Energies responds as follows to the Information Request.

Scope of We Energies' Response

This response contains information responsive to Questions 2-4 and 12-18 set forth in Appendix A to the Information Request with regard to We Energies' Oak Creek, Pleasant Prairie, Port Washington, Valley, and Presque Isle facilities, as requested in the first paragraph of the Information Request.

We Energies has made its best efforts to compile information responsive to U.S. EPA's Information Request. The Information Request, however, is vague and ambiguous to the extent that it does not specify the units at the Oak Creek, Pleasant Prairie, Port Washington, Valley, and Presque Isle facilities for which information is requested. We Energies has interpreted this

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request to apply only to those units at the facilities that were capable of being operated in December 2000.

As noted in We Energies' response to the Initial Information Request, it acquired the Presque Isle facility on December 31, 1987, and therefore, has maintained records for that facility only since January 1988. We Energies has discovered certain records at the plant that were maintained by its prior owner. To the extent that such historic records were reasonably responsive to the Questions 2-4 and 12-18 of the Information Request, We Energies has included them with its response. We Energies, however, cannot and does not certify to the accuracy or completeness of these records. We Energies also does not accept responsibility for any actions taken at the Presque Isle facility before the Company acquired it.

We Energies has made a diligent, good faith effort to provide U.S. EPA with the documents and information that could reasonably be collected and produced in response to Questions 2-4 and 12-18 during the time-frame allotted for this response. We Energies has determined that it has a substantial portion of the information requested, but given the breadth of the Information Request, which dates back over 25 years, We Energies has determined that certain information is not available. To the extent that We Energies could not locate information, the Company has so noted in its responses to individual questions.

In responding to the Information Request, We Energies has made a good faith effort to provide information to U.S. EPA in the format requested. We Energies, however, was not able to condense all the information requested into concise responses. In certain instances, We Energies has produced existing documents which contain portions of the information requested by the Agency. These instances are also noted in the responses to individual questions. For reference purposes, the pages of all documents produced have been Bates-stamped.

Responses to the Questions 2-4 and 12-18 in Appendix A

Question 2: In WEPCO's previous response, the GADS datasheet contains a column entitled "cause code", please provide a list of cause codes and their significance or meaning.

We Energies objects to Question 2 on the grounds that it is vague and ambiguous. We Energies further objects to this question to the extent that it exceeds U.S. EPA's authority under § 114(a) of the Clean Air Act. Subject to and without waiving these objections, We Energies has attached a document listing the cause codes applicable to We Energies' coal-fired units at Oak Creek, Pleasant Prairie, Port Washington, Valley, and Presque Isle. We Energies believes that these cause codes are self explanatory.

¹ We Energies directs U.S. EPA to its response to Question 1 of the Initial Information Request for information on certain boilers at Oak Creek and Port Washington that have been retired. In addition Unit 4 at the Port Washington plant was taken out of service on October 14, 2002.

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January 30, 2003 Page •4-

We Energies further notes that this list of cause codes was taken from the GADS Data Reporting Instructions prepared by the North American Electric Reliability Council ("NERC"). This document is publicly available from NERC. Since this document was not prepared by the Company, it cannot certify to its accuracy or completeness.

Question 3: Organizational Charts (plant and company) showing all managers, supervisors, team leaders, etc. (current/1995/1990/1985/1980/1975):

- a. Names
- b. Phone numbers
- c. Department
- d. Branches
- e. Divisions
- f. Sections

We Energies objects to Question 3 because it is vague, ambiguous, unduly burdensome, requires We Energies to obtain information for an unreasonably long period of time, and exceeds the scope of U.S. EPA's authority under § 114(a) of the Clean Air Act. Subject to and without waiving these objections, We Energies has made its best efforts to respond to this question.

We Energies notes that this question is vague and ambiguous to the extent that it does not define the terms: "Organizational Charts", "Department", "Branches", "Divisions", and "Sections". We Energies further notes that it is vague, ambiguous and overly broad in that it requests Organizational Charts showing "all managers, supervisors, team leaders, etc.," regardless of the relationship of the position to the operation of the units covered by this request. We Energies has made its best efforts to interpret these ambiguities.

We Energies has interpreted the term "Organizational Charts" to mean the corporate organizational charts prepared by the Company from time to time outlining the Company's organizational structure and listing individuals working in specifically outlined positions. We Energies did not interpret this question to require the creation of charts not otherwise maintained by the Company.

We Energies further notes that the information request is ambiguous in that it did not define the terms used. Therefore, We Energies has further interpreted the terms "Department", "Branches", "Divisions", and "Sections" to mean the manner in which the Company has designated positions within its organization. The Organizational Charts do not necessarily reflect the specific categories listed above. The charts do, however, provide information concerning We Energies' corporate structure.

With regard to the scope of this request, We Energies interpreted this question to request information concerning senior management and those managerial positions related to the operation of the units covered by this request.

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The Organizational Charts maintained by We Energies contain a listing of senior and managerial positions by department and the names of those individuals occupying the position at the time of the chart. These charts include information responsive to U.S. EPA's request for plant and company organizational charts. In certain instances, these charts further specify sections within a specific department. These charts do not contain telephone numbers.

This Information Request directed We Energies to provide U.S. EPA with a copy of the current Organizational Chart as well as copies of the charts for 1995, 1990, 1985, 1980, and 1975. We Energies has attached Organizational Charts for the following years: 2003 (current), 1990 and 1985. We Energies has also included an organizational chart for the Environmental Department, for 1980, a year for which a corporate organizational chart could not be located.

While it has conducted a diligent search of its records, We Energies has not been able to locate Organizational Charts for the Company for the years 1995, 1980 or 1975. The Company is continuing its search for records responsive to this question. If Organizational Charts for the years 1995, 1980, and 1975 are located, the Company will include these documents in its February 2003 response.

We Energies notes that the format for the current organizational chart differs from the format of the Organizational Charts for 1990 and 1985 in that the chart does not set forth positions and departments in a single spreadsheet. For 2003, We Energies, therefore, has provided U.S. EPA with those portions of the Organizational Chart setting forth senior management and the individuals in Fossil Operations and the Environmental Department.

Question 4: Boiler cross-sectional diagrams: (a) at the time of commissioning and (b) current.

We Energies objects to Question 4 because it is unduly burdensome, overly broad, vague, and ambiguous. We Energies further objects to this question to the extent that it exceeds U.S. EPA's authority under § 114(a) of the Clean Air Act and because it requires the Company to provide information that, in some instances, is over 60 years old. Subject to and without waiving these objections, We Energies has made its best efforts to respond to this question. We Energies notes that this question is vague and ambiguous to the extent that it does not define the terms "boiler" and "at the time of commissioning". We Energies has made its best efforts to interpret these ambiguous terms.

First, We Energies has interpreted the term "boiler" consistent with the definition of boiler contained in 40 CFR § 97.2, which defines "boiler" as "an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam or other medium." While We Energies is not subject to the requirements of 40 CFR Part 97, the Company believes that use of this federal definition of "boiler" is appropriate.

Second, We Energies has interpreted the term "at the time of commissioning" to mean the date on which the boiler commenced commercial operation.

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We Energies has attached the requested cross-sectional diagrams for the boilers. In certain instances a single diagram has been supplied for a boiler because the boiler's configuration has not changed. Additionally, the four boilers at the Valley Power Plant were identical at the time of commissioning, and their configuration has not changed. Accordingly, We Energies has provided a single cross sectional diagram that is representative of all four boilers. With regard to the boilers at Port Washington, We Energies has provided cross sectional diagrams of the boilers at the time of commissioning. The cross sectional diagrams of the boilers have not been updated. We Energies, however, has provided engineering design drawings which represent changes to the boilers after the time of commissioning.

Please note that the attached cross sectional diagrams contain information which is proprietary to the boiler manufacturers. We Energies is in the process of contacting these manufacturers with regard to the confidentiality of these diagrams. Pending responses from the boiler manufacturers, We Energies has designated these documents as Confidential Business Information in accordance with 40 CFR Part 2, Subpart B, and has appropriately marked these documents.

Question 12: Flue gas recirculation (FGR) changes/dates

This Question is not applicable. We Energies does not employ flue gas recirculation technology at any of the plants subject to this Information Request.

Question 13: Dates of low-NOx burner (LNB) retrofits

We Energies objects to this question to the extent that it is vague and ambiguous. We Energies further objects to this question to the extent that this information has already been provided to U.S. EPA in response to the Initial Information Request. Subject to and without waiving these objections, We Energies has made its best efforts to respond to this question.

We Energies notes that this question is vague and ambiguous in that it does not specify the type of "dates" for which U.S. EPA is seeking information on the low-NOx burner retrofits. Additionally, the question is vague and ambiguous because it does not define the term "retrofits". We Energies has made its best efforts to interpret these ambiguities.

First, We Energies has interpreted the reference to "dates" in this question to refer to the in-service date for any low-NOx burner technology installed at its plants. Second, We Energies has defined the term "retrofit" to refer to the installation of new pollution control equipment on an existing unit or the addition of parts to an existing pollution control device.

We Energies has attached a table containing the in-service dates for low-NOx burners installed at the plants subject to this Information Request. Information concerning the majority of these low-NOx burner projects was included in We Energies' response to Question 3 from the Initial Information Request. In response to Question 3 of the Initial Request, We Energies provided in-service dates for the listed low-NOx burner projects based upon records using capital accounting procedures. Upon further review of available work order records, We Energies

January 30, 2003 Page -7-

determined, that in certain instances, the accounting records contained different in-service dates than the work order records. Where there was a difference between the in-service dates, We Energies has elected to use the in-service date from the work order records; therefore, the chart attached in response to this question reflects the in-service date contained in the work order records.²

Question 14: Balanced draft conversion dates

We Energies objects to this question to the extent that it is vague and ambiguous. We Energies further objects to this question to the extent that this information has already been provided to U.S. EPA in response to the Initial Information Request. Subject to and without waiving these objections, We Energies has made its best efforts to respond to this question. We Energies notes that this question is vague and ambiguous in that it does not specify the type of "dates" for which U.S. EPA is seeking information on balanced draft conversions. We Energies has made its best efforts to interpret this ambiguity.

We Energies has interpreted the reference to "dates" in this question to refer to the inservice date for any balanced draft conversion.

We Energies has attached a table containing the in-service dates for balanced draft conversions completed on the plants subject to this Information Request. This same information was included in We Energies' response to Question 3 from the Initial Information Request.

Question 15: Dates of scrubber retrofits or SCR retrofits

We Energies objects to this question to the extent that it is vague and ambiguous. We Energies further objects to this question to the extent that this information has already been provided to U.S. EPA in response to the Initial Information Request. Subject to and without waiving these objections, We Energies has made its best efforts to respond to this question. We Energies notes that this question is vague and ambiguous in that it does not specify the type of "dates" for which U.S. EPA is seeking information on scrubber and SCR retrofits. Additionally, the question is vague and ambiguous because it does not define the terms: "scrubber", "SCR", and "retrofits". We Energies has made its best efforts to interpret these ambiguities.

First, We Energies has interpreted the reference to "dates" in this question to refer to the in-service date for the requested project. Second, We Energies interprets the term "scrubber" to refer to Flue Gas Desulfurization systems ("FGDs") and the term "SCR" to refer to Selective Catalytic Reduction. Third, We Energies has interpreted the term "retrofit" to refer to the installation of new pollution control equipment on an existing unit or the addition of parts to an existing pollution control device.

² We Energies response to Question 1 of the Information Request, which will be submitted by February 28, 2003, will also reflect the in-service dates contained in the work order records.

January 30, 2003 Page -8-

We Energies does not employ FGDs at any of its plants. We Energies has attached a table containing the in-service dates for SCR retrofits at the plants subject to this Information Request.

Question 16: Dates of ESP or baghouse retrofits

We Energies objects to this question to the extent that it is vague and ambiguous. We Energies further objects to this question to the extent that this information has already been provided to U.S. EPA in response to the Initial Information Request. Subject to and without waiving these objections, We Energies has made its best efforts to respond to this question. We Energies notes that this question is vague and ambiguous in that it does not specify the type of "dates" for which U.S. EPA is seeking information on ESP or baghouse retrofits. Additionally, the question is vague and ambiguous because it does not define the terms "ESP" and "retrofits". We Energies has made its best efforts to interpret these ambiguities.

First, We Energies has interpreted the reference to "dates" in this question to refer to the in-service date for any ESP or baghouse retrofits. Second, We Energies has interpreted the term "ESP" to refer to electrostatic precipitators. Third, We Energies has interpreted the term "retrofit" to refer to the installation of new pollution control equipment on an existing unit or the addition of new parts to an existing pollution control device.

We Energies has attached a table containing the in-service dates for BSP or baghouse retrofits at the plants subject to this Information Request. Information concerning the majority of these ESP or baghouse retrofits was included in We Energies' response to Question 3 from the Initial Information Request. In response to Question 3 of the Initial Information Request, We Energies provided in-service dates for the listed ESP/baghouse projects based upon records using capital accounting procedures. Upon further review of available work order records, We Energies determined, that in certain instances, the accounting records contained different inservice dates than the work order records. Where there was a difference between the in-service dates, We Energies has elected to use the in-service date from the work order records; therefore, the chart attached in response to this question reflects the in-service date contained in the work order records.

Question 17: Pulverizer and cyclone replacement dates

We Energies objects to this question to the extent that it is vague and ambiguous. Subject to and without waiving these objections, We Energies has made its best efforts to respond to this question.

For purposes of this response, We Energies has interpreted the term "replacement", which is vague, ambiguous and undefined, to mean the total exchange of an entire pulverizer system or entire cyclone for new equipment. We Energies has further interpreted this term to exclude maintenance activities on these pieces of equipment that did not involve a complete exchange of the entire pulverizer system or entire cyclone.

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This Question is not applicable. We Energies has not replaced a pulverizer or cyclone at any of the plants subject to this Information Request.

Question 18: Economizer, reheater and superheater replacement dates

We Energies objects to this question to the extent that it is vague and ambiguous. We Energies further objects to this question to the extent that this information has already been provided to U.S. EPA in response to the Initial Information Request. Subject to and without waiving these objections, We Energies has made its best efforts to respond to this question.

We Energies notes that this question is vague and ambiguous in that it does not specify the type of "dates" for which U.S. EPA is seeking information on economizer, reheater and superheater replacements. Additionally, the question is vague and ambiguous because it does not define the terms "economizer", "reheater", "superheater" or "replacement". We Energies has made its best efforts to interpret these ambiguities.

First, We Energies has interpreted the reference to "dates" included in this question to refer to the in-service date for the requested project. Second, We Energies has interpreted "economizer replacement" to mean the total exchange of the entire economizer tube banks within the boiler enclosure with new tube banks, "reheater replacement" to mean the total exchange of the entire reheater tube banks within the boiler enclosure with new tube banks and "superheater replacement" to mean the total exchange of the entire superheater tube banks within the boiler enclosure with new tube banks. Third, We Energies has interpreted the term "replacement" to exclude maintenance activities on these pieces of equipment that did not involve a complete exchange of the economizer, reheater or superheater tube banks.

We Energies has attached a table containing the in-service dates for economizer, reheater and superheater replacements at the plants subject to this Information Request.

Information concerning the majority of these projects responsive to this question was included in We Energies' response to Question 3 from the Initial Information Request. In response to Question 3 of the Initial Request, We Energies provided in-service dates for the listed projects based upon records using capital accounting procedures. Upon further review of available work order records, We Energies determined, that in certain instances, the accounting records contained different in-service dates than the work order records. Where there was a difference between the in-service dates, We Energies has elected to use the in-service date from the work order records; therefore, the chart attached in response to this question reflects the inservice date contained in the work order records.

January 30, 2003 Page -10-

Conclusion

We Energies has conducted a diligent, good faith effort to provide all information responsive to your Information Request. We Energies' production of documents, however, does not represent or act as an admission by We Energies that the contents of documents that were produced in response to the Information Request but were not prepared by We Energies for the purpose of the responding to this Information Request are true, complete, or accurate. We Energies further notes that it cannot and does not certify that the documents relating to the operation of the Presque Isle plant prior to We Energies' purchase of the plant on December 31, 1987 and documents prepared by NERC are true, complete, or accurate. Additionally, this production of documents does not act to authenticate the documents for the purposes of admissibility in any administrative or judicial proceeding.

Attached is the certification of Kristine Krause, Vice-President, Environmental, that is being submitted with this response in accordance with your Information Request. If you have any questions concerning this response, please do not hesitate to contact me at (414) 221-2712.

Sincerely,

Susan Mortin by a

Susan Martin Counsel

Wisconsin Electric Power Company

cc: Steve Rothblatt (U.S. EPA) (w/o enc.)
Bill Bauman (WDNR) (w/enc.)
Dean Packard (WDNR) (w/enc.)
Jim McGarry (MDEQ) (w/enc.)
Brian Brady (MDEQ) (w/enc.)
Kristine Krause (w/o enc.)
Cynthia Faur (w/o enc.)

11518354

Wisconsin Electric Power Company EPA 114 Data Request Question 1

Generating Station	Unit	Location	Boiler indentification Number	Commerical Operation, Yr.	Current Operating Status	Year Retired
Pleasant Prairie	1	Pleasant Praide, Wi	B20	1980	In-service	
	2	Pleasant Prairie, Wi	B21	1955	in-service	
South Oak Creek	8	Oak Creek, WI	B25	1959	in-service	
	8	Oak Creek, Wi	B26	1961	in-service	
	7	Oak Creek, WI	B27	1905	in-service	
		Oak Creek, Wi	528	1907	In-service	
Valley	Boller 1	Milwaukee, WI.	B21	1968	In-service	
<u>.</u>		Milwaukee, Wi.	B22	1968	in-service	
	Boller 3	Milwaukee, Wi.	B23	1969	in-service	
	Boller 4	Milwaukee, WI.	B25	1989	in-service	
Port Washington	1	Port Washington, Wi	B21	1938	in-eervice	
-	2	Port Washington, WI	B22	1943	in-service	
	3	Port Washington, WI	B23	1948	in-service	
	4	Port Washington, WI	B24	1949	in-eervice	
	. 6	Port Washington, Wi	B25	1950	Retired (1)	1891
Presque Isle	1	Marquette, MI	EG1	1955	in-service	
	2	Marquette, MI	EG2	1962	in-service	
	3	Marquette, Mi	EG3	1964	In-service	
	4	Marquette, MI	EG4	1966	In-service	
	5	Marquette, Mi	EG5	1974	In-service	
	6	Marquette, Mi	EGG	1975	in-service	
	7	Marquette, MI	EG7	1978	in-service	
	8	Marquette, MI	EGB	1978	In-service	
•	. 9	Merquette, MI	EG9	1979	in-service	
North Oak Creek	1	Osk-Creek, WI	B21	1853	Retired	1889
	2	Oak Creek, WI	B22	1954	Retired	1989
	3	Oak Creek, WI	B23	1955	Retired	1988
	4	Oak Creek, Wi	B24	1957	Retired	1988
Commerce Street (2)	25	Milwaukse, Wi		1841	Retired	1988
East Wolls (2)	16	Milwaukee, Wi		1938	Retired	1979
Lakeside (2)	18	St Francis, Wi		1930	Retired	1965
, .	20	St Francie, WI		1930	Retired	1983

⁽¹⁾ The unit was continuously out of service since 1985 and was permanently retired in 1991.

⁽²⁾ We has made a diligent, good faith effort to obtain true and complete information on these facilities. WE reserves the right to correct or supplement the information.

Wisconsin Electric Power Company **EPA 114 Data Request**

Generating Station:

110 4-41-00 00:30 FM

Question 1

Pleasant Prairie

Unit 1

Unit 2

Original **Boller Guaranteed** Heat Input Capacity.

8153 Mmbtu/hr

6153

Original Design Boller

Heat input Capacity. Mmbtu/hr

8768 to 7076

6768 to 7076

Current Boller

Heat Input Mmbtu/Hr

6449

6449

Original Design Gross

Generating Capacity,

MWg

725.4

725.4

Original Design

Net

Generating Capacity, MWn

NA

NA

Current

Gross

Generating Capacity,

MWg

655

643

Current

Net

Generating Capacity,

MWn

617

605

Current Fuels

Coal, Natural Gas, Oli

Cosi, Natural Gas, Oil

Particulate Control

Electrostatic Precipitator

Electorstatic Precipitator 1985

Year installed

1980

N/A (1)

N/A (1)

SO2 Control

Year installed **NOx Control**

Low NOx Burners (2) 1980

Low NOx Burners (2) 1985

Year Installed

(1) Units burn low sulphur sub-bituminous cost (2) Sub Part D - Low NOx Burnare

WEPCO 10002

1/24/2001

Wisconsin Electric Power Company EPA 114 Data Request Question 1

•••		Question 1		·
Generating Station:				
North Oak Creek	Unit 1	Unit 2	Unit 3	Unit 4
Original Guaranteed Boiler Heat input Capacity. Mmbtu/hr	1,094	1,094	1,129	1,129
Original Design Boller Heat Input Capacity. Mmbtu/hr	1203 to 1256	1203 to 1258	1242 to 1298	1242 to 1298
Current Boller Heat input Capacity. Mmbtu/hr	RETIRED	RETIRED	RETIRED	RETIRED
Original Design Gross Generating Capacity, MWg	163	153	153	153
Original Design Net Generating Capacity, MWn	NA:	NA	NA NA	NA NA
Current Gross Generating Capacity, MWg	RETIRED	RETIRED	RETIRED	RETIRED
Current Not Generating Capacity, WWn	RETIRED	RETIRED	RETIRED	RETIRED
Current Fuels	RETIRED	RETIRED	RETIRED	RETIRED
Particulate Control	Precipitator	Precipitator	Precipitator	Precipitator
Year installed	1953	1954	1955	1957
100()			NA	NA
802 Control	NA	NA NA	NA '	NA .
Year Installed	NA	MA	· .	
NOx Control	NA	NA	NA	AA NA
Year inetailed	NA NA	NA	NA	116
			WEPCO 10003	1/24/2001

Wisconsin Electric Power Company EPA 114 Data Request Ouestion 1

Generating Station:	Qu	estion 1		
South Oak Creek	Unit 5	Unit 6	Unit 7	Unit 8
Original Guaranteed Boiler Heat input Capacity. Mmbtu/hr	2,376	2,376	2,594	2,594
Original Design Boiler Heat input Capacity. Mmbtu/hr	2,614 to 2,732	2,614 to 2,733	2,854 to 2,983	2,854 to 2,984
Current Boiler Heat Input Capacity. Mmbtu/hr	2,488	2,516	2,856	3,009
Original Design Gross Generating Capacity, MWg	320	320	353	360
Original Design Net Generating Capacity, MWn	NA	NA	NA.	NA
Current Gross Generating Capacity, MWg	273	276	320	336
Current Net Generating Capacity, MWn	262	265	298	314
Current Fuels	Coal, Natural Gas, Propane	Coal, Natural Gas, Propane	Coal, Natural Gas, Propane	Coal, Natural Gas, Propane
Particulate Control Year Installed	Precipitator 1972 (1)	Precipitator 1972 (1)	Precipitator 1992	Precipitator 1991
SO2 Control	NA	NA	NA	NA .
NOx Control	Staged Combustion (2)	Staged Combustion (2)	Low Nox Burners (3)	Low Nox Burners (3)
Year Installed	1959	1961	1994	1995

⁽¹⁾ Major precipitator upgrades completed on units 5&6 in 1991 and 1990 respectively

⁽²⁾ Down fired burner configuration produces 0.15 to 0.25 lb/Mbtu NOx

⁽³⁾ Foster Wheeler TLN Burners

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Wisconsin Electric Power Company EPA 114 Data Request Ouestion 1

Generating Station:		Que	stion 1			
Valley (1)	Boiler 1	UNIT Boller 2	i Turbine 1	Boller 3	UNIT 2 Boiler 4	Turbine 2
Original Boiler Guaranteed Heat input Capacity. Mmbtu/hr	796	796		796	796	
Original Design Boiler Heat input Capacity. Mmbtwhr	876 to 915	876 to 915		876 to 915	876 to \$16	
Current Boiler Heat input Capacity. Mmbtu/hr	868	868		868	868	
Original Design Gross Generating Capacity, MWg			160			160
Original Dealgn Net Generating Capacity, MWn			N.A.			A.A
Current Gross Generating Capacity, MWg			151			151
Current Net Generating Capacity, MWn			140			140
Current Fuels	coal petroleum coke natural gas propane	coal petroleum coke gas propane		coal petroleum coke gas propane	coal petroleum coke gas propane	
Particulate Control Year installed	Baghouse 1994	Baghous 1994	•	Baghouse 1995	Baghouse 1995	
SO2 Control	N/A	N/A		N/A	N/A	
NOx Control Year installed	Low NOx Burners 1994	Low NO: Burners 1994		Low NOx Burners 1985	Low NOX Burners 1995	

⁽¹⁾ Valley Power Plant is a header plant consisting of four boilers and two turbines. Bollers 1&2 and turbine 1 are considered unit 1, boilers 3&4 and turbine 2 are considered unit 2. The units are interconnected allowing steam generated in unit 1 to flow to unit 2 and vice versa.

Wisconsin Electric Power Company EPA 114 Data Request Question 1

Generating Station:		Question	•		
Port Washington	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Original Boiler Guaranteed Heat Input Capacity. Mmbtu/hr	879	884	873	862	795
Original Design Boller Heat Input Capacity. Mmbtu/hr	967 to 1011	972 to 1017	960 to 1004	948 to 991	875 to 914
Current Boiler Heat input Capacity. Mmbtu/hr	966	987	987	987	Retired
Original Design Gross Generating Capacity, MWg	100	100	100	100	100
Original Design Net Generating Capacity, MWn	NA	NA	NA ·	NA .	NA
Current Gross Generating Capacity, MWg	85	85	85	85	Retired
Current Net Generating Capacity, MWn	80	80	80	80	Retired
Current Fuels	coal propane	coal propane	coal propane	coal propane	
Particulate Control Year installed	Precipitator	Precipitator 1993	Precipitator 1992	Precipitator 1994	
802 Control Year Installed	Sorbent injection 1993	N/A	N/A	Sorbent Injection 1994	
NOx Control Year Installed	Staged Combustion (1) 1935	Staged Combustion (1) 1943	Staged Combustion (1) 1948	Staged Combustion (1) 1949	

⁽¹⁾ Down fired burner configuration produces 0.25 to 0.35 lb/Mbtu NOx .

Wisconsin Electric Power Company EPA 114 Data Request

Generating Station:	Que	estion 1		
Presque Isle 1-4	Unit 1	Unit 2	Unit 3	Unit 4
Original Boiler Guaranteed Heat input Capacity Mmbtu/hr	291	416	657	657
Original Design Boller Heat Input Capacity Mmbtü/hr	320 to 335	458 to 478	613 to 641	613 to 641
Current Boller Heat input Capacity Mmbtu/hr	308	463	637	637
Original Design Gross Generating Capacity, MWg	29.4	44	64	68
Original Design Net Generating Capacity, MWn	NA	NA	NA	NA.
Current Gross Generating Capacity, MWg	26.3	38.7	60.5	60.8
Current Net Generating Capacity, MWn	28	37	58	68
Current Fuels	Coal Petroleum coke Oli	Coal Petroleum coke Oli	Coal Petroleum coke Oll	Coai Petroleum coke Oil
Particulate Control Year Installed	Baghouse 1999	Baghouse 1999	Baghouse 1999	Baghouse 1999
SO2 Control Year Effective	< 1.0% Sulfur Coal 1978	< 1.0% Sulfur Coal 1978	< 1.0% Sulfur Coal 1978	< 1.0% Sulfur Cosi 1978
NOx Control	None	None	None	None
Year Installed	·		WEPCO 10007	1/24/2001

Wisconsin Electric Power Company EPA 114 Data Request

Generating Station:	(Question '	1		
Presque Isle 5-9	Unit 6	Unit 6	Unit 7	Unit 8	Unit 9
Original Boiler Guaranteed Heat input Capacity, Mmbtu/hr	850	850	874	874	874
Original Design Boller Heat input Capacity. Mmbtu/hr	936 to 978	935 to 978	961 to 1005	961 to 1005	961 to 1005
Current Boller Heat input Capacity. Mmbtu/hr	985	996	1010	1010	1010
Original Design Gross Generating Capacity, MWg	100	100	100	100	100
Original Design Net Generating Capacity, MWn	NA	NA .	NA	NA NA	NA .
Current Gross Generating Capacity, MWg	93	93	94	94	94
Current Net Generating Capacity, MWn	88	88	88	88	88
Current Fuels	Coal Petroleum coke Oli	Cosi Petroleum coke Oli	Coal Oli	Coei Oli	Oil Oil
Particulate Control Year installed	Precipitator 1974	Precipitator 1975	Precipitator 1978	Precipitator 1978	Precipitator 1979
SO2 Control Year Effective	< 1.0% Sulfur Coel 1978	< 1.0% Sulfur Coal 1978	N/A (1)	N/A (1)	N/A (1)
NOx Control	None	None	Low NOx Burners (2)	Low NOx Burners (2)	Low NOx Burners (2)
Year Installed			1978	1978	1879

⁽¹⁾ Units burn low sulphur sub-bituminous coal (2) Sub Part D - Low NOx Burners

WEPCO 10008

1/24/2001

Question 2
Supplemental Heat Rate and Generation Information

			Monthly		Yearly			
			Net	Gross		Net	Gross	
	Month-	Net Heat Rate	Generation	Generation	Not Heat Rate	Generation	Generation	
Unit	Year	(BTU/KWH)	(MWH)	(MWH)	(BTU/KWH)	(MWH)	(MWH)	
001	Jan-86	10,458	33,834	38,508				
OC1	Feb-86		21,335	· 23,087				
OC1	Mar-86		0	0			•	
OC1	Apr-86	11,071	4,052	4,652				
001	May-86		21,220	22,893				
OC1	Jun-86		42,152	45,382				
OC1	Jul-86		32,922	35,513				
OC1	Aug-86		37,144	40,180				
OC1	Sep-86		48,548	52,206				
OC1	Oct-86		48,007	51,616				
OC1	Nov-86		27,808	30,104			·	
OC1	Dec-86	11,513	17,720	18,332		334,542	361,473	
OC1	Jan-87	11,863	25,869	28,226				
OC1	Feb-87	10,520	48,233	51,772				
001	Mar-87	10,860	28,012	30,161				
OC1	Apr-87	12,951	22,199	23,939				
OC1	May-87	9,550	49,103	52,439				
OC1	Jun-87	10,699	49,991	53,541				
OC1	Jul-87	10,746	38,181	41,033				
OC1	Aug-87		32,689	35,230				
OC1	Sep-87	11,494	26,780	28,920				
OC1	Oct-87	10,616	38,883	41,596				
OC1	Nov-87	10,790	40,524	43,403				
OC1	Dec-87	10,922	49,861	53,364		450,105	483,624	
OC1	Jan-88		14,758	16,378				
OC1	Feb-88		. 0	0				
OC1	Mar-88	0	0	0				
OC1	Apr-88	0	0	0				
OC1	May-88		2,992	4,394				
OC1	Jun-88		37,127	40,265				
OC1	Jul-88		40,404	43,894				
OC1	Aug-88		28,868	31,673				
OC1	Sep-88	14,857	13,856	15,690				
OC1	Oct-88		23,553	25,174			··	
OC1	Nov-88		29,353	32,267			***************************************	
001	Dec-88		48,240	52,070	11,678	239,149	262,805	
001	Jul-89		14,090	18,282				
OC1	Aug-89		8,063	9,581			· · · · · · · · · · · · · · · · · · ·	
OC1	Sep-89		33,245	36,436			·-··	
OC1	Oct-89		39,360	42,794				
OC1	Nov-89		35,567	38,613			······························	
OC2	Jan-86		39,527	42,447				
OC2	Feb-86	11,384	35,336	38,137				
OC2	Mar-86		39,511	42,719			·····	
OC2	Apr-86		47,651	51,262				
OC2	May-86		29,585	32,205				
OC2	Jun-86		864	1,279				
OC2	Jul-86		23,737	25,869				
OC2	Aug-86		16,075					
OC2	Sep-86		45,105					
OC2	Oct-86		24,758			····		

Question 2
Supplemental Heat Rate and Generation information

OC2	Nov-86	12,404	34,338	37,425			
OC2	Dec-86	11,556	33,769	36,807	11,713	370,266	401,476
OC2	Jan-87	12,219	17.705	19,641			
OC2	Feb-87	11,724	27,731	30,245			
OC2	Mar-87	10,936	41,982	45,301			
OC2	Apr-87	12,997	35,607	38,654			
OC2	May-87	11,142	34,592	37.454			
OC2	Jun-87	11,132	37.151	40,258			
OC2	Jul-87	11,528	25,637	28,010			
OC2	Aug-87	11,906	18,336	20,129			
OC2	Sep-87	11,657	16,922	18,547			
OC2	Oct-87	13,218	8,626	9,588			
OC2	Nov-87	11,190	29,506	31,927			
OC2	Dec-87	11,291	6,226	6,765	11,626	300,021	326,497
OC2	Jan-88	12,565	30,088	33,135			
OC2	Feb-88	11,387	37,589	40,905			
OC2	Mar-88	11,780	39,451	42,605			
OC2	Арг-88	11,876	28,554	31,147			
OC2	May-88	11,191	32,961	35,880			
OC2	Jun-88	13,530	14,368	16,580			
OC2	Jul-88	11,983	17,440	19,554			
OC2	Aug-88	11,067	30,267	33,043			
OC2	Sep-88	17,103	13,524	15,052		· · · · · · · · · · · · · · · · · · ·	
OC2	Oct-88	10,730	17,783	19,689			
OC2	Nov-88	0	0	0			
OC2	Dec-88	17,134	1,696	2,979	12,014	263,721	290,589
OC2	Jul-89	13,044	11,331	13,080			
OC2	Aug-89	12,782	8,721	9,910			
OC2	Sep-89	11,906	18,822	21,099			
OC2	Oct-89	39,459	1,143	2,155			
OC2	Nov-89	0	0	0			
OC3	Jan-86	9,604	59,137	63,304			
OC3	Feb-86	13,961	28,155	30,517			
OC3	Mar-86	11,718	23,207	25,436			
OC3	Apr-86	0	0	0			
OC3	May-88	0	0	0		-	
OC3	Jun-86	0	0	0		· · · · · · · · · · · · · · · · · · ·	
OC3	Jul-86	0	0	0			
OC3	Aug-86	0	0	0			
OC3	Sep-86	0	0	0			
OC3	Oct-86	0	0	0			
OC3	Nov-88	0	. 0	0			
OC3	Dec-86	0	0	0	11,158	110,499	119,257
OC3	Jan-87	0	0	0			
OC3	Feb-87	0	0	0			
OC3	Mar-87	0	0	0			
OC3	Apr-87	0	0	0			
OC3	May-87	0	0	0			
OC3	Jun-87	0	0	0			
OC3	Jul-87	0	0	0			
OC3	Aug-87	0	0	0			
OC3	Sep-87	ō	0	o			
OC3	Oct-87	ō	ō	0			
OC3	Nov-87	0	0	0	i -		
OC3	Dec-87	ō	0	, 0	0	0	0

WEPCO 21941

Question 2
Supplemental Heat Rate and Generation Information

OC3 OC3	Jan-88		0	0			
	Feb-88	0	0	0			
OC3			0				
OC3	Mar-88 Apr-88	0	0				
OC3		0	0	0			
OC3	May-88	0	0	. 0			
	Jun-88	0	0	. 0			
OC3	Jul-88	0	0				
OC3	Aug-88	0	0	Ó			
OC3	Sep-88	0	0	0			
OC3	Oct-88	0	0	0			
OC3	Nov-88	0	0	0			
OC3	Dec-88	0	0	0	0	0	0
OC3	Jul-89	0	0	0			
OC3	Aug-89	0	0	0			
OC3	Sep-89	0	0	0			
OC3	Oct-89	0	0	0			
OC3	Nov-89	0	0	0			
OC4 OC4	Jan-86	10,607	34,359	38.013			·
OC4	Feb-86	11,400	16,784	18,474			
OC4	Mar-86	10,888	35,012	38,070			
OC4	Apr-85	0	0	0			
OC4	May-86	. 0	0	0			
OC4	Jun-86	0	0	0			
OC4 OC4	Jul-86	0	0	0			
OC4	Aug-86	0	0	0			
OC4	Sep-86	0	0	0			
OC4	Oct-86	0	0	0			
OC4	Nov-86	0	Ō	0	~~·····		
OC4	Dec-86	0	0	. 0	10,876	86,156	94,557
OC4	Jan-87	ō	0	Ö		557,155	
OC4	Feb-87	Ö	0	0			
OC4	Mar-87	0	0	0			
OC4	Apr-87						
	VD1.011	Ó	ŏ	- 0			
OC4		0	0	0			
OC4 OC4	May-87	0	0	0			
OC4	May-87 Jun-87	0	0	0 0 0			
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0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0		í	0
0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0		í	0
0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88 Apr-88	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0		í	0
0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88 Apr-88 May-88	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0		í	0
0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88 Apr-88 May-88 Jun-88	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0		í	0
0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88 Apr-88 May-88 Jun-88 Jun-88	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0		í	0
0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88 Apr-88 May-88 Jun-88 Jun-88 Aug-88	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0		í	0
0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88 Apr-88 May-88 Jun-88 Jun-88 Aug-88 Aug-88	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0		í	0
0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88 Apr-88 May-88 Jun-88 Jun-88 Aug-88 Aug-88 Sep-88 Oct-88	0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0		í	0
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0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88 Apr-88 May-88 Jun-88 Jun-88 Aug-88 Sep-88 Oct-88 Nov-88 Dec-88	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		O	0
0C4 0C4 0C4 0C4 0C4 0C4 0C4 0C4	May-87 Jun-87 Jun-87 Jul-87 Aug-87 Sep-87 Oct-87 Nov-87 Dec-87 Jan-88 Feb-88 Mar-88 Apr-88 May-88 Jun-88 Jun-88 Aug-88 Sep-88 Oct-88 Nov-88	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0	O	

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Question 2
Supplemental Heat Rate and Generation Information

OC4	Sep-89	0	0	0			
OC4	Oct-89	0	0	0			
OC4	Nov-89	0	0	Ō			
OC5	Jan-86	9,607	72,104	75,586			
OC5	Feb-88	10,983	87,282	91,432			
OC5	Mar-86	9,632	89,377	93,884			
OC5	Apr-86	10,244	40,996	44,379			
OC6	May-86	12,930	64,867	69,071			
OC5	Jun-86	11,002	69,118	74,379		•	
OC5	Jul-88	12,558	24,655	27,579			
OC5	Aug-86	0	0	0			
OC5	Sep-86	0	0	0			
OC5	Oct-86	18,887	16,953	20,222			
OC5	Nov-86	10,323	42,750	48,180			
OC5	Dec-86	11,852	52,858	55,937	11,104	560,960	598,649
OC5	Jan-87	10,692	73,993	77,773			
OC5	Feb-87	9,906	59,985	64,007			
OC5	Mar-87	10,096	82,818	87,443			
OC5	Apr-87	10,697	29,597	31,470			
OC5	May-87	0	0	0			
OC5	Jun-87	0	0	0			
OC5	Jul-87	12,445	27,535	29,920			
OC5	Aug-87	10,917	77,544	82,646			
OC5	Sep-87	10,123	98,114	102,980			
OC5	Oct-87	10,365	77,316	81,548			
OC5	Nov-87	10,121	100,903	108,262			
OC5	Dec-87	10,398	87,441	92,191	10,419	715,246	756,240
OC5	Jan-88	10,872	88,224	92,030			
OC5	Feb-88	9,922	96,151	100,182			
OC5	Mar-88	10,308	105,105	110,347			
OC5	Apr-88	10,455	61,745	64,768			
OC5	May-88	10,269	110,211	114,671	1		
OC5	Jun-88	9,633	111,489	116,718			
OC5	Jul-88	10,563	104,308	110,505			
OC5	Aug-88	9,524	98,399	104,046			
OC5	Sep-88	12,026	98,172	103,058		-	
OC5	Oct-88	10,084	103,717	109,229			
OC5	Nov-88	10,189	78,916	83,309			
OC5	Dec-88	9,783	63,116	66,643	10,303	1,119,553	1,175,484
OC5	Jul-89	10,822	81,348	85,582			
OC5	Aug-89	10,093	98,802	103,699			
OC5	Sep-89	10,282	85,166	89,524			
OC5	Oct-89	10,171	59,426	63,067			
OC5	Nov-89	9,508	101.855	106,869			
OC6	Jan-86	Ó	0	0		· · · · · · · · · · · · · · · · · · ·	
OC6	Feb-86	O	0	0			
OC6	Mar-86	11,324	37,820	40,013			
OCE	Арг-86	10,390	76,416	81,182			
OC6	May-86	8,637	107,614	112,868			
OC6	Jun-86	10,505	62,149	66,385			
OC6	Jul-86	10,242	108,232	113,756			
OC6	Aug-86	10,190	67,487	72,017			
OC6	Sep-86	10,525	103,313	108,972			
OC6	Oct-86	6,971	107,199	113,147			
OC6	Nov-86	10,915	77,297	82,252	-		

Question 2
Supplemental Heat Rate and Generation Information

QC6	Dec-86	9,320	85,584	90,088	9,952	833,111	083,088
OC6	Jan-87	0	0	0			
OC6	Feb-87	12,513	42,707	46,931			
OC8	Mar-87	9,744	111,291	118,461			
OC8	Apr-87	9,939	100,764	105,790			
OC6	May-87	9,775	120,748	125,932			
OC6	Jun-87	10,005	42,720	45,408			,
OC8	Jul-87	10,037	93,212	98,583			
OC6	Aug-87	10,630	86,108	90.997			
OC6	Sep-87	10,726	98,518	103,473			
OC6	Oct-87	10,462	83,799	88.203			
OCS	Nov-87		101,345	105,994			
OC8	Dec-87	10,388		101,059	10,266	977,461	1 029 891
OC6		10,075	96,249		10,200	811,401	1,028,831
	Jan-88	9,934	92,334	96,793			
OC8	Feb-88	10,244	84,046	88,662			
ОСВ	Mar-88	9,683	98,308	103,072			
OCS	Apr-88	9,952	77,408	81,499			
OCB	May-88	9,551	40,765	43,353			
OC6	Jun-88	_ 0	0	0			
OC5	Jul-88	11,103	75,190	79,837			
OC6	Aug-88	9,443	83,243	88,049			
OC8	Sep-88	11,139	99,799	104.934			
OC6	Oct-88	10,061	84,907	90,050			
QC6	Nov-88	10,020	94,681	99,688			
ОСВ	Dec-88	10,513	89,777	94,827	10,179	920,456	970,764
OCB	Jul-89	10,190	84,072	89,071		020/100	575,757
OC6	Aug-89	10,299	101,096	106,721			
OC8	Sep-89	11,097	27,010	29,634			
OCB	Oct-89		27,510				
OCS	Nov-89	0	0	0			
OC7		71					
007	Jan-86	8,176	138,895	149,680			
OC7	Feb-86	11,418	121,937	131,480			
	Mar-86	9,540	109,433	118,540			
OC7	Apr-86	9,404	152,190	164,050	<u></u>	<u></u>	
OC7	May-86	9,833	126,993	137,540			
OC7	Jun-86	10,167	74,968	82.830		-	
OC7	Jul-86	9,976	102,206	111,790		`_	
OC7	Aug-86	10,254	92,968	101,200			
OC7	Sep-86	10,007	136,717	148,150			
OC7	Oct-86	10,957	11,746	13,710			
OC7	Nov-86	0	0	0			
OC7	Dec-86	0	0	. 0	9,816	1,068,053	1,159,070
OC7	Jan-87	9,740	85,496	93,510			
OC7	Feb-87	9,453	115,717	125,600			
OC7	Mar-87	9,634	100,448	109,150			
OC7	Apr-87	9,639	118,458	128,520			
007	May-87	9,307	131,220	141,860			
007	Jun-87	9,369	145,861	157,380			
OC7							
007	Jul-87	9,869	140,828	152,660			
	Aug-87	10,160	136,524	148,390			
OC7	Sep-87	10,412	136,243	147,690			
OC7	Oct-87	9,945	125,453	136,550			
OC7	Nov-87	10,570	24,916	27,850		<u> </u>	
OC7	Dec-87	9,806	5,777	7,800	9,777	1,266,841	1,376,970
OC7	Jan-88	9,901	103,403	112,610			

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	T 6-5 00	0.007	444 075	120,700			
OC7	Feb-88	9,607	111,075 118,006	128,000		- 	
0C7 0C7	Mar-88	9,684 9,704	130,738	141.770			
0C7	Apr-88	9,704	118,041	128,790			
0C7	May-88 Jun-88	9,833	122,651	133,490			
0C7	Jul-88	9,596	109,893	120,230			
OC7		8,600	133,733	145,420			۸.
	Aug-88	11,421	72,718	79,760			
OC7 OC7	Sep-88	8,684	138,008	148,600			
007	Oct-88	0,504	138,000	0			
OC7	Dec-88	9,781	32,434	36,770	9,601	1,190,700	1,296,140
OC7	Jul-89	9,806	133,477	145,370			
007 007	Aug-89	9,580	87,117	95,960			
OC7.	Sep-89	9,670	143,200	155,240			······································
007	Oct-89	9,444	138,864	150,160			
OC7	Nov-89	9,396	150,025	161,640			
OCB	Jan-86	9,370	133,004	143,500			
OC8	Feb-86	9,706	113,097	122,300			
OC8	Mar-86	10,094	93,681	101,600			
OC8	Apr-86	0	0	0		*****	
OC8	May-86	9,677	129,451	139,700			
OC8	Jun-86	10,284	82,891	92,000		-	
OC8	Jul-86	9,713	126,569	138,100			
OC8	Aug-86	9,244	134,295	144,400	·		
OC8	Sep-86	10,727	138,847	147,900			
OC8	Oct-86	9,338	125,504	138,000			
OC8	Nov-86	9,611	133,611	144,700			
OC8	Dec-88	9.412	135,159	148,200	9,718	1,344,209	1,454,400
OC8	Jan-87	9,771	122,491	132,900			
OC8	Feb-87	10,024	26,342	28,900			
OC8	Mar-87	10,276	28,948	32,500			· ·-
OC8	Apr-87	9,928	101,907	110,700			
OC8	May-87	9,463	150,579	161,900			
OC8	Jun-87	9,857	128,905	139,300			
OC8	Jul-87	10,313	132,914	143,700			
OC8	Aug-87	9,338	112,756	122,500		-	
800	Sep-87	9,697	112,588	121,900		•	
OC8	Oct-87	10,214	113,592	123,500			
OC8	Nov-87	9,929	86,068	93,500			
OC8	Dec-87	10,157	80,912	88,500	9,865	1,197,982	1,300,100
OC8	Jen-88	0	0	0			
OC8	Feb-88	0	0	0			
OC8	Mar-88	0	0	0			
OC8	Apr-88	0	0	0			
OC8	May-88	9,985	52,834	58,300	-		
OC8	Jun-88	9,828	118,897	128,500			
OC8	<u> </u>	9,860	128,205	139,200			
OC8	Aug-88	9,538	108,848	118,100			
OC8	Sep-88	10,594	111,856	121,700		T	
OC8	Oct-88	9,012	150,820	161,900			
OC8	Nov-88	9,384	136,872	147,700			
OC8	Dec-88	9,449	117,682	127,800	9,653	926,014	1,003,200
OC8	Jul-89	9,789	118,188	128,700			
OC8	Aug-89	9,618	138,731	150,500			
OC8	Sep-89	9,799	135,453	146,800			

Question 2
Supplemental Heat Rate and Generation Information

OC8	Oct-89	9,501	141,272	153,100	T		
ÖC8	Nov-89	9,523	118,083	127,900			
PI1	Jan-88	0	0	0			
Pl1	Feb-88	0	0	0			
PI1	Mar-88	0	0	o			
PI1	Apr-88	14,007	1,797	. 1,969			
PI1	May-88	14,122	0	0			
PI1	Jun-88	12,084	3,373	3,739			
PI1	Jul-88	12,029	94	305			
PI1	Aug-88	12,773	2,056	2,400			
PI1	Sep-88	12,702	49	131			
PI1	Oct-88	12,560	2,614	2,829			
PI1	Nov-88	11,870	4,782	5,170			
P11	Dec-88	12,441	2,052	2,259	12,432	16,817	18,802
PI1	Feb-89	0	0	0			
Pi2	Jan-88	0	0	0			
PI2	Feb-88	11,342	1,343	1,429			
PI2	Mar-88	0	0	0			
PI2	Apr-88	0	0	0			
PI2	May-88	10,105	1,176	1,423			
PI2	Jun-88	10,838	6,812	7,372			
PI2	Jul-88	11,050	4,504	4,951			
Pl2	Aug-88	11,826	7,970	8,632			
PI2	Sep-88	10,027	211	395			
PI2	Oct-88	11,575	5,681	6,150			
PI2	Nov-88	11,720	10,640	11,352			
PI2	Dec-88	11,872	4,200	4,633	11,439	42,517	46,337
Pi2	Feb-89	11,641	622	790			
PI3	Jan-88	11,018	25,311	27,008			
PI3	Feb-88	10,765	24,365	25,966		··	
Pi3	Mar-88	10,930	25,959	27,567			
PI3 PI3	Apr-88	10,977	19,928	21,303			
PI3	May-88	10,826	12,878	13,776			
P13	Jun-88	10,505	22,289	23,721			
PI3	Jul-88	10,732	18,549	19,839			
PI3	Aug-88	10,715	19,903	21,216			
PI3	Sep-88 Oct-88	0		0			
P13	Nov-88	10,538	17,243	18,443			
PI3	Dec-88	10,465	27,283	28,959	10,747	213,708	227,898
PI3	Feb-89	10,464	20,971	22,320	10,1.47	210,700	221,000
P14	Jan-88	10,441	4,139	4,434	- -		
PI4	Feb-88	10,751	20,197	21,534			
PI4	Mar-88	10,706	4,344	4,814			
PI4	Apr-88	10,680	18,131	19,343			
PI4	May-88	10,804	24,975	26,593			*
PI4	Jun-88	10,562	24,183	25,856			
PI4	Jul-88	10,631	24,732	26,342			
P14	Aug-88	10,864	23,223	24,724		.	
PI4	Sep-88	11,169	13,508	14,465			
P14	Oct-88	10,666	29,427	31,066			
P14	Nov-88	10,615	23,925	25,403			•
PI4	Dec-88	10,692	17,892	19,038	10,718	228,676	243,612
PI4	Feb-89	10,528	15,888	16,961			
PI5	Jan-88	11,944	29,823	31,934			and a fig.

Question 2
Supplemental Heat Rate and Generation Information

			40 4001	42.070			
P15	Feb-88	10,828	12,422	13,270	 		
P15	Mar-88	11,057	6,570	7,600			
P15	Apr-88	10,651	25,835	27,811			
PI5	May-88	10,689	37,439	40,013			
PI5	<u> </u>	10,411	43,076	45,910			
PI5	Jul-88	10,368	43,717	46,650	<u> </u>		
PI5	Aug-88	10,650	39,887	42,615			<u></u>
PI5	Sep-88	10,627	22,179	23,962		_ 	
PI5	Oct-88	10,686	48,456	51,479			
PI5	Nov-88	10,837	40,836	43,513		000.040	446 856
PI5	Dac-88	10,877	38,992	41,773	10,753	389,212	416,530
P(5	Feb-89	10,998	39,909	42,676			
Pi6	Jan-88	11,076	32,398	34,627			
P16	Feb-88	10,484	20,925	22,304			
PI6	Mar-88	10,570	22,298	23,929			
PI6	Apr-88	10,675	41,398	43,989			
PI6	May-88	10,664	39,512	41,992			
PIB	Jun-88	10,296	49,276	52,237	<u> </u>		
P16	Jul-88	10,197	41,562	44,285			
PI8	Aug-88	10,479	37,170	39,797			
Pi6	Sep-88	10,448	44,893	47,654			
PI6	Oct-88	10,738	43,204	45,875			
PI6	Nov-88	10,508	45,390	48,194			
PIS	Dec-88	10,427	40,385	42,969	10,534	458,211	487,863
PI6	Feb-89	10,277	7,101	7,860			
P17	Jan-88	12,004	44,537	48,379			
PI7	Feb-88	11,980	39,763	43,129			
PI7	Mar-88	12,211	45,796	49,748			
PI7	Apr-88	11,864	30,190	33,098			
PI7	May-88	11,680	27,144	29,807			
P 7	Jun-88	11,755	18,903	18,939			
P17	Jul-88	11,995	42,004	45,780			
P17	Aug-88	11,981	48,670	52,964			
P 7	Sep-88	11,502	46,246	50,405			
PI7	Oct-88	11,524	51,860	56.151			
PI7	Nov-88	12,156	38,995	42,284			
P 7	Dec-88	12,150	46,124	49,966	11,909	478,232	520,650
P17	Feb-89	11,758	53,878	58,094			
PI8	Jan-88	11,444	47,577	51,729			
PI8	Feb-88	11,464	39,201	42,577			
PI8	Mar-88	11,714	33,968	37,337			
P18	Apr-88	11,450	11,770	13,399			
PI8	May-88	11,405	41,476	45,298	1		
PI8	Jun-88	11,408	44,550	48,485	i		
Pl8	Jul-88	11,920	46,857	51,042			
PI8	Aug-88	11,605	52,916	57,452	:		
P18	Sep-88	11,558	51,513	56,101	: .		
PI8	Oct-88	11,501	58,244	62,715			
P18	Nov-88	11,798	39,218	42,611		·	
PI8	Dec-88	11.818	39,704	43,201	11,593;	506,984	551,947
P18	Feb-89	11,894	49.046	53,226			
PI9	Jan-88	11,682	38,165	41,834			
PI9	Feb-88	11,744	39,278	42,720			
PIS	Mar-88	11,690	54,352	58,773			
PI9	; 17101 00;	1 (,000)	J4,JUC	QQ,110;		a de la companya de	1

Question 2
Supplemental Heat Rate and Generation information

PIS	May-88	11,164	43,425	47,302	-		
P19	Jun-88	11,096	50,214	54,403			
Pi9	Jul-88	11,503	51,355	55,782			
PI9	Aug-88	11,609	46,046	50,256			
P19	Sep-88	11,568	46,464	50,596			·
PI9	Oct-88	0	0	0			
P19	Nov-88	11,926	30,037	33,082			
PI9	Dec-88	11,807	50,702	54,918	11,573	484,842	527,299
PI9	Feb-89	12,052	42,879	46,862	11,070	404,042	- J21,200
PP1	Jan-86	0	0	0			
PP1	Feb-86	12,357	141,092	160.000			
PP1	Mar-86	12,067	220,809	244,500			
PP1	Apr-86	11,494	261,431	287,500			
PP1	May-86	11,559	211,321	234,500			
PP1	Jun-86	11,224	257,214	281,500			
PP1	Jul-86	11,503	241,784	265,000			
PP1	Aug-86	11,694	210,784	233,500			
PP1	Sep-86	11,485	260,854	285,000			-
PP1	Oct-86	11,208	339,564	368,500			
PP1	Nov-86	11,142	293,945	319,500			
PP1	Dec-88	11,750	178.542		44 502	2,617,440	2 077 000
PP1	Jan-87		263,676	197,500	11,522	2,017,440	2,877,000
PP1	Feb-87	11,374	263,676	288,500			
PP1	Mar-87	11,902	123,480	139,000			
PP1	Apr-87	11,112	328,091	355,000			- :
PP1	May-87	11,112	334,415	361,500			
PP1	Jun-87	11,378	291,218	320,000			
PP1	Jul-87	11,283	329,607	356,500			
PP1	Aug-87	11,392	325,040	352.000			
PP1	Sep-87	11,470	142,076	156,500			
PP1	Oct-87	11,046	368,992	397,500			· · · · · · · · · · · · · · · · · · ·
PP1	Nov-87			372,000			
PP1	Dec-87	11,041 11,275	344,866 318,828	346,000	11,260	3,170,289	3,444,500
PP1	Jan-88	11,321	343,468	371,500	11,200	3,170,200	3,444,500
PP1	. Feb-88	11,583	308,649	346,000			
PP1	Mar-88	11,332	123,508	136,000			
PP1	Apr-88	11,190	340,622	367,500		-	
PP1	May-88	10,929	370,353	398,500			
PP1	Jun-88	12,011	332,989	385,500			
PP1	Jul-88	10,460	336,887	335,000		-	
PP1	Aug-88	11,161	307,904	331,000			
PP1	Sep-88	11,242	170,308	185,000			
PP1	Oct-88	11,586	163,740	181,500			
PP1	Nov-88	11,174	294,688	317,500			
PP1	Dec-88	11,199	347,833	373,000	11,242	3,440,949	3,728,000
PP2	Jan-86	11,491	250,494	274,995	11,272	01-10,040	C,1 £0,000
PP2	Feb-86	11,688	174,400	192,213			
PP2	Mar-86	13,416	34,348	41,391			
PP2	Apr-86	11,277	271,175	295,974			
PP2	May-88	11,264	228,409	251,181			· · · · · · · · · · · · · · · · · · ·
PP2	Jun-88	11,255	233,348	255,717			-
PP2	Jul-86		293,662	319,788			
PP2		11,344					
PP2	Aug-86 Sep-86	11,358	264,646	289,737 24,948			
PP2		14,791	18,311	363,447			
772	Oct-86	10,952	336,153	303,441			

Question 2
Supplemental Heat Rate and Generation information

PP2	Nov-86	10,936	352,043	378,756			
PP2	Dec-86	11,344	258,437	281,232	11,309	2,715,426	2,969,379
PP2	Jan-87	11,185	276,793	301,077			
P2	Feb-87	10,945	317,333	340,200			
PP2	Mar-87	11,235	223,972	243,243			
PP2	Apr-87	11,071	283,183	306,180			
PP2	May-87	11,139	328,748	354,375			•
PP2	Jun-87	10,873	329,878	350,973			
PP2	Jul-87	11,214	354,333	381,591			
PP2	Aug-87	11,178	339,467	365,715			
PP2	Sep-87	10,944	305,850	330,561			
PP2	Oct-87	11,113	359,078	386,894			
PP2	Nov-87	11,024	208,964	226,233	1		
PP2	Dec-87	11,289	277,261	301,077	11,099	3,604,860	3,887,919
PP2	Jan-88	11,200	316,386	341,334	71,000	0,00.1000	
PP2	Feb-88	10,743	332,825	345,870			
PP2	Mar-88	10,965	377,668	405,405			
PP2	Apr-86	11,122	367,365	394,632			
PP2	May-88	10,895	248,225	267,824			
PP2	Jun-88	10,114	265,889	259,686			
PP2	Jul-88	11,960	331,816	387,261	~	~ ~~	
PP2	Aug-88	11,046	372,526	403,137			
PP2	Sep-88	11,157	331,181	358,344			
PP2	Oct-88	10,979	380,050	407,106			
PP2	Nov-88	10,962	224,154	242,109			
PP2	Dec-88	11,281	219,367	239,274	11,048	3,767,452	4,051,78
VP1	Jan-86	14,612	31,206	36,200	11,040	3,707,402	4,031,70
VP1	Feb-86	13,029	36,400	41,700	·		
VP1	Mar-86	14,216	34,618	39,600			
VP1	Арг-86	14,915	28,220	32,300			
VP1	May-86	13,992	31,705	36,400			
VP1	Jun-86	16,849	10.005	11,900			
VP1	Jul-86	16,347	25,292				
VP1	Aug-86	11,523		29,100			
VP1	Sep-86		20,917	24.000			
VP1	Oct-86	16,546 14,273	30,155	34,600			
VP1	Nov-88	13,481	30,289	35,100			
VP1	Dec-86	14,131	32,842	37,300 40,100	14,362	240 454	398,30
VP1	Jan-87		34,505		14,302	346,154	380,30
VP1	Feb-87	15,744	27,356 24,487	32,300			
VP1	Mar-87	15,103 14,173		28,900			
VP1	Apr-87		27,355	31,800			
VP1		14,794	16,066	19,000			
VP1	May-87 Jun-87	13,647	27,684	31,700			
VP1		15,704	14,874	17,100			
VP1	Jul-87	14,343	22,838	26,000			
VP1 VP1	Aug-87	17,039	13,563	17,000			
VP1	Sep-87	14,846	24,013	2,830	_ _		
	Oct-87	14,776	24,157	29,200			
VP1	Nov-87	14,407	26,573	31,700			
VP1	Dec-87	15,317	23,270	28,100	14,872	272,236	295,63
VP1	Jan-88	14,997	24,982	30,000			· · · · · · · · · · · · · · · · · · ·
VP1	Feb-88	15,635	19,681	23,900			
VP1	Mar-88	17,521	14,327	17,800			
VP1	Apr-88	17,854	8,104	10,200			
VP1	May-88	19,452	5,289	6,600			

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Question 2
Supplemental Heat Rate and Generation Information

VP1	Jun-88	12,696	32,500	36,700			
VP1	Jul-88	14,583	26,462	30,400			
VP1	Aug-88	13,113	24,922	28,000			
VP1	Sep-88	14,700	29,136	33,400			
VP1	Oct-88	12,527	34,791	29,900			
VP1	Nov-88	13,588	40,692	45,900			
VP1	Dec-88	13,315	27,673	32,200	14,179	288,639	324,800
VP1	Apr-89	0	0	800	- 1.57.7.2		02 1,000
VP2	Jan-86	13,867	37,683	43,600			
VP2	Feb-86	15,316	28,003	32,600			
VP2	Mar-86	15,380	30,025	34,800			
VP2	Apr-86	15,037	27,647	31,800			
VP2	May-86	14,681	27,998	31,800			
VP2	Jun-86	15,363	27,838	31,800			
VP2	Jul-86	12,714	27,971	31,600			
VP2	Aug-88	25,723	10,456	13,100			
VP2	Sep-86	10,831	13,397	15,200			
VP2	Oct-86	13,750	32,689	38,900			
VP2	Nov-86	15,965	30,845	35,900			
VP2	Dec-86	14,783	27,798	32,200	14,860	322,151	371,300
VP2	Jan-87	15,359	26,789	31,400			
VP2	Feb-87	15,977	23,130	27,200			
VP2	Mar-87	16,101	24,235	28,500			
VP2	Apr-87	15,499	19,640	23,000			
VP2	May-87	15,101	18,877	21,800			
VP2	Jun-87	13,516	35,171	39,700			
VP2	Jul-87	14,769	32,311	36,800			
VP2	Aug-87	16,982	15,799	18,900			
VP2	Sep-87	31,485	1,710	2,500		;	
VP2	Oct-87	0	0	0			
VP2	Nov-87	29,723	3,223	4,500			
VP2	Dec-87	16,398	22,020	25,900	15,667	222,905	260,200
VP2	Jan-88	15,703	26,705	31,600			
VP2	Feb-88	15,512	25,478	30,300			
VP2	Mar-88	14,201	26,133	30,600		•	
VP2	Apr-88	15,317	21,979	26,100		-	
VP2	May-88	15,583	25,529	29,800		•	
VP2	Jun-68	17,000	24,421	27,800			
VP2	Jul-88	13,994	22,582	25,400			
VP2	Aug-88	14,410	34,391	38,800			
VP2	Sep-88	0	0	0			
VP2	Oct-88	13,427	22,500	25,400			
VP2	Nov-88	13,776	37,345	41,900			
VP2	Dec-88	13,835	34,380	39,400	14,726	301,423	347,100
VP2	Apr-89	9,241	29,132	32,800			

WISCONSIN ELECTRIC POWER COMPANY

EPA 114 DATA REQUEST QUESTION NUMBER 3

Plant			Description				Total Expenditures
OCPP	5971		BOILER CIRC WATER PUMPS - #7/8 OCPP	Aug-79	Sep-82		653,005
	5497	2886	REPLACE DEMINERALIZER SYS/OCPP	Sep-78	Dec-80	2,014,599	2,014,599
	7353	9557	PULVERIZER SYSTEMS - OCPP #5&6	Mar-72	Aug-76	1,850,000	1,757,139
	7415	9557	PULVERIZER SYSTEM - OCPP #6	Mar-72	Sep-76	1,850,000	1,756,832
	8565	110	BOILER WATER SAMPL PIPE - 4 OCPP BOILERS	Aug-74	Sep-76	643,000	641,396
	8731		FDWTR HTRS 6A-B 7A-B#6	Feb-75	Feb-77	530,000	528,273
	8846	93	EQT/MODIFICATION-#7/8 BOILER	May-75	Mar-77	640,000	577,954
i	9867	2701	FURNACE SAFEGUARD SUPERVISORY SYS - OCPP	Sep-77	May-83	1,439,000	1,362,888
1	10082	841	NEW LP SHAFT - OCPP #7	Feb-80	Mar-81	1,162,000	1,188,707
Ĭ	10570	20488	65A/65B HEATER REPLACEMENT	Apr-81	Jan-82	281,500	256,619
İ	10594	23108	OCPP #5 REPLACING THE ECONOMIZER	May-81	Aug-82	1,680,000	1,657,260
i	10761	13402	STM AIR HTR REPLAC - OCPP #5	Oct-81	Ашр-82	870,200	857,852
i	11010		COMPUTER - OCPP #7	Jun-82	Mar-86	1,057,214	1,144,775
I	11024	20839	COMPUTER-OCPP #8	Jul-82	Aug-85	1,158,760	1,180,114
. €	11329	9060	PRECIP PLATE REPLAC/CONT UPGRAD - OCPP #6	Jun-83	Aug-84	2,977,000	2,903,689
OĦ	12274		FDWTR HTRS 56A/B OCPP	Oct-85	Oct-86	378,000	373,160
976	12308	20980	UNIT 5 PRECIPIT MODIFY - OCPP	Nov-85	Oct-86	3,677,810	3,624,417
급설	12312	21373	REHTR TUBING UNIT 7 - OCPP	Nav-85	Jan-87	997,865	1,074,141
en er	41500	1	OCPP #5 UPGRADE UNIT CONTROLS AND MONITOR SYS	Feb-86	Jun-89	6,048,048	6,284,446
WE Proprietary Confidential	41503		OCPP #5 REPLACE ID & FD FAN LIQUID RHEOSTATS	Feb-86	Jun-89	2,545,360	2,409,237
80	41507		OCPP #5 REPLACE ID FANS	Feb-86	Jun-89	2,426,457	1,650,495
	41510		OCPP #5 CONVERSION TO DIRECT FIRE	Feb-86	Jun-89	9,859,110	10,908,423
1	41560		OCPP# 5 REPLACE BOILER CONVECTION HRA	Feb-86	Jun-69	2,186,345	3,260,243
i	41561		OCPP #5 REPLACE BOILER PENTHOUSE TUBING & STRUC	Feb-86	Jun-89	1,584,021	2,778,603
İ	41563		OCPP #5 REPLACE FRNT WTRWALL UP TO INTERMED HOR	Feb-86	Jun-89	2,197,922	2,438,537
ĺ	41600		OCPP #6 UPGRADE UNIT CONTROLS AND MONITOR SYS	Feb-86	Jun-89	8,283,269	8,276,297
ĺ	41603		OCPP #6 REPLACE FD & ID FAN LIQUID RHEOSTATS	Feb-86	Jun-89	2,526,157	2,457,264
i	41610		OCPP #6 CONVERSION TO DIRECT FIRE	Feb-86	Jun-89	10,337,642	12,874,670
۱. ـ	41611		OCPP #6 REPLACE STEAM AIR PREHEATER	Feb-86	Jul-88	923,823	1,066,467
	41660		OCPP #6 REPLACE BOILER CONVECTION HRA	Feb-88	Jun-89	2,229,030	3,941,664
7	41661		OCPP #6 REPLACE BOILER PENTHOUSE TUBING & STRUC	Feb-88	Jun-89	1,615,652	2,977,716
8	41663		OCPP #8 REPLACE BOILER WTRWALL UP TO INTERM HDR	Feb-86	Jun-89	1,830,641	2,472,353
WEPCO 30001	41665		OCPP #6 REPLACE BOILER REHEATER	Feb-86	Jun-89	1,506,588	2,331,786
l š	41666	i	OCPP #6 REPLACE BOILER SUPERHEATER PENDANTS	Feb-86	Jun-89	813,000	1,092,201
=	41700		OCPP #7 UPGRADE UNIT CONTROLS	Feb-86	Jun-89	5,135,071	3,616,674
Į.	41702	<u> </u>	OCPP #7 UPGRADE PRECIPITATOR	Feb-86	Jun-89	27,748,090	24,071,098
1	41800		OCPP #8 UPGRADE COMBUSTION CONTROLS	Feb-86	Jun-89	4,760,538	5,112,447
İ	41802		OCPP #8 UPGRADE PRECIPITATOR	Feb-86	Jun-89	29,604,280	29,540,536
ţ	41920		OCPP - ADD ONE CONDENSATE POLISHER	Feb-86	Jun-89		1,973,938

Plant	W/O or VO	Project	Description				Total Expenditures
riani	41921		OCPP - UPGRADE MONO & TRISOD PHOSPHATE FEED SYS	Feb- 8 6	Jun-89	558,272	533,881
	41990		OCPP #5-8 ADD GENERATOR CIRCUIT BREAKERS	Feb-86	Jun-89	1,950,864	2,567,221
	12520	21361	ASKAREL-FILLED TRSF REPLAC - OCPP	Apr-86	Jun-89	644,938	644,938
1	12870	21554	CHEM FEED/BOILER WTR SYS - OCPP #5	Sep-86	Nov-87	314,000	307,511
1	12672	21552	CHEM FEED/BOILER WTR SYS - OCPP #7	Sep-86	Jan-88	244,000	259,666
	12755	21318	FDWTR HTRS 57A/B - OCPP # 5	Nov-86	Jul-87	326,624	329,410
	13009		86 FDWTR HTR - OCPP #8	Jun-87	Apr-88	243,000	265,134
1	13013	21430	FDWTR HTR - OCPP #8	Jun-87	Apr-88	303,000	322,654
	13126	21210	UNITRAIN COAL SAMPLER - OCPP	Sep-87	Nov-88	564,000	527,566
	13225	21429	REPLAC FOWTR HTR 7 - OCPP	Nov-87	Dec-88	344,153	342,463
1	13705	34017	STM AIR PREHTR TUBING - OCPP#7	Aug-88	Dec-88	449,500	412,320
	13888	21515	UPGRAD TURB HYDRAULIC GOVN SYS - OCPP #5	Nov-88	Feb-91	788,877	838,973
	13889	21592	UPGRAD TURB HYDRAULIC GOVN SYS - OCPP #6	Nov-88	Mar-90	799,090	991,321
· l	13929	21405	OCPP #5 FLUE GAS CONDITIONING EQUIP	Dec-88	Jun-91	899,671	1,057,326
1	13930	21406	OCPP #6 FLUE GAS CONDITIONING EQUIP	Dec-88	Jul-90	1,600,766	1,682,115
	14266	40368	GAS IGNITION/WARMUP-OCPP #7&8	Jul-89	Dec-91	305,979	354,487
\$	14325	3400	OCPP #5-8 TURBINE OIL FIRE PRTCTN	Aug-89	Nov-90	479,977	556,073
₩	14334	34020	OCPP #5-8 PROCPPESS STEAM HEADER	Aug-89	Dec-89	2,396,773	2,565,594
Proprietary Confidential	14799	2161	SPARE GENERATOR STEP-UP TRF-OCPP #5-8	May-9D	May-90	2,076,744	2,105,048
5. P	14836	4052	REPL HPHSW LINE	May-90	Dec-90	277,422	283,725
rle	15182	3397	REPL ECONOMIZER OCPP #7	Dao-90		3,020,782	2,990,387
E 5	15281	3407	2ND FLY ASH SILO - OCPP #7 & 8	Feb-91	Dec-92	3,201,650	3,153,333
1 = - 3	15408	4069	B INST DEMIN WASTE NEUTRALIZING TANK-OCPP	May-91	Feb-92	249,791	287,870
820	15577	8990	REPL ECONOMIZER - OCPP#8	Sep-91	Jul-95	2,032,256	1,883,202
	15578	8990	REPL REHEAT TUBING - OCPP#8	Sep-91	Sep-95	652,062	650,069
}	15636		3 ZEBRA MUSSEL CHEMICAL CNTL SYS-OCPP	Oct-91	May-92	519,944	642,568
Ì	15689	4068	8 INSTALL CEM'S OCPP #5-8	Dec-91	Jun-93	1,158,529	1,257,771
[1569;		5 INSTALL LOW NOX BURNERS-OCPP # 7	Dec-91	May-92	3,735,370	3,759,721
•	1606		5 INST LOW NOX BURNERS-OCPPPP #8	Mar-93	Apr-95	4,849,012	4,589,886
1 -	1609		1 REPL 56A FEEDWATER HEATER-OCPP #5	Jan-95	Dec-95	245,000	290,083
· \ £	1611	4 4446	2 REPAIRS TO CAR DUMPER-OCPP YARD	Jun-93	Jul-93	800,635	802,748
	1632	1 8990	O DUCTING REPLACEMENT OCPP #5	Aug-95	Dec-95	630,337	650,917
WEPCO	1635	1 8990	0 REPLACE DUCT FROM AIRHTR TO PRECIP - OCPP #8	Jan-96	Apr-96	671,671	693,947
0	AC100063		OCPP Y BREAKWALL	Dec-97	Dec-99	3,500,000	2,997,572
30002	AC100090		OCPP #8 HIGH EFF EXHAUSTERS	Sep-96	Mar-99	390,000	411,788
2	AC100090		OCPP #7 HIGH EFF EXHAUSTERS	Sep-96	Jan-00	300,000	324,684
	AC100090		OCPP #5 SOOTBLOWERS	Feb-98	Oct-98	633,800	646,509
Į	AC100090		OCPP #6 SOOTBLOWERS	Oct-98		600,000	488,113
	AC100090	8	OCPP #8 SOOTBLOWERS	Jul-98	Mar-99	690,000	676,617

AC1000910 OCPP WET FLY ASH UNLOADERS May-98 Nov-98 292,500 AC1001083 OCPP #8 NEW WATER LANCES Oct-98 Jun-99 487,000 AC1001146 OCPP #7 NEW WATER LANCES Jul-99 Jun-00 487,000 AC1001146 OCPP #7 MILL MOTORS Sep-98 Jan-00 550,000 AC1001147 OCPP #8 MILL MOTORS Sep-98 Mar-99 500,000 AC1001146 OCPP DUMPER FOAM DUST SUPPRESSION Jan-99 Jul-99 260,000 AC1001126 OCPP DUMPER FOAM DUST SUPPRESSION Jan-99 Jul-99 260,000 AC1001236 OCPP REPLACE 51,52,738.74 AIR COMPRESSORS Dec-98 May-99 375,000 AC1001253 OCPP #6 PRECIP UPGRADES Jul-99 Jun-00 480,000 AC1001254 OCPP #6 PRECIP UPGRADES Jul-99 Jun-00 480,000 AC1001255 OCPP #6 PRECIP UPGRADES Nov-99 UC 350,000 AC1001270 OCPP #6 INSTALL ADDITIONAL WATER LANCES Nov-99 UC 10,642,000 AC1001709 OCPP #8 INSTALL ADDITIONAL WATER LANCES Apr-00 UC 280,000 AC1001710 OCPP #8 DUCT BURNER REPLACEMENT Apr-00 UC 280,000 AC1001712 OCPP #8 SE ZUM LEBBUILD Mar-00 Jun-00 528,437 AC1001742 OCPP #8 ELOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001749 OCPP #8 AIR HEATER SOOTBLOWERS Nov-99 UC 10,642,000 AC1001749 OCPP #8 FAIR HEATER SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FAIR HEATER SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001749 OCPP #8 FUNNACE APERTURE SOOTBLOWERS NOV-99 UC 3,650,000 AC1001749 OC				In-Service Date		Description	Project		Plant
AC1001083	752,814	750,000			Mar-98			AC1000909	
AC1001084	290,748	292,500		Nov-98	May-98			AC1000910	1
AC1001146 OCPP #7 MILL MOTORS Sep-98 Jan-00 550,000 AC1001147 OCPP #8 MILL MOTORS Sep-98 Mar-99 500,000 AC1001160 OCPP DUMPER FOAM DUST SUPPRESSION Jan-99 260,000 AC1001236 OCPP REPLACE 51,52,73£74 AIR COMPRESSORS Dec-98 Feb-00 403,000 AC1001253 OCPP #5 PRECIP UPGRADES Jul-99 Jul-00 460,000 AC1001254 OCPP #5 PRECIP UPGRADES Dec-98 Mary-99 375,000 AC1001270 OCPP #6 AIR HEATER SOOTBLOWERS Dec-98 Mary-99 375,000 AC1001270 OCPP #6 AIR HEATER SOOTBLOWERS Nov-99 UC 350,000 AC1001659 OCPP #7 LOW NOX BURNER & OVER FIRED AIR Nov-99 UC 10,642,000 AC1001710 OCPP #8 DUCT BURNER REPLACEMENT APr-00 UC 280,000 AC1001717 OCPP #8 DUCT BURNER REPLACEMENT APr-00 UC 280,000 AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001742 OCPP #8 AIR HEATER SOOTBLOWERS APr-00 UC 280,000 AC1001744 OCPP #8 AIR HEATER SOOTBLOWERS APr-00 UC 280,000 AC1001745 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 900,000 AC1001742 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Doc-00 UC 1,037,000 AC1001783 OCPP #6 ECONOM	480,625	487,000				OCPP #8 NEW WATER LANCES		AC1001083	1
AC1001147 OCPP #8 MILL MOTORS Sep-98 Mar-99 500,000 AC1001160 OCPP DUMPER FOAM DUST SUPPRESSION Jan-99 JU-99 260,000 AC1001236 OCPP REPLACE 51,52,738,74 AIR COMPRESSORS Dec-98 Feb-00 403,000 AC1001253 OCPP #6 PRECIP UPGRADES Jul-99 Jun-00 480,000 AC1001253 OCPP #6 PRECIP UPGRADES Dec-98 May-99 375,000 AC1001270 OCPP #6 PRECIP UPGRADES Dec-98 May-99 375,000 AC1001270 OCPP #6 PRECIP UPGRADES Nov-99 UC 350,000 AC1001270 OCPP #6 PRECIP UPGRADES Nov-99 UC 10,642,000 AC1001700 OCPP #8 INSTALL ADDITIONAL WATER LANCES APR-00 UC 280,000 AC1001710 OCPP #8 INSTALL ADDITIONAL WATER LANCES APR-00 UC 280,000 AC1001717 OCPP #8 DUTE BURNER REPLACEMENT APR-00 UC 280,000 AC1001717 OCPP #8 JUN NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001744 OCPP #8 AIR HEATER SOOTBLOWERS APR-00 UC 240,000 AC1001749 OCPP #8 EVENACE APERTURE SOOTBLOWERS APR-00 UC 240,000 AC1001749 OCPP #8 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001749 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT NOV-99 UC 3,650,000 AC1001784 OCPP #8 ECONOMIZER REPLACEMENT NOV-99 UC 3,650,000 AC1001784 OCPP #8 ECONOMIZER REPLACEMENT NOV-99 UC 3,650,000 AC1001784 OC	394,419	487,000		Jun-00	Jul-99	OCPP #7 NEW WATER LANCES		AC1001084	ı
AC1001160 OCPP DUMPER FOAM DUST SUPPRESSION JBn-99 Jul-99 260,000 AC1001253 OCPP REPLACE 51,52,738,74 AIR COMPRESSORS Dec-98 Feb-00 403,000 AC1001253 OCPP REPLACE DUPGRADES Jul-99 Jun-00 480,000 AC1001254 OCPP REPLACE PUPGRADES Dec-98 May-99 375,000 AC1001270 OCPP RE AIR HEATER SOOTBLOWERS Nov-99 UC 3350,000 AC1001658 OCPP RE LOW NOX BURNER & OVER FIRED AIR Nov-99 UC 10,642,000 AC1001709 OCPP RE INSTALL ADDITIONAL WATER LANCES APR-00 UC 280,000 AC1001710 OCPP RE DUCT BURNER REPLACEMENT Apr-00 UC 280,000 AC1001717 OCPP RE 52 MILL REBUILD Mar-00 Jun-00 528,437 AC1001742 OCPP RE AIR HEATER SOOTBLOWERS APR-00 UC 240,000 AC1001742 OCPP RE AIR HEATER SOOTBLOWERS APR-00 UC 240,000 AC1001749 OCPP RE FURNACE APERTURE SOOTBLOWERS APR-00 UC 240,000 AC1001749 OCPP RE FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001762 OCPP RE FURNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001763 OCPP RE ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001836 OCPP RE GEONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001836 OCPP RE GEONOMIZER REPLACEMENT Nov-99 UC 1,037,000 AC1001836 OCPP RE GEONOMIZER REPLACEMENT Nov-99 UC 1,037,000 AC1001836 OCPP RE GEONOMIZER REPLACEMENT Dec-00 UC 1,830,000 AC1001836 OCPP RE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,830,000 AC1001836 OCPP RE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,830,000 AC1001836 OCPP RE COAL BELT SCALES Jul-95 Sep-96 605,000 AC1001836 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-98 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-98 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-99 Apr-99 Sep-99 100,000 AC100125 PARE SAFEGUARD SYS-PIPP #4 Jul-90 Apr-91 758,000 AC1001830 NOZZIE PLATES-PIPP S-8 & 3-8	444,198	550,000		Jan-00	Sep-98	OCPP #7 MILL MOTORS		AC1001146	
AC1001236 OCPP REPLACE 51,52,73&74 AIR COMPRESSORS Dec-98 Feb-00 403,000 AC1001253 OCPP #5 PRECIP UPGRADES Jul-99 Jul-00 480,000 AC1001270 OCPP #6 PRECIP UPGRADES Dec-98 May-99 375,000 AC1001270 OCPP #6 AIR HEATER SOOTBLOWERS Nov-99 UC 350,000 AC1001658 OCPP #7 LOW NOX BURNER & OVER FIRED AIR Nov-99 UC 290,000 AC1001710 OCPP #8 INSTALL ADDITIONAL WATER LANCES AP-00 UC 290,000 AC1001717 OCPP #8 DUCT BURNER REPLACEMENT Apr-00 UC 280,000 AC1001717 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001744 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001745 OCPP #8 FURNACE APERTURE SOOTBLOWERS AP-00 UC 240,000 AC1001749 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001780 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001781 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001782 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Dec-00 UC 1,037,000 AC1001780 OCPP #6 ECONOMIZER REPLACEMENT Dec-00 UC 1,037,000 AC1001781 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1002005 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,880,000 AFO00260 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00250 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-89 2,182,500 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-89 2,182,500 AFO00425 OCPP #5 HS GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Dec-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4	496,600	500,000		Mar-99	Sep-98			AC1001147	1
AC1001253 OCPP #5 PRECIP UPGRADES JUI-99 JUI-00 480,000 AC1001254 OCPP #6 PRECIP UPGRADES Dec-98 May-99 375,000 AC1001270 OCPP #6 AIX HEATER SOOTBLOWERS Nov-99 UC 350,000 AC1001658 OCPP #7 LOW NOX BURNER & OVER FIRED AIR Nov-99 UC 10,642,000 AC1001709 OCPP #6 INSTALL ADDITIONAL WATER LANCES Apr-00 UC 280,000 AC1001710 OCPP #8 INSTALL ADDITIONAL WATER LANCES Apr-00 UC 280,000 AC1001717 OCPP #8 52 MILL REBUILD Mar-00 JUR-00 528,437 AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001744 OCPP #8 AIX HEATER SOOTBLOWERS Apr-00 UC 240,000 AC1001749 OCPP #8 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001782 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001836 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC100205 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,037,000 AC100205 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,037,000 AC100205 OCPP PR COAL BLING IMPROVE -DUST. COLL Mar-97 Jan-98 2,032,866 AFO00425 OCPP BR OCAL BLING IMPROVE -DUST. COLL Mar-97 Jan-98 2,032,866 AFO00425 OCPP BR OCAL BLING IMPROVE -DUST. COLL Mar-97 Jan-98 2,032,866 AFO00425 OCPP BR OCAL BLING IMPROVE -DUST. COLL Mar-97 Jan-98 2,032,866 AFO00425 OCPP BR OCAL BLING IMPROVE -DUST. COLL Mar-97 Jan-98 2,032,866 AFO00425 OCPP BR OCAL BLING IMPROVE -DUST. COLL Mar-97 Jan-98 2,032,866 AFO00425 OCPP BR OCAL BLING IMPROVE -DUST. COLL Mar-97 Jan-98 2,032,866 AFO00425 OCPP BR OCAL BLING IMPROVE -DUST. COLL Mar-97 Jan-98 2,032,866 AFO00425 OCPP BR OCAL BLING IMPROVE -DUST. COLL JUI-91 Dec-94 284,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. JUI-98 Aug-89 486,028 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS JUI-98 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Dec-90 907,322 15549 34303 NOZZLE PLATES-PIPP 5-9 & 3-4 Sep-91 330,000	312,463			Jul-99	Jan-99			AC1001160	1
AC1001254 OCPP #6 PRECIP UPGRADES Dec-98 May-99 375,000 AC1001270 OCPP #6 AIR HEATER SOOTBLOWERS Nov-99 UC 350,000 AC1001658 OCPP #7 LOW NOX BURNER & OVER FIRED AIR Nov-99 UC 10,642,000 AC1001709 OCPP #8 INSTALL ADDITIONAL WATER LANCES APr-00 UC 290,000 AC1001710 OCPP #8 DUCT BURNER REPLACEMENT Apr-00 UC 290,000 AC1001717 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 240,000 AC1001717 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 240,000 AC1001744 OCPP #8 AIR HEATER SOOTBLOWERS Apr-00 UC 240,000 AC1001749 OCPP #6 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001749 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001836 OCPP #6 ECONOMIZER REPLACEMENT Dec-00 UC 1,037,000 AC1002005 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,890,000 AFD00040 OCPP THREE COAL BILT SCALES Jul-95 Sep-96 695,000 AFD00040 OCPP THREE COAL BILT SCALES Jul-95 Sep-96 695,000 AFD00045 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 Dec-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 15699 34303 NOZZLE PLATES - PIPP 5-9 & 3-44 Sep-91 Sep-91 330,000	451,987	403,000		Feb-00	Dec-98	OCPP REPLACE 51,52,73&74 AIR COMPRESSORS		AC1001236	
AC1001254 OCCP# #6 PRECIP UPGRADES Dec-98 May-99 375,000 AC1001270 OCCP #6 AIR HEATER SOOTBLOWERS Nov-99 UC 350,000 AC1001658 OCCP #7 LOW NOX BURNER & OVER FIRED AIR Nov-99 UC 10,642,000 AC1001709 OCCP #8 INSTALL ADDITIONAL WATER LANCES Apr-00 UC 290,000 AC1001710 OCCP #8 DUCT BURNER REPLACEMENT Apr-00 UC 280,000 AC1001717 OCCP #8 DUCT BURNER REPLACEMENT Mar-00 Jun-00 528,437 AC1001742 OCCP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001744 OCCP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 240,000 AC1001749 OCCP #8 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001780 OCCP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001781 OCCP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001782 OCCP #5 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCCP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC100186 OCCP #6 EC BAIL MILL REFURBISHMENT Oct-00 UC 1,037,000 AC1001806 OCCP #6 EC BAIL MILL REFURBISHMENT Dec-00 UC 1,890,000 AFO0045 OCCP #7 RE COAL BELT SCALES Jul-95 Sep-96 605,000 AFO00425 OCCP #7 RE COAL BELT SCALES Jul-95 Sep-96 605,000 AFO00425 OCCP #7 RE COAL BILNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCCP #7 RE COAL BILNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 Dec-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14593 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 15699 34303 NOZZLE PLATES- PIPP 5-9 & 3-44 Sep-91 Sep-91 Sep-91 330,000	392,229	460,000		Jun-00	Jul-99	OCPP #5 PRECIP UPGRADES		AC1001253	
AC1001656 OCPP #7 LOW NOX BURNER & OVER FIRED AIR Nov-99 UC 10,642,000 AC1001709 OCPP #8 INSTALL ADDITIONAL WATER LANCES Apr-00 UC 290,000 AC1001710 OCPP #8 DUCT BURNER REPLACEMENT Apr-00 UC 280,000 AC1001717 OCPP #5 52 MILL REBUILD MAIR-00 Jun-00 528,437 AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001744 OCPP #8 AIR HEATER SOOTBLOWERS Apr-00 UC 240,000 AC1001749 OCPP #6 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001749 OCPP #6 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT DOC-00 UC 1,037,000 AC100205 OCPP #6 ECONOMIZER REPLACEMENT DOC-00 UC 1,037,000 AC100205 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT DEC-00 UC 1,890,000 AF000140 OCPP THREE COAL BELT SCALES JUL-95 Sep-96 605,000 AF00025 OCPP P8 COAL BLNDG IMPROVE -DUST. COLL. Mair-97 Jan-98 2,032,896 AF00025 OCPP #5 HS GENERATOR REWIND NOV-97 Feb-99 2,182,500 T5492 REPLACE PCB TRANSFORMER JUL-91 DBC-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. JUL-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS JUL-89 Aug-89 486,028 14589 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Doc-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-44 Sep-91 Sep-91 Sep-91 Sep-91 330,000	382,828	375,000			Dec-98	OCPP #6 PRECIP UPGRADES			
AC1001710 OCPP #8 INSTALL ADDITIONAL WATER LANCES Apr-00 UC 290,000 AC1001710 OCPP #8 DUCT BURNER REPLACEMENT Apr-00 UC 280,000 AC1001717 OCPP #8 SZ MILL REBUILD Mar-00 Jun-00 528,437 AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001744 OCPP #8 AIR HEATER SOOTBLOWERS Apr-00 UC 240,000 AC1001749 OCPP #8 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001782 OCPP #8 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 3,650,000 AC1001783 OCPP #8 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 1,037,000 AC100186 OCPP #6 ECONOMIZER REPLACEMENT Doc-00 UC 1,037,000 AC100100 OCPP #6 ECONOMIZER REPLACEMENT Dec-00 UC 1,890,000 AFO00140 OCPP THREE COAL BELT SCALES Jul-95 Sep-96 605,000 AFO00425 OCPP BO COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 Dac-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 Dac-90 907,322		350,000		nc.	Nov-99	OCPP #6 AIR HEATER SOOTBLOWERS		AC1001270	
AC1001710 OCPP #8 DUCT BURNER REPLACEMENT Apr-00 UC 280,000 AC1001717 OCPP #5 52 MILL REBUILD Mar-00 Jun-00 528,437 AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001742 OCPP #8 AIR HEATER SOOTBLOWERS Apr-00 UC 240,000 AC1001749 OCPP #6 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001762 OCPP #5 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001763 OCPP #6 62 BALL MEL REFURBISHMENT Nov-99 UC 3,650,000 AC1001763 OCPP #6 62 BALL MEL REFURBISHMENT Oct-00 UC 1,037,000 AC1001836 OCPP #6 62 BALL MEL REFURBISHMENT Dec-00 UC 1,890,000 AC1001005 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,890,000 AF000140 OCPP THREE COAL BELT SCALES Jul-95 Sep-96 605,000 AF000260 OCPP PRB COAL BLNG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AF000125 OCPP #5 HS GENERATOR REWIND NOV-97 Feb-99 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 Dec-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-98 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-98 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 Dec-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4		,642,000		UC	Nov-99	OCPP #7 LOW NOX BURNER & OVER FIRED AIR		AC1001658	1
AC1001717 OCPP #5 52 MILL REBUILD Mar-00 Jun-00 528,437 AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001744 OCPP #8 AIR HEATER SOOTBLOWERS Apr-00 UC 240,000 AC1001744 OCPP #6 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001749 OCPP #6 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001782 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 GZ BALL MEL REFURBISHMENT OCI-00 UC 1,037,000 AC1002005 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,890,000 AF000140 OCPP THREE COAL BELT SCALES Jul-95 Sep-96 605,000 AF00025 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 AF00025 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 T5492 REPLACE PCB TRANSFORMER Jul-91 Dec-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 466,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 15690 40690 INSTALL CEMS PIPP UNITS 1-9 Dec-91 Sep-91 Sep-91 330,000 15690 40690 INSTALL CEMS PIPP UNITS 1-9 Dec-91 Oct-94 1,652,602 15824 40710 PIPP #7 BURNER MGMT SYS UPGRADE Apr-92 Dec-96 319,673		290,000			Apr-00	OCPP #8 INSTALL ADDITIONAL WATER LANCES		AC1001709	1
AC1001742 OCPP #8 LOW NOX BURNER AND OVER FIRED AIR Nov-99 UC 10,642,000 AC1001744 OCPP #6 AIR HEATER SOOTBLOWERS Apr-00 UC 240,000 AC1001749 OCPP #6 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001782 OCPP #5 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001836 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 1,037,000 AC1001836 OCPP #6 ECONOMIZER REPLACEMENT Dec-00 UC 1,037,000 AC1002005 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,890,000 AFO0040 OCPP THREE COAL BELT SCALES JL4-95 Sep-96 605,000 AFO00425 OCPP PRB COAL BUNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-89 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 Dec-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #4 Sep-91 Sep-91 330,000				UC	Apr-00	OCPP #8 DUCT BURNER REPLACEMENT	·	AC1001710	
AC1001744 OCPP #8 AIR HEATER SOOTBLOWERS APF-00 UC 240,000 AC1001749 OCPP #5 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001762 OCPP #5 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 62 BALL MILL REFURBISHMENT OCL-00 UC 1,037,000 AC1001836 OCPP #6 62 BALL MILL REFURBISHMENT Dec-00 UC 1,037,000 AC1002005 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,890,000 AFO00140 OCPP THREE COAL BELT SCALES Jul-95 Sep-96 605,000 AFO00250 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND NOV-97 Feb-89 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 Dec-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #4 Sep-91 Sep-91 Sep-91 330,000	526,507							AC1001717	1
AC1001749 OCPP #6 FURNACE APERTURE SOOTBLOWERS Nov-99 UC 900,000 AC1001782 OCPP #5 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 62 BALL MILL REFURBISHMENT Oct-00 UC 1,037,000 AC1001836 OCPP #6 62 BALL MILL REFURBISHMENT Oct-00 UC 1,037,000 AC1002005 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,890,000 AFO00140 OCPP THREE COAL BELT SCALES JUL-95 Sep-96 605,000 AFO00260 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND NOV-97 Feb-89 2,182,500 15492 REPLACE PCB TRANSFORMER JUL-91 Dec-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. JUL-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS JUL-89 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #4 Sep-91 Sep-91 Sep-91 330,000		<u> </u>						AC1001742	
AC1001782 OCPP #5 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001783 OCPP #6 ECONOMIZER REPLACEMENT Nov-99 UC 3,650,000 AC1001836 OCPP #6 62 BALL MILL REFURBISHMENT Oct-00 UC 1,037,000 AC1002005 OCPP HOUSE SERVICE WATER PIPING REPLACEMENT Dec-00 UC 1,890,000 AC1002005 OCPP HREE COAL BELT SCALES JUL-95 Sep-96 605,000 AFO00140 OCPP THREE COAL BILT SCALES JUL-95 Sep-96 605,000 AFO00260 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 Dec-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-82 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 Dec-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4								AC1001744	₹ '
AFO00140 OCPP THREE COAL BELT SCALES Jul-95 Sep-96 605,000 AFO00260 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 DBc-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 496,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 DBc-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000									O E
AFO00140 OCPP THREE COAL BELT SCALES Jul-95 Sep-96 605,000 AFO00260 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 DBc-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 496,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 DBc-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000									Pr
AFO00140 OCPP THREE COAL BELT SCALES Jul-95 Sep-96 605,000 AFO00260 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 DBc-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 DBc-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000		1,650,000			Nov-99	L		AC1001783	55
AFO00140 OCPP THREE COAL BELT SCALES Jul-95 Sep-96 605,000 AFO00260 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 DBc-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 496,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 DBc-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000		,037,000			Oct-00			AC1001B36	음 <u>구</u>
AFO00140 OCPP THREE COAL BELT SCALES Jul-95 Sep-96 605,000 AFO00260 OCPP PRB COAL BLNDG IMPROVE -DUST. COLL. Mar-97 Jan-98 2,032,896 AFO00425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-99 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 DBc-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 DBc-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000		,890,000					L		
AF-000425 OCPP PRB COAL BLINDS IMP-ROVE -DUST - COLL. Main-97 Jan-98 2,032,896 AF-000425 OCPP #5 HS GENERATOR REWIND Nov-97 Feb-89 2,182,500 15492 REPLACE PCB TRANSFORMER Jul-91 Dec-94 264,979 13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT. Jul-88 Apr-92 629,961 PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 496,028 14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 Dec-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000	425,108	605,000		Sep-96	Jul-95				—·-
15492 REPLACE PCB TRANSFORMER Jul-91 Dec-84 264,979 13666 DIST, CONTROL SYSTEM - COMMON PLT, EQT. Jul-88 Apr-92 629,961	2,018,497	4,032,896		Jan-98	Mar-97				No.
13666 DIST. CONTROL SYSTEM - COMMON PLT. EQT.	2,198,966	,182,500		Feb-99	Nov-97	OCPP #5 HS GENERATOR REWIND		AF000425	
PIPP 14283 34348 PIPP #4 SPARE GENERATOR STATOR COILS Jul-89 Aug-89 486,028 14589 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 DBc-90 907,322 15549 34303 NOZZLÉ PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000	261,057	264,979		Dec-94	Jul-91	REPLACE PCB TRANSFORMER		15492	1
14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP # 4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 Dsc-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000	740,496	629,961		Apr-92	Jul-88	DIST. CONTROL SYSTEM - COMMON PLT. EQT.		13666	L
14599 34274 BOILER FLAME SAFEGUARD SYS-PIPP # 4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 Dsc-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000									
14589 34274 BOILER FLAME SAFEGUARD SYS-PIPP #4 Jan-90 Apr-91 758,000 14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 Dec-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000	479,315	486,028		Aug-89	Jul-89	PIPP #4 SPARE GENERATOR STATOR COILS	34348	14283	PIPP
14604 3427 BOILER FLAME SAFEGUARD SYS-PIPP #3 Jan-90 Dec-90 907,322 15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000	818,028				Jan-90	BOILER FLAME SAFEGUARD SYS-PIPP #4	34274	14599	ı
15549 34303 NOZZLE PLATES- PIPP 5-9 & 3-4 Sep-91 Sep-91 330,000	915,589				Jan-90	BOILER FLAME SAFEGUARD SYS-PIPP #3	342	14604	
	334,188			Seo-91	Sep-91	NOZZLE PLATES- PIPP 5-9 & 3-4	3430	15549	
15824 40710 PIPP #7 BURNER MGMT SYS UPGRADE Apr-92 Dec-96 319,673 15825 40711 PIPP #8 BURNER MGMT SYS UPGRADE Apr-92 Oct-93 302,876	2,020,536					INSTALL CEN'S PIPP UNITS 1-9	40690	15690	Ę
15825 40711 PIPP #8 BURNER MGMT SYS UPGRADE Apr-92 0:4-93 302.876	337,434					PIPP #7 BURNER MGMT SYS UPGRADE	40710	15824	។ ប
	328,112	302,876		Oct-93	Apr-92	\$		15825	2
15826 40712 PIPP #9 BURNER MGMT SYS UPGRADE Apr-92 May-93 508,000	470,319					<u> </u>	+		ر د
15826 40712 PIPP N9 BURNER MGMI SYS UPGRADE Apr-92 May-93 508,000 15990 34316 REHEAT SECT-UNIT 6 BOILER-PIPP Oct-92 Aug-93 300,000 16074 20173 REPLACE REHEAT SECTION - PIPP N5 May-93 Sep-94 350,000	296,672								Ŝ
16074 20173 REPLACE REHEAT SECTION - PIPP #5 Mar-83 Sep-94 350,000	256,422								يَّ م
16075 44913 REPL ECONOMIZER BOILER TUBES-PIPP #4 Mar-93 Jul-93 250,000	260,277						4		

Plant	W/O or I/O	Project	Description				Total Expenditures
	16214	20235	REPLACE HTSH WRAPPER TUBES - PIPP #5	Mar-94	Feb- 9 5	400,000	321,320
1	16215	20226	REPLACE HTSH WRAPPER TUBES - PIPP #8	Mar-94	Feb-95	400,000	330,292
	16241	44800	PIPP #7 CLASSIFIER	Jun-94	Mar-96	400,000	352,098
- (16297	44798	REPLACE CLASSIFIERS PIPP # 8	May-95	Aug-97	325,000	303,445
	16302		REPLACE CLASSIFIERS PIPP # 9	May-95	Jul-96	330,000	344,416
l l	AC1000386		PIPP #8 BOILER REHEATER REPLACEMENT	May-98	Sep-99	1,300,000	1,319,450
	AC1000582		PIPP #6 COAL STORAGE SILOS	Oct-99	Aug-00	1,600,000	1,609,396
1	AC10008B0		PIPP #5 COAL STORAGE SILOS	Feb-00	ПС	1,600,000	
I	AC1001049		PIPP #1 BOILER CONTROLS -	May-00	UC	200,000	
1 .	AC1001050		PIPP #2 BOILER CONTROLS	May-00	UC	300,000	
	AC1001143		PIPP #3 REPLACE WATERWALL	Jan-99	Apr-98	497,500	545,075
	AC1001349		PIPP #1 TURBINE OPENING/OVERHAUL	Feb-99	Apr-98	782,562	625,195
1	AC1001350	· · ·	PIPP #2 TURBINE OPENING/OVERHAUL	Feb-99	Aug-99	795,539	588,329
	AC1001374		PIPP #2 WATERWALL REPLACE & BLR CLEANING	Sep-00	May-99	482,000	459,378
₹	AC1001483		PIPP #3 LOW NOX BURNERS	Nov-99	UC	4,000,000	
WE Proprietary Confidential	AC1001536		PIPP #1-9 FUEL OIL TANK CONTAINMENT	Aug-00	nc	780,000	
97	AC1001484		PIPP #5 LOW NOX BURNER & OVER FIRED AIR	Nov-99	UC	6,500,000	
Proprietary Confidential	AC1001513		PIPP #3 TURBINE OPENING/OVERHAUL	Jun-99	Jun-99	1,609,200	1,666,652
ent	AC1001738		PIPP #6 LOW NOX BURNER AND OVER FIRED AIR	Nov-99	UC	3,975,000	
Ĉ.	AFO00284		PIPP #3 LTSH BOILER TUBE REPLACMENT	Mar-97	Aug-97	1,030,625	927,548
<u>β</u> ο	AFO00286		PIPP #6 AGGLOMERATOR - INSTALLATION	Jan-97	Jul-98	1,200,000	1,195,308
••	AFO00330		PIPP #4 LTSH BLR TUBE REPLACEMENT	Apr-98	Dec-98	1,000,000	1,091,572
	AFO00333		PIPP #1-4 FABRIC FILTER PROJECT	Jan-98	Jun-99	19,741,000	22,278,417
ı	AFO00363		PIPP #7 REHEAT TUBE REPLACEMENT	May-98	May-00	1,300,000	1,340,585
				1			
PPPP	10734		GUILLOTINE AIR DAMPERS - PPPP	Sep-81	Jan-83	300,000	334,425
ı	11262		ALT WATER SUPPLY - PPPP	Mar-83	Mar-84	655,000	696,239
1	11791	20062	BURNER MNGMNT SYS - PPPP #1	Aug-84	Feb-86	244,900	268,219
1	11860		GAS IGNITION CONV - PPPP	Oct-84	Jan-86	2,967,500	3,019,273
	12255	24568	DRUM SWELL BLOWDWN PPPP #1	Sep-85	Aug-86	283,500	324,671
	12635	24641	SOLIDS REMOVAL FACILITY - PPPP	Aug-86	Sep-89	2,484,021	2,963,811
₹	12922	24642	REPLAC MAKEUP WTR PIPELN - PPPP	Apr-87	Nov-88	3,907,174	4,183,237
WEPCO	13033	24694	COAL HANDL SYS FDRS - PPPP	Jun-87	Nov-88	625,500	911,777
Č	13446	24676	UPGRAD COAL HINDL HTG FAC - PPPP	Apr-88	Feb-89	986,000	1,137,764
U U	14289		PPPP UNIT 2 FD FAN MOTOR REPLMNT	Jul-89	Jul-91	621,000	655,858
30004	14503		PPPP AIR HTR WASHDOWN DRAIN LINE	Nov-89	Dec-90	350,000	326,666
2	14837	24768	REPL SECONDARY AIR PREHEATER TUBE PPPP # 1	Mary-90	Apr-91	283,793	282,343
	15139		PPPP YARD-UNITRAIN CAR DUMPER BARREL REPL	Nov-90	Oct-92	1,621,558	1,685,172
	15687	40684	INSTALL CEM'S PPPP UNITS 1 & 2	Dec-91	Nov-93	707,000	589,394

Plant	W/O or I/O	Project	Description	Approved Date	In-Service Date	Approved Amount	Total Expenditures
J	16139		PPPP GEN-REPLACE RAW WATER LINE	Aug-93	Jan-00	375,000	337,334
1	AC1000981		PPPP #1 UPGRADE HIGH PRESSURE TURBINE	Mar-98	Dec-98	5,285,000	5,524,076
1	AC1001035		PPPP #1 BOILER ECONOMIZER UPGRADE	Aug-98	Feb-99	593,168	447,787
	AC1001205		PPPP ASH REBURN	Jan-99	Nov-00	4,000,000	3,092,422
1	AC1001279		PPPP #1 REPAIR OF GENERATOR STATOR WINDING	Oct-98	Mar-99	1,700,000	1,704,021
ļ	AC1001396		PPPP #1 GENERATOR PARTIAL REWIND	Apr-99	Jun-00	1,629,500	1,676,946
1	AC1001397		PPPP #1 REPLACE HIGH TEMPERATURE SUPERHEATER	May-99	Jun-00	5,250,000	5,421,036
	AC100139B		PPPP #2 GEN GLOBAL EPOXY INJECTION	Apr-99	Jun-99	1,785,000	1,932,675
1	AC1001482		PPPP #2 SELECTIVE CATALYTIC REDUCTION PROJECT	Nov-99	UC	67,064,226	2,140,119
f ·	AFO00038		PPPP DCS COMPUTER UPGRADE	Sep-91	May-95	2,917,943	2,928,413
1	AFO00415		PPPP #1 AIR HEATER HOT SIDE SOOTBLOWERS	Sep-97	Dec-98	970,000	1,014,328
ł	AFO00416		PPPP #2 AIR HEATER HOT SIDE SOOTBLOWERS	Sep-97	Jun-98	970,000	970,387
	15406		VENTILATING BOILER AIR/GAS SYSTEM	May-91	Oct-93	964,774	1,202,866
							
PWPP	15952	21764	RESTORE PULVERIZED FUEL BIN-PWPP 3	Sep-92	Sep-92	393,600	355,538
•	16284	89900	GENERATOR REWIND PWPP #1	Feb-95	Jan-00	1,035,700	1,082,868
	AC1000562		PWPP INST NEW COAL CRSHR & MOD EXIST STRUCTURE	Mar-99	Sep-00	490,000	436,693
	AC1001019		PWPP #3 GENERATOR ROTOR REWIND	Jun-98	Jun-99	1,320,000	1,398,606
	AC1001149		PWPP #2 AUX. POWER TRANSFORMER REPLACEMENT	Sep-98	Dec-99	325,000	252,811
	AC1001418		PWPP #4 GENERATOR ROTOR REWIND	Feb-99	Jul-99	1,220,000	997,343
	AFO00261		PWPP # 3 REHEAT TUBES	Feb-98	Jun-00	690,000	689,543
•	AFO00262		PWPP # 2 REHEAT TUBES	Jan-98	May-99	690,000	850,930
	AFO00263		PWPP #1 REHEAT TUBES	Nov-97	96-Inc	775,000	947,697
•	AFC00264		PWPP #4 REHEAT TUBES	Feb-98	Mar-98	690,000	843,015
	AFO00319		PWPP #1 REPL SCR TUBES, FRNT WTRWALLS, PLATNS	Oct-98	Jan-00	1,732,000	1,697,194
	AFO00325		PWPP #2 REPL WATERWALL CIRCUIT PROJECTS	May-97	Nov-97	515,701	720,296
VAPP	5430	2326	BOILER 2 SECONDARY HEATER	Aug-78	Oct-78	447,000	359,515
	8438	106	CONVERT BOILERS 1 & 2 - VAPP (BALANCE DRAFT)	Apr-74	Jul-79	2,725,000	2,595,919
•	8439	107	CONVERT BOILERS 3 & 4 - VAPP (BALANCE DRAFT)	Apr-74	Nov-79	2,170,000	2,199,792
	9146		GENERATOR ROTOR - VAPP # 2	Mar-76	Jul-77	654,000	681,857
, :	9164	142	SECOND SUPERHTRISEC #4 BOILER	Mar-76	Aug-77	300,000	373,784
WEPCO 30005	11451	23946	REPAIR COAL SILOS VAPP #1	Oct-83	Feb-85	354,654	354,654
\	11452		REPAIR COAL SILOS VAPP #2	Oct-83	Feb-85	314,763	314,763
0	11463	13818	UPGRADE WATER SAMPL SYS - VAPP	Oct-83	Oct-84	365,000	371,271
30	11613	10083	S03 FLUE GAS CONDITION - VAPP	Mar-84	Jul-85	1,975,000	1,953,773
8	12374	23921	INSTALL 20 INCH TURB BYPASS VAPP	Jan-86	Oct-86	560,700	584,908
Ui	12409	23928	VAPP DEMINERALIZER CONT UPGRADE	Feb-86	Jan-87	397,000	379,872
	12808		PRIM SUPRHTR/ECON SURF-VAPP BLR 3	Jan-87	Dec-87	1,023,000	1,053,878

Plant			Description	Approved Date	In-Service Date	Approved Amount	Total Expenditures
	13449		ELEC ADJ SPEED DR - VAPP	B8-rqA	Dec-89	1,118,063	1,239,762
j	13453	23982	PRIM SUPRHTR/ECONOM SURF-VAPP BLR 4	Арг-88	Jvn-89	1,218,479	1,219,983
	14118	24085	VAPP ID FANS VAR SPEED DRIVES 1-2	Apr-89	May-91	1,873,541	2,098,574
	14653	23981	REPL ECONOMIZER/PRIM SUPHTR-BLR 2 VAPP #1	Mar-90	Jun-91	1,067,446	1,040,325
₩	15688	40687	INSTALL CEM'S VAPP	Dec-91	Feb-94	1,450,000	1,527,553
	15815	24082	VAPP #1-CONTROL & MONITORING SYS	Apr-92	Aug-94	3,146,736	2,989,790
3.0	15816	24083	VAPP #2-CONTROL & MONITORING SYS	Apr-92	Aug-95	2,566,352	2,398,299
Propri	15967	24164	REWIND GENERATOR 1 STATOR VAPP #1	Sep-92	Aug-94	820,000	816,861
Proprietary	16002	24291	REPLACE/UPGRADE PRECIPS BOILER 1-VAPP ₩1	Nov-92	Jul-94	363,000	5,182,842
ĘĘ	16003	89900	REPLACE/UPGRADE PRECIPS BOILER 2-VAPP #1	Nov-92	Jul-94	363,000	4,836,988
80	16004		REPLACE/UPGRADE PRECIPS BOILER 3-VAPP #2	Nov-92	Jul-95	4,600,682	5,103,385
	16005	13111	REPLACE/UPGRADE PRECIPS BOILER 4-VAPP #2	Nov-92	Jul-95	4,533,120	5,123,627
	16006	40769	INST LOW NOX BURNERS-BOILER 1-VAPP #1	Nov-92	Jul-95	1,427,535	1,326,598
Į.	16007		INST LOW NOX BURNERS-BOILER 2-VAPP #1	Nov-92	Jul-95	1,385,302	1,241,679
	16008		INST LOW NOX BURNERS-BOILER 3-VAPP #2	Nov-92	Jun-95	1,454,528	945,894
	16021	89900		Nov-92	Jul-95	1,454,528	923,825
5	16081		REPL BOILER #1 PRIM SUPHTR/ECONOMIZER V1	Apr-93	Jul-94	363,000	1,171,633
WEP!	16087		REPL CONTROLS-TURBINE 2 VAPP #2	Apr-93	Jun-95	296,000	382,859
PC0	16088		REPL CONTROLS-TURBINE 1 VAPP #1	Apr-93	Sep-94	296,000	360,833
	16124		VAPP - REPLACE UNIT 1 HEATER	Jul-93	Aug-94	314,313	314,252
30	16125	89900	VAPP - REPLACE UNIT 2 HEATER	Jul-93	Jul-95	363,000	301,628
30006	AC1001339		VAPP #2 REPLACE FEEDWATER HEATER	Apr-99	Nov-99	260,000	281,463
Č,	AC1001524		VAPP #1 EXCITATION SYSTEM	Aug-99	Sep-99	440,000	447,960
	AC1001657		VAPP #2 BLR 4 NEURAL NETWORK	Nov-99	Sep-00	400,000	166,695
	AFO00077		VAPP ASH SYS CONTROLS	Mar-96	Feb-97	300,000	291,927
	AFO00222		VAPP # 2 LOW NOX BURNERS BOILER 3	Oct-93	Sep-96	1,454,528	266,902
				<u> </u>			

^{*} Projects designated as "UC" are under construction. Total expeditures are not available for these projects.

Question - 13 Dates of Low-Nox Burner (LNB) Retrofits

Plant	Unit	Description	Date
OCPP	7	Install LNB	May-92
VAPP	1	Install LNB	May-94
VAPP	2	Install LNB	Jun-94
OCPP	8	Install LNB	Apr-95
VAPP	3	Install LNB	May-85
VAPP	. 4	Install LNB	Jun-95
PIPP	3	install LNB	May-01
VAPP	3	Install LNB	Oct-01
VAPP	4	Install LNB	Oct-01
OCPP	7	install LNB and OFA	Feb-02
VAPP	1	Instell LNB	Apr-02
VAPP .	2	Install LNB	Apr-02
PIPP	6	Install LNB	Jun-02
OCPP '	8	Install LNB and OFA	Feb-03
PIPP	5	Install LNB	Mar-03
PIPP	4	Install LNB	Oct-03

Plant	Unit	Description	Date
VAPP	3	Replace primary superheater/economizer	Oct-87
OCPP	6	Replace boiler reheater	Jul-88
OCPP	6	Replace boiler superheater front pendants	Jul-88
VAPP	4	Replace primary superheater/economizer	Jun-89
VAPP	2	Replace primary superheater/economizer	Jun-91
OCPP	7	Replace economizer	May-92
PIPP	6	Replace reheater section	Feb-93
PIPP	5	Replace reheater section	Feb-93
PIPP	4	Replace economizer tubes	Jun-93
VAPP	1	Replace primary superheater/economizer	May-94
PIPP	6	Replace high temp superheater tubes	Oct-94
PIPP	5	Replace high temp superheater tubes	Feb-95
OCPP	8	Replace economizer	Apr-95
OCPP	8	Replace reheater tubes	Apr-95
PIPP	3	Replace low temp superheater tubes	Jul-97
PIPP	4	Replace low temp superheater tubes	Nov-98
PIPP	8	Replace reheater tubes and supports	Feb-99
PIPP	7	Replace reheater tubes and supports	Feb-00
PPPP	1	Replace high temp superheater	May-00
OCPP	6	Replace economizer	Jun-01
OCPP	5	Replace economizer	Apr-02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 5

DATE: February 23, 2001

SUBJECT: Potential Major Modifications at Wisconsin Electric Power Company

Facilities

FROM: George Czerniak, Chief W. MacDowell for GTC

Air Enforcement and Compliance Assurance Branch

TO: Sandra Lee, Chief

Multimedia Branch II, Section 4 Office of Regional Counsel

Preliminary review of Wisconsin Electric Power Company's (WEPCO) response to an EPA Request for Information issued pursuant to section 114 of the Clean Air Act, indicates that WEPCO may have undertaken several major modifications without appropriate environmental review.

On December 7, 2000, U.S. EPA issued a Request for Information to WEPCO concerning modifications at several of their facilities located in Wisconsin and Michigan. On February 16, 2001, WEPCO submitted its response to that request. Preliminary review by my staff shows 16 potential major modifications at five WEPCO power plants. The documents submitted by WEPCO indicate that it spent more than \$95 million dollars on these 16 major projects. Attached is a spreadsheet summarizing these potential major modifications.

An additional section 114 request is being prepared to seek more detailed information from WEPCO to more clearly define potential PSD violations at the WEPCO facilities.

Attachment

cc: Cheryl Newton

EPA WEPCO000564

EXHIBIT 1

EPA5GEN018772

WEPCO-Potential Major Modifications

Preliminary Recovered Generation & Potential Emissions Increase Calculation

1		Cos	t	MWh Prev 2		NOx Emis Increase	SO2 Emis Increase
5	uncompleted improvements to Oak Creek #6 Replace economizer	\$3,650,000	\$3,650,000	15,649.20	15,649.20	22.41	144.48
6	May 1992 improvement to Oak Creek #7 (320 MW) Replace economizer	\$2,990,387	\$2,990,387	19,033.60	19,033.60	66 .29	170.04
7	Jul/ Sep 95 improvements to Oak Creek #8 (336 MW) Replace economizer Replace reheat tubing Total Cost	\$1,883,202 \$650,069	\$2,533,271	11,998.56 143,031.84	155,030.40	266.66	662.82
	Pasant Prairie Jun 2000 Improvement to Pleasant Prairie #2 (650 MW) Replace high temperature superheater	\$5,421,036	\$5,421,036	0.00			
	ort Washington Plant Jul 1998 Improvements to Port Washington #1 (85 MW) Reheat tubes	\$947,697	\$947,697	87,746.90	87,746.90	212.12	1,279.55
10	Jan 2000 improvement to Port Washington #1 Replace SCR tubes Replace front waterwalls Replace Platns	\$1,697,194	\$1,697,194	6,609.60	6,609.60	15.98	96.38
11	Reheat tubes	\$850,93Q	\$850,930	19,195.55	19,195.55	39.04	236.79
i '	EPA WEPCC				EPA5GE	N018774	

EPA5GEN018773

Preliminary Recovered Generation & Potential Emissions Increase Calculation

		Cost		MWh Prev 2 y		NOx Emis Increase (tons)	SO2 Emis Increase (tons)	
Oak	Creek Plant	•				•		
1	Aug 1982 Improvement to Oak Creek #5 (273 MW)							
	Replace Economizer	\$1,657,260	\$1,657,260	978,042.24	978,042.24	1,473:47	9,501.34	
2	Jun 1989 Improvements to Oak Creek #5							
	Upgrade unit controls & monitor systems	\$6,284,446	•	65,050.44				
	Replace ID and FD fans liquid rheostats	\$2,409,237		25,427.22				
	Replace ID Fans	\$1,650,495		31,272.15			•	
	Conversion to Direct Fire	\$10,908,423						
	Replace Boiler Convention HRA	\$3,260,243						
	Replace Boiler penthouse Tubing & Structure	\$2,778,603		96,595.59				
	Replace Front Water Wall up to Interm. header	\$2,438,537			040.045.40	315.90	2,038.88	
	Total		\$29,729,984		218,345.40	315.90	2,050.00	
3	uncompleted improvements to Oak Creek #5			•			316.75	
	Replace economizer	\$3,650,000	\$3,650,000	35,361.89	35,361.69	49.12	310.73	
4	Jun 1989 improvements to Oak Creek #6 (276 MW)							
•	Upgrade Unit Controls	\$8,276,297		2,622.00				
	replace FD & ID fan rheostat	\$2,457,264		23,793.96				
	Conversion to Direct Fire	\$12,874,670						
	Replace Steam Air preheater	\$1,066,467						
	Replace Bolier Convection HRA	\$3,941,664						
	Replace Boller Penthouse tubing & Structure	\$2,977,716						
150	Replace Boller Waterwall up to Intermed. Header	\$2,472,353		23,172.96				
eya	Replace Boiler Reheater	\$2,331,786		28,513.56				
15	Replace Boller Superheater Pendants	\$1,092,201		80,006.88		n 007.67	1,532.58	
_WEPC	Total Cost		\$37,490,418	3	158,109.3	6 237.67	1,002.00	
Š					•			

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WEPCO-Potential Major Modifications

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Preliminary Recovered Generation & Potential Emissions Increase Calculation

			Cost	•	MWh Prev 2 y		NOx Emis Increase	SO2 Emis Increase
5	uncompleted improvements to Oak Creek #6 Replace economizer	?	\$3,650,000	\$3,650,000	15,649.20	15,649.20	22.41	144.48
6	May 1992 improvement to Oak Creek #7 (320 M Replace economizer	IW)	\$2,990,387	\$2,990,387	19;033.60	19,033.60	66.29	170.04
7	Jul/ Sep 95 improvements to Oak Creek #8 (336 Replace economizer Replace reheat tubing Total Cost	S MW)	\$1,883,202 \$650,069	\$2,533,271	11,998.56 143,031.84	155,030.40	266,66	662.82
Ple 8	e asant Prairie Jun 2000 improvement to Pleasant Prairie #2 (6 Replace high temperature superheater	650 MW)	\$5,421,036	\$5,421,036	0,00			
Po 9	rt Washington Plant Jul 1998 Improvements to Port Washington #1 Reheat tubes	(85 MW)	\$947,697	\$947,697	87,746.90	87,746.90	212.12	1,279.55
10	Jan 2000 improvement to Port Washington #1 Replace SCR tubes Replace front waterwalls Replace Platns		\$1,697,194	\$1,697,194	6,609.60	6,609.60	15.98	96.38
1 EPA_1	May 1999 improvements to Port Washington # Reheat tubes	2 _. (85 MW)	\$850,93Q	\$850,930	19,195.55	19,195.55	39.04	236.79

EPA5GEN018774

Preliminary Recovered Generation & Potential Emissions Increase Calculation

	Co	st	MWh Prev 2		NOx Emis Increase	SO2 Emis Increase
12 Jun 2000 Improvements to Port Washington Reheat tubes	#3 (85MW) \$689,543	\$689,543	18,082,90	18,082.90	37.83	229.40
13 Mar 1998 improvements to Port Washington Reheat tubes	#4 (85 MW) \$843,015	\$843,015	67,497.20	67,497.20	139.68	689.08
Presque Isle Plant 14 Jun 1999 improvements to Presque Isle #7 (Reheat tube replacement	94 MW) \$1,340,585	\$1,340,585	63,499.60	63,499.60	184.10	226.29
Vailey Plant 15 Jun 1991 improvements to Valley #1 (151M)	V)					
Primary Superheater Economizer	\$1,040,325	\$1,040,325	0.00			
16 Dec 1987 improvements to Valley #2 (151 M Primary Superheater Economizer	1W) \$1,053,876	\$1,053,876	184.22	184.22	0.74	2.46
Grand Totals		\$95,585,521.00		1,842,203.64	3,060.27	17,124.37

DRAFT

	Cost	
	Project Cost	Total Cost
Qak Creek Plant	•	
1 Aug 1962 Improvement to Oak Creek #5 (273 MW)		
Replace Economizer	\$1,657,260	£4 667 000
	11,037,200	\$1,657,260
2 Jun 1989 Improvements to Oak Creek #5	•	
Upgrade unit controls & monitor systems	\$6,284,446	
Replace ID and FD fans liquid rheostats	\$2,409,237	
Replace ID Fans	\$1,650,495	
Conversion to Direct Fire	\$10,906,423	
Replace Boller Convention HRA	\$3,260,243	
Replace Boller penthouse Tubing & Structure	\$2,778,603	•
Replace Front Water Wall up to Interm. header	\$2,438,537	
Total	42,430,007	\$29,729,984
		4 29,729,904
3 uncompleted improvements to Oak Creek #5	•	
Replace economizer ·	\$3,650,000	\$3,650,000
4 Jun 1989 improvements to Oak Creek #6 (276 MW)	•	
Upgrade Unit Controls	\$8,276,297	
replace FD & ID fan rheostat	\$2,457,264	
Conversion to Direct Fire	\$12,874,670	
Replace Steam Air preheater	\$1,066,467	
Replace Bolier Convection HRA	\$3,941,664	
Replace Boller Penthouse tubing & Structure	\$2,977,716	
Replace Boller Waterwall up to Intermed. Header	\$2,472,353	
Replace Boller Reheater	\$2,331,786	
Replace Boiler Superheater Pendants	\$1,092,201	,
Total Cost	#1,U32,201	\$37,490,418
		407,100,710
5 uncompleted improvements to Oak Creek #8		
Replace economizer	\$3,650,000	\$3,650,000
6 May 1992 improvement to Oak Creek #7 (320 MW)		
Replace economizer	\$2,990,387	\$2,990,387
7 Jul/ Sep 95 improvements to Oak Creek #8 (336 MW)		
Replace economizer	\$1,883,202	
Replace reheat tubing	\$650,069	
Total Cost		\$2,533,271
leasant Prairie		
8 Jun 2000 Improvement to Pleasant Prairie #2 (650 MW)		
Replace high temperature superheater	\$5,421,036	\$5,421,036
· · · · · · · · · · · · · · · · · · ·	10,,21,000	241.011440

^{*}Note - This list is broader than the actual identified violations.

DRAFT

		Cost
	Project Cost	Total Cost
Port Washington Plant 9 Jul 1998 improvements to Port Washington #1 (85 MW) Reheat tubes	\$947,697	\$947,697
10 Jan 2000 improvement to Port Washington #1 Replace SCR tubes Replace front waterwalls Replace Platns	\$1, 697,194	\$1,697,194
11 May 1999 improvements to Port Washington #2 (85 MW) Reheat tubes	\$850,930	\$850,930
12 Jun 2000 improvements to Port Washington #3 (85MW) Reheat tubes	\$689,543	\$689,543
13 Mar 1998 improvements to Port Washington #4 (85 MW) Reheat tubes	\$843,015	\$843,015
Presque Isle Plant 4 Jun 1999 improvements to Presque Isle #7 (94 MW) Reheat tube replacement	. \$1,340,585	\$1,340,585
Valley Plant 15 Jun 1991 Improvements to Valley #1 (151MW) Primary Superheater Economizer	\$1,040,325	\$1,040,325
16 Dec 1987 improvements to Valley #2 (151 MW) Primary Superheater Economizer	\$1,053,876	
Grand Totals	41,000,070	\$1,053,876 \$95,585,521.00

te - This list is broader than the actual identified violations.

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WE ENERGIES BACT at Units w/ Capital Projects vs. Consent Decree

Emission Reduction Totals

Michigan Reductions

	NOx	SO2
BACT	1,285	1,488
Under the Consent Decree	5,551	5,369

Wisconsin Reductions

	NOx	SO2
BACT	18,858	51, 519
Under the Consent Decree	28,221	64,432

Total Michigan and Wisconsin Reductions

·	NOx	SO2
BACT	20,143	53,007
Under the Consent Decree	33,772	69,801

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Presque Isle, Michigan Potential violation at Unit 7.

Unit 7 Emissions

	NOx	SO2
Unit 7 - 2001 Emissions	1,538	1,741
BACT	253	253
Reductions in emissions from Unit 7	1,285	1,488

Plant-wide Emissions

·	NOx	SO2
Plant-wide 2001 Emissions	12,062	18,322.
Projected emissions under the Consent Decree	6,511	12,953
Reductions in emissions from Consent Decree	5,551	5,369

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Oak Creek, Wisconsin Potential violations at Units 5-8.

Units 5-8 (Plant-wide)

	NOx	SO2
Units 5-8 2001 Emissions	9,551	19,994
BACT	2,651	2,651
Reductions in emissions from Units 5-8	6,900	17,343

Overall Plant-wide Emissions

	NOx	SO2
Plant-wide 2001 Emissions	9,551	19,994
Projected emissions under the Consent Decree	1,507	1,507
Reductions in emissions from Consent Decree	8,044	18,487

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Pleasant Prairie, Wisconsin Potential violation at Unit 2

Unit 2

	NOx	SO2
Unit 2 - 2001 Emissions	10,678	16,081
BACT	1,898	1,898
Reductions in emissions from Unit 2	8,780	14,183

Overall Plant-wide Emissions

	NOx	SO2
Plant-wide 2001 Emissions	21,335	32,130
Projected emissions under the Consent Decree	3,793	3,793
Reductions in emissions from Consent Decree	17,542	28,337

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<u>Valley, Wisconsin</u> Potential violation at Units 1-2

Units 1-2

	NOx	SO2		
Units 1-2 2001 Emissions	1,850	7,538		
BACT	352	352		
Reductions in emissions from Units 1-2	1,498	7,186		

Overall Plant-wide Emissions

	NOx	SO2
Plant-wide 2001 Emissions	3,586	14,634
Projected emissions under the Consent Decree	3,197	10,399
Reductions in emissions from Consent Decree	389	4,235

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Port Washington, Wisconsin Potential violation at Units 1-4

Units 1-4 (Plant-wide)

	NOx	SO2
Units 1-4 2001 Emissions	2,246	13,373
BACT	566	566
Reductions in emissions from Units 1-2	1,680	12,807

Overall Plant-wide Emissions

	NOx	SO2
Plant-wide 2001 Emissions	2,246	13,373
Projected emissions under the Consent Decree	0	0
Reductions in emissions from Consent Decree	2,246	13,373

WR energies



231 W. Michigan Street Milwackee, WI 53203 www.we-energies.com

VIA ELECTRONIC FILING

October 21, 2005

Ms. Christy L. Zehner Secretary to the Commission Public Service Commission of Wisconsin Post Office Box 7854 Madison, WI 53707-7854

Dear Ms. Zehner:

Oak Creek Power Plant – Units 5 and 6 Main Steam Stop and Control Valve Replacement

Pursuant to § 196.49, Wis. Stats., and § PSC 112.05(1)(b), Wis. Adm. Code, Wisconsin Electric Power Company, d/b/a We Energies ("Wisconsin Electric" or "the Company"), makes application for authority to replace the high-pressure turbine main steam stop and control valves on Unit 5 (262 MW) and Unit 6 (265 MW) at the Oak Creek Power Plant located in the city of Oak Creek, Milwaukee County, Wisconsin.

Reason for the Project

The high-pressure turbine main steam stop and control valves on Units 5 and 6 at Oak Creek are original equipment that was installed in 1959 and 1961 respectively. The equipment has experienced maintenance problems and failures that have affected the availability and operation of the generating units. These failures are the result of a metallurgical process known as "creep" which affects a wide range of metals operated above 1050 degrees Fahrenheit.

The plant has experienced occurrences of the control valves becoming stuck, causing the units to be taken out of service or preventing them from returning to service in order to make repairs. The most serious of these incidents occurred in 2000 and 2003. In both cases the outages to repair the equipment were in excess of two weeks.

Additional major repairs that have required long outages have been related to cracks found in the stop valve bodies. The most extensive repair of this type occurred in 1997, and it required the unit to be out of service for twelve weeks. Since that time, other cracks have occurred and have required outages of two to three weeks to repair. Repairs to these valves are labor-intensive.

Ms. Christy L. Zehner October 21, 2005 Page 2

Because these valves have been previously repaired by grinding out the cracks, additional repairs in these areas may not be feasible. These failures are typical of those where creep is experienced on similar equipment of this vintage throughout the power generation industry. It should be noted that the effects of creep cannot be reversed on components of the size and geometry used at the Oak Creek Power Plant.

In the mid-1980s reliability and life assessment studies were performed on the units at Oak Creek. These failure mechanisms were identified during the study, and the original equipment manufacturer predicted that problems would appear in approximately fifteen years based on the large castings exhibiting creep due to prolonged service at 2400 psig and 1050 degrees Fahrenheit. The time at that temperature has caused irreversible material degradation and internal cracking.

The plant has experienced 1,674 hours of unit restrictions due to the failure of the steam stop and control valve equipment over the last five years. The estimated incremental fuel and purchased power cost during that time period related to these equipment failures has been approximately \$10 million, or \$2 million per year. The cost of similar failures in the future will be significantly increased due to the higher natural gas prices and related cost of purchased power. Using the 2005 around-the-clock average cost of replacement power as determined in the Midwest Independent System Operator (MISO) market of \$52 per megawatt hour (as compared to the variable cost of fuel at Oak Creek Units 5 and 6 of \$12 per megawatt hour), the estimated incremental fuel and purchased power cost using historical average experience of 335 hours of unit restrictions grows to \$3.5 million per year.

The risk of prolonged forced outages due to these valves increases with time. Therefore, it is reasonable to expect the average cost of forced outages to grow in the future. Further, there is a growing risk that the steam stop and control valve equipment will reach the point where additional failures will be unable to be repaired. Due to the 12-14 month lead time required to manufacture replacement equipment, the estimated incremental fuel and purchased power cost of a non-repairable failure would be between \$80 to \$90 million per unit using the current MISO pricing.

In summary, the combination of historical forced outages caused by failures of this equipment, results of engineering life-cycle studies, and the increased risk of future failures indicate we have exceeded the recommended replacement interval. The increased cost of these forced outages dictate the need to replace the main steam stop and control valves on these units as the most cost effective solution.

Project Schedule

Wisconsin Electric proposes to replace the main steam stop and control valves on both Units 5 and 6 at Oak Creek Power Plant. The Unit 6 valves will be replaced during the already scheduled eight week outage in March-May, 2007. The Unit 5 valves will be replaced during the

Ms. Christy L. Zehner October 21, 2005 Page 3

already scheduled seven week outage in January-February, 2008. Both of these outages are of sufficient duration to complete the steam stop and control valve equipment replacement.

Given the above schedule, the Company requests Commission authorization of this project no later than January, 2006.

Project Cost and Financing

Wisconsin Electric estimates the total project cost as \$14,960,500, detailed as follows:

Capital Cost		<u>Amount</u>
Equipment Installation Engineering		\$13,225,000 1,100,000 595,500
Removal Cost		40,000
	Total Gross Project Cost	<u>\$14,960,500</u>

The cost of the project will be met from internal sources and/or from the issuance and sale of securities.

Description of Alternatives

Wisconsin Electric reviewed the following two alternatives:

- Replace Unit 5 and 6 main steam stop and control valves This is the preferred alternative described in this application. The equipment would be identical in function and would require a minimum of redesign of ancillary equipment.
- Do nothing The consequences of not replacing the main steam stop and control valves are the continuance of forced outages causing significant unit restrictions and higher replacement power costs, and the increasing risk of non-repairable failure resulting in an extended unit outage (12-14 months).

Effect of the Project on Cost of Operation and Reliability of Service

Wisconsin Electric believes that the proposed project is the most advantageous means of discharging its obligation as a public utility. Replacing the main steam stop and control valves on the Oak Creek units will maintain the efficiency and reliability of these generating units. It will not provide facilities in excess of present and probable future requirements.

Ms. Christy L. Zehner October 21, 2005 Page 4

Entities Affected by the Project

No other entities are affected by the proposed project.

Environmental Screening Information

Replacements of plant equipment such as described in this application are categorized as Type III actions under § PSC 4.10(3), Wis. Adm. Code, which does not normally require an environmental screening or preparation of an environmental impact statement.

Flood Hazard Exposure/Impact

The location of the proposed facilities is not within a flood hazard area.

If you have any questions concerning this filing, please contact Mr. Paul Farron at (414) 221-3958.

Very truly yours,

Roman A. Draba

Vice President, Regulatory Affairs and Policy



we energies

231 W. Michigan Street Milwaukee, WI 53203 www.we-energies.com

January 11, 2006

Ms. Terri Kosobucki 610 N. Whitney Way Madison, WI 53705-2729

Application of Wisconsin Electric Power Company for Authority To Replace the High-Pressure Turbine Main Steam Stop and Control Valves on Units 5 and 6 at the Oak Creek Power Plant PSCW Docket No. 6630-CE-295

Dear Ms. Kosobucki:

Attached is Wisconsin Electric Power Company's (We Energies or the Company) response to your data request in this docket, dated December 2, 2005. The response is presented in question and answer format with attachments supporting individual responses. If you require additional information or explanation, please contact Mr. David Butschli at (414) 221-2550.

Sincerely,

Paul Farron

Manager - Regulatory Affairs & Policy

Construction Activities

Attachments

- Q1. How does this construction application relate to the decision to shut down or upgrade Oak Creek Units 5 and 6 as part of the Consent Decree agreed to with EPA?
- A. The Consent Decree requires that Oak Creek Units 5 and 6 be retired or have additional pollution control devices operational by December 31, 2012. The decision of whether to upgrade or retire the units is independent of the need to perform the valve replacements, because the consequences of not replacing these valves are the continuance of forced outages and the increasing risk of non-repairable failure resulting in an extended unit outage of 12 14 months.
- Q2. Have any reliability and life assessment studies been performed since the mid 1980s? If so, please provide further information on these studies.
- A. A Plant Availability Study was commissioned by Wisconsin Electric when Pleasant Prairie Unit 2 was nearing completion. The study, performed by the OEM, Allis-Chalmers, was intended to evaluate the condition/remaining life of the Company's older generating units. The results of the study were designed to provide the Company with a technical assessment of what major work would be required to continue operation of the units to assist in determining when additional new generation may be needed. Excerpts of the 1984 report on Oak Creek Units 5 and 6 are presented in Attachment A.

Additional testing of the subject equipment has been conducted since the problems were first identified in the plant availability study. Pertinent excerpts of these test reports are included as Attachments B through G. The attachments provide a chronology of the continuing testing and assessments of the metallurgy of this equipment. It must be noted that Attachments B, C, and D contemplate **only** the metallurgy of the valve body material. These reports **do not** contemplate the effects of creep on the ability of the equipment to perform its intended function.

Attachment A - 1984, Turbine Generator Component Analysis, was written by the OEM, Allis Chalmers, to summarize the initial assessment. This document presents a separate recommendation section for each major component: Main Stop Valves, Inlet Valves, Steam Chests, and Main Steam Strainer. The last paragraph of Main Stop Valves section E indicates that stop valve body replacements would be necessary by approximately 1992, but that additional study is recommended. Similarly, the last paragraphs of Steam Chests section E and Main Steam Strainer section E indicate replacement of the steam chests might be warranted in 2000, but also recommends additional testing.

Attachment B – 1989 Microstructure Examination of Steam Strainer, Stop Valves and Steam Chests Unit 6. Section 2.0, Recommendations, and Section 3.0, Introduction, describe the results of additional testing and confirm that degradation is occurring but that no serious flaws were found. Continued testing is recommended.

Attachment C - 1991 Material Sample Testing Oak Creek Units 5 & 6 Turbines.

Section 5.0, Creep Damage Calculation, provides detail concerning these calculations and, based on revised creep calculations, delays the time at which significant creep damage should occur until after 2020. Again, it must be noted that only the casting material is being discussed. The assessment does not contemplate the effects of creep on mating surfaces such as valve seats or on valve components of dissimilar metal. Additional information is provided on page 3 in sections 1.0, 2.0, and 3.0.

Attachment D - 1997 Metallurgical Analysis Left Side Stop Valve, Unit 6. Test samples were removed during crack repairs on this valve. The cracks were determined to be caused by internal flaws within the original body material. The repairs were extensive and were done during an already-scheduled long unit outage; however, the repairs did extend the outage by several weeks. These tests results corroborate the 1991 test results and indicate that significant material degradation due to creep should not become a major concern until after 2020.

Attachment E - 1998 Spring Unit 5 Outage Inspection Report. Various small cracks were repaired and a number of damaged valve stems were replaced.

Attachment F - 1999 Spring Unit 6 Outage Inspection Report.

Attachment G - 2001 Spring Unit 6 Outage Inspection Report.

Attachment H - Various Notifications. Since 2001, the Company has used its own trades people to perform the valve maintenance and repair. Their findings are not published in any formal manner. For that reason, we are providing excerpts from entries made in what might be referred to as an outage log. These entries are written by the people performing the work and are intended to provide the status of the repairs and maintenance for use by the next working shift and vary widely in detail and quality.

- Q3. Please provide a copy of any analysis and/or recommendation from the Original Equipment Manufacturer indicating that these valves require replacement.
- A. Please refer to Attachment A. As stated previously in this document, it must be noted that this report focuses on the condition of the valve material and does not attempt to predict how the ongoing creep will affect valve operation.
- Q4. Has Wisconsin Electric Power Company (WEPCO) replaced stop and/or control valves at any of its other units? If so, please elaborate.
- A. No. The older turbines in the fleet, such as the Port Washington and Oak Creek North Plant units, operated at lesser steam pressures and temperatures. The Port Washington units operated at 900 °F main steam temperature and therefore were not subject to creep. The Oak Creek North Plant units operated at 1000 °F. At this temperature, creep occurs at a much slower rate than it does at 1050 °F. These units were decommissioned prior to

the need for such replacements. Oak Creek Units 5 and 6 were the first units in the We Energies fleet to operate at the 2400 psig/1050 °F steam conditions.

- Q5. Who is the Original Equipment Manufacturer? Is this a manufacturer specific issue?
- A. Allis-Chalmers is the OEM. This is not a manufacturer-specific issue. High temperature creep damage is related to the physics of large, thick pieces of metal being subjected to high temperature and pressure steam conditions, and cycling between hot and cold conditions over time.
- Q6. Is WEPCO and/or the vendor aware of replacements at other units? Please provide a listing by type of valve (control or stop), vintage, steam conditions, and manufacturer.
- A. Allis-Chalmers provided one contact for a similar project they have recently completed, Unit 2 at the Brunner Island station of PP&L. This is a 400 MW Westinghouse unit that went into service in 1965 with 2400 psig/1000 F steam conditions. The scope of this project was essentially identical to the proposed scope for Oak Creek units 5 and 6.

The Brunner Island problems did not include large body cracks like those experienced at Oak Creek; however, the unit was plagued by problems associated with deformation of the equipment due to creep: broken and leaking seals, bent and broken valve stems, bound-up valves, etc.

PP&L changed-out these same components on their Brunner Island Unit 1 in 1992. Unit 1 is of similar size and steam conditions as unit 2 and began operation in 1960.

- Q7. Is the operation of units 5 and 6 restricted in temperature or pressure ratings as a result of the high temperature creep?
- A. The units are not restricted due to these problems and continue to operate at design steam conditions.
- Q8. How frequent are units 5 and 6 exposed to temperatures beyond the temperature and pressure ratings, and for how long? What has WEPCO done to minimize temperature and pressure occurrences?
- A. The steam temperature is held constant within a range using state of the art digital controls. Steam temperature transients do occur and these transients are the result of changes in process parameters such as coal quality variations. The typical average steam temperature across a normal 24-hour period is approximately 1050 °F with occasional brief excursions to 1060-1070 °F, as well as excursions down to 990-1000 °F.

In general, steam pressure varies less than temperature and a typical 24-hour period will include an occasional excursion to 2410-2415 psig as well as excursions to 2390 psig. The average pressure would be close to 2400 psig. These excursions are typical of control ranges for large coal-fueled, steam/electric generating units with digital control systems.

Pressure and temperature excursions are minimized by a combination of the control systems and trained controls technicians and operators.

Q9. Has WEPCO considered further weld repairs for these two units? Please elaborate.

- A. Weld repairs have been done and will continue to be done. Descriptions of some of the repairs, including weld repairs, are contained in the notifications and attachments included here. Creep is not addressed through weld repairs. Weld repairs only address the effects of creep on the valve bodies, which manifests itself as cracks. Some of the cracks found to date have been close to being irreparable. The longer these valves operate, the greater the likelihood that irreparable defects will occur. Should an irreparable defect occur, a unit outage of a year or more could result. It is beyond the limits of current predictive models and non-destructive examination methods to predict with precision a failure so extensive that repair will not be an option.
- Q10. On page one of the application, there is mention of a large number of hours to repair the control valves in 2000 and 2003. Was any repair work done to the valve bodies at that time? Please provide further clarification of how these failures are related to the high temperature creep problem.
- A. Work was indeed done to the valve bodies. In 2000, unit 5 was taken off line due to control valve problems. Machining of the valve body was required to restore the internal mating and sealing surfaces.

In 2003, unit 5 was again taken off line because the #3 control valve could not be closed more than approximately half way. Machining of two valve bodies was required to restore the internal mating and sealing surfaces and to machine new internal threads.

In both of the cases described above, the operational problems experienced were the result of distortions of the steam chest over time due to creep. The clearances between internal valve components are very tight and mating surfaces are machined to precise tolerances. Slight distortions of the castings, the result of creep, adversely affect these clearances and mating surfaces. This allows the components to work loose, especially when exposed to the forces of the high velocity steam flowing over, through, and past the components. These problems make the valves, and hence the unit, inoperable.

- Q11. In reference to page one of the application, was the repair work on the stop valve that occurred in 1997 part of a major outage? What subsequent work on these stop valves was part of a scheduled outage or an unscheduled outage?
- A. The repair work in 1997 occurred during a major outage; however, the valve work did extend the outage by several weeks. Information presented below indicates whether subsequent work occurred during an outage and also refers to attached records (Attachments F, G, and H) that describe the work. Attachments F and G are actual reports, prepared by the contractor, which are often done as part of outage close-outs. The notifications in Attachment H are more of a day-to-day or shift-to-shift chronicle of activities by the people doing the work.

Repair	<u>Outage</u>	Non-outage
May-05, unit 5, #2 main stop valve		10193004
Mar-02, unit 5, #2 main stop valve	X-no record	
Mar-05, unit 6, #1 & 2 main stop valves	10205278	
Dec-03, unit 6, #1 & 2 main stop valves	10178110	
May-02, unit 6, #2 main stop valve	X-no record	
Apr-01, unit 6, both main stop valves	Attachment G	Ī
Jun-00, unit 6, #1 main stop valve		10219636
Apr-99, unit 6, both main stop valves	Attachment F	

- Q12. In reference to page two of the application, and the 1674 hours of restrictions, please provide a further breakdown of the hours by valve type, date, and type of problem.
- A. Some clarification is in order. The application erroneously mentions "1,674 hours of unit restrictions" on page two. The application should have stated that the 1,674 hours represent unit outages. Oak Creek Units 5 and 6 are not, in any way, restricted as a result of the high temperature creep induced problems that are the subject of the application. Following is a breakdown of those hours by event.

Year	<u>Unit</u>	Component	<u>Problem</u>	<u>Hours</u>
2001	6	Main Stop Valves	Binding/leakage	159
2002	6	Main Stop Valve 2	Severe leakage	510
2003	5	Cntrl Vlvs 1 & 3	Would not close	374
2003	6	Main Stop Valve	Binding/leakage	225
2005	5	Main Stop Valve	Binding valve	24
2005	6	Main Stop Valve	Severe leakage	<u>374</u>

Total 1666*

^{*} An outage of 8 hours against unit 6 was erroneously included in the original 1674 hour total cited in the application.

- Q13. Please provide copies of the inspection and maintenance reports for the stop and control valves from all scheduled outages and forced outages.
- A. Please refer to Attachments A through H.
- Q14. Please provide a listing of permits or approvals required for this project by other units of government.
- A. No other permits or approvals are required.



Unit Emissions Report June 8, 2006

Your query will return data for 1 facilities and 4 units.

You specified: Year(s): 2004 Program(s): All Facility: South Oak Creek

State	Facility Name	Facility ID (ORISPL)	Unit ID	Associated Stacks	Year	Program (s)	Operating Time	# of Months Reported	SO ₂ Tons	Avg. NO _x Rate (Ib/ mmBtu)	NO _x Tons	CO ₂ Tons	Heat Input (mmBtu)
WI	South Oak Creek	4041	5	CS3	2004	ARP	7,434	12	3,241.1	0.17	1,282.2	1,579,601.1	15,395,703
WI	South Oak Creek	4041	6	CS3	2004	ARP	7,814	12	3,350.1	0.17	1,322.9	1,621,874.9	15,807,750
Wi	South Oak Creek	4041	7	CS4	2004	A RP	7,953	12	4,588.7	0.14	1,429.4	2,160,138.1	21,053,979
WI	South Oak Creek	4041	8	CS4	2004	ARP	8,123	12	4,585.5	0.14	1,433.3	2,168,404.7	21,134,555
Total				, , , , , , , , , , , , , , , , , , ,		2			15,765.4		5,467.8	7,530,018.9	73,391,987

- Exhibit

WISCONSIN ELECTRIC POWER COMPANY EPA 114 DATA REQUEST QUESTION NUMBER 3

Plant	W/O or VO	Project	Description		In-Service Date	Approved Amount	Total Expenditures
	41921		OCPP - UPGRADE MONO & TRISOD PHOSPHATE FEED SYS	Feb-86	Jun-89		533,881
	41990		OCPP #5-8 ADD GENERATOR CIRCUIT BREAKERS	Feb-86	Jun-89	1,950,864	2,567,221
	12520	21361	ASKAREL-FILLED TRSF REPLAC - OCPP	Apr-86	Jun-89	844,938	644,938
1	12670	21554	CHEM FEED/BOILER WTR SYS - OCPP #5	Sep-86	Nov-87	314,000	307,511
1	12672	21552	CHEM FEED/BOILER WTR SYS - OCPP #7	Sep-86	Jan-88	244,000	259,666
	12755	21318	FDWTR HTRS 57A/B - OCPP # 5	Nov-86	Jul-87	326,824	329,410
1	13009	20693	88 FDWTR HTR - OCPP #8	Jun-87	Apr-88	243,000	265,134
1	13013		FDWTR HTR - OCPP #8	Jun-87	Apr-88	303,000	322,654
1	13126	21210	UNITRAIN COAL SAMPLER - OCPP	Sep-87	Nov-88	564,000	527,566
	13225	21429	REPLAC FOWTR HTR 7 - OCPP	Nov-87	Dec-88	344,153	342,463
1	13705	34017	STM AIR PREHTR TUBING - OCPPH7	Aug-88	Dec-88	449,500	412,320
1	13888	21515	UPGRAD TURB HYDRAULIC GOVN SYS - OCPP #5	Nov-88	Feb-91	788,877	838,973
	13889	21592	UPGRAD TURB HYDRAULIC GOVN SYS - OCPP #6	Nov-88	Mar-90	799,090	991,321
ļ	13929	21405	OCPP #5 FLUE GAS CONDITIONING EQUIP	Dec-88	Jun-91	899,671	1,057,326
1	13930	21406	OCPP #6 FLUE GAS CONDITIONING EQUIP	Dec-88	Jul-90	1,600,766	1,682,115
	14266	40368	GAS IGNITION/WARMUP-OCPP #78.8	Jul-89	Dec-91	305,979	354,487
Š	14325		OCPP #5-8 TURBINE OIL FIRE PRTCTN	Aug-89	Nov-90	479,977	556,073
₩.	14334	34020	OCPP #5-8 PROCPPESS STEAM HEADER	Aug-89	Dec-89	2,396,773	2,565,594
9 P	14799		SPARE GENERATOR STEP-UP TRF-OCPP #5-8	Mary-9D	May-90	2,076,744	2,105,048
E Proprietary Confidential	14836	40529	REPL HPHSW LINE	May-90	Dec-90	277,422	283,725
rie	15182		REPL ECONOMIZER OCPP #7	Dec-90	May-92	3,020,782	2,990,387
	15281	34075	2NO FLY ASH SILO - OCPP #7 & 8	Feb-91	Dec-92	3,201,650	3,153,333
1 =	15408	40698	INST DEMIN WASTE NEUTRALIZING TANK-OCPP	May-91	Feb-92	249,791	287,870
₽º	15577	89900	REPL ECONOMIZER - OCPP#8	Sep-91	Jul-95	2,032,256	1,883,202
1	15578	89900	REPL REHEAT TUBING - OCPP#8	Sep-91	Sep-95	652,062	650,069
	15636	34083	ZEBRA MUSSEL CHEMICAL CNTL SYS-OCPP	Oct-91	May-92	519,944	642,568
ł	15689		INSTALL CEM'S OCPP #5-8	Dec-91	Jun-93	1,158,529	1,257,771
	15692	40635	INSTALL LOW NOX BURNERS-OCPP # 7	Dec-91	May-92	3,735,370	3,759,721
- {	16061	40635	INST LOW NOX BURNERS-OCPPPP #8	Mar-93	Apr-95	4,849,012	4,589,886
-	16098		REPL 56A FEEDWATER HEATER-OCPP #5	Jan-95	Dec-95	245,000	290,083
٠ .	16114	-	REPAIRS TO CAR DUMPER-OCPP YARD	Jun-93	Jul-93	800,635	802,748
F	16321		DUCTING REPLACEMENT OCPP #5	Aug-95	Dec-95	630,337	650,917
WEPC	16351	8990	REPLACE DUCT FROM AIRHTR TO PRECIP - OCPP #8	Jan-96	Apr-96	671,671	693,947
. 0	AC1000631		OCPP Y BREAKWALL	Dec-97	Dec-99	3,500,000	2,997,572
30002	AC1000903		OCPP #8 HIGH EFF EXHAUSTERS	Sep-98	Mar-99	390,000	411,788
8	AC1000904		OCPP #7 HIGH EFF EXHAUSTERS	Sep-96	Jan-00	300,000	324,684
1 2	AC1000905		OCPP #5 SOOTBLOWERS	Feb-98	Oct-98	633,800	646,509
	AC1000906		OCPP #6 SOOTBLOWERS	Oct-98	May-99	600,000	468,113
	AC1000908		OCPP #8 SOOTBLOWERS	Jul-96	Mar-99	690,000	
1	I TO LOOD DOG	- 1	1				

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Plant	W/O or VO	Project	Description				Total Expenditures
1	AC1000909		OCPP DUMPER BELT FEEDERS	Mar-98	Apr-99	750,000	752,814
	AC1000910		OCPP WET FLY ASH UNLOADERS	May-98	Nov-98	292,500	290,748
	AC1001083		OCPP #8 NEW WATER LANCES	Oct-96	Jun-99	487,000	480,625
	AC1001084		OCPP #7 NEW WATER LANCES	Jul-99	Jun-00	487,000	394,419
}	AC1001146		OCPP #7 MILL MOTORS	Sep-98	Jan-00	550,000	444,198
i	AC1001147		OCPP #8 MILL MOTORS	Sep-98	Mar-99	500,000	496,600
1	AC1001160		OCPP DUMPER FOAM DUST SUPPRESSION	Jan-99	Jul-99	260,000	312,463
j	AC1001236		OCPP REPLACE 51,52,73&74 AIR COMPRESSORS	Dec-98	Feb-00	403,000	451,987
1	AC1001253		OCPP #5 PRECIP UPGRADES	Jul-99	Jun-00	460,000	392,229
1	AC1001254		OCPP #6 PRECIP UPGRADES	Dec-98	May-99	375,000	382,828
	AC1001270		OCPP #6 AIR HEATER SOOTBLOWERS	Nov-99	uc ·	350,000	
1	AC1001658		OCPP #7 LOW NOX BURNER & OVER FIRED AIR	Nov-99	UC	10,642,000	
	AC1001709		OCPP #8 INSTALL ADDITIONAL WATER LANCES	Apr-00	UC	290,000	
	AC1001710		OCPP #8 DUCT BURNER REPLACEMENT	Apr-00	UC	280,000	
1	AC1001717		OCPP #5 52 MILL REBUILD	Mar-00	Jun-00	528,437	526,507
	AC1001742		OCPP #8 LOW NOX BURNER AND OVER FIRED AIR	Nov-99	UC	10,642,000	•
5	AC1001744		OCPP #8 AIR HEATER SOOTBLOWERS	Apr-00	UC	240,000	
WE Proprietary Confidential	AC1001749		OCPP#6 FURNACE APERTURE SOOTBLOWERS	Nov-99	UC	900,000	
Pr.	AC1001782	2	OCPP #5 ECONOMIZER REPLACEMENT	Nov-99	UC	3,650,000	
Proprietar Confidential	AC1001783		OCPP #6 ECONOMIZER REPLACEMENT	Nov-99	UC	3,650,000	
en e	AC1001B36	i	OCPP #6 62 BALL MILL REFURBISHMENT	Oct-00	UC	1,037,000	
닭	AC1002005	5	OCPP HOUSE SERVICE WATER PIPING REPLACEMENT	Dec-00	UC	1,890,000	
	AFO00140		OCPP THREE COAL BELT SCALES	Jul-95	Sep-96	605,000	425,108
ķ o	AFO00260		OCPP PRB COAL BLNDG IMPROVE -DUST. COLL.	Mar-97	Jan-98	2,032,896	2,018,497
	AF000425		OCPP #5 HS GENERATOR REWIND	Nov-97	Feb-99	2,182,500	2,198,966
1	1549	1	REPLACE PCB TRANSFORMER	Jul-91	Dec-94	264,979	261,057
<u>L</u>	1366	6	DIST. CONTROL SYSTEM - COMMON PLT. EQT.	Jul-88	Apr-92	629,961	740,496
PIPP	1428	3 34348	PIPP #4 SPARE GENERATOR STATOR COILS	Jul-89	Aug-89	486,028	479,315
ı	1459	9 34274	BOILER FLAME SAFEGUARD SYS-PIPP #4	Jan-90	Apr-91	758,000	818,028
	1460-	4 3427	BOILER FLAME SAFEGUARD SYS-PIPP #3	Jan-90	Dec-90	907,322	915,589
	1554	9 34303	NOZZLE PLATES- PIPP 5-9 & 3-4	Sep-91	Sep-91	330,000	334,188
3	1569	0 40690	INSTALL CEM'S PIPP UNITS 1-9	Dec-91	Oct-94	1,652,602	2,020,536
1	1582		PIPP #7 BURNER MGMT SYS UPGRADE	Apr-92	Dec-96	319,673	337,434
1 B C C C	1582		PIPP #8 BURNER MGMT SYS UPGRADE	Apr-92	Oct-93	302,876	328,112
	1582		PIPP #9 BURNER MGMT SYS UPGRADE	Apr-92	May-93	508,000	470,319
	1599	0 34316	REHEAT SECT-UNIT 6 BOILER-PIPP	Oct-92	Aug-93	300,000	296,672
, ,	1607		REPLACE REHEAT SECTION - PIPP #5	Mar-93	Sep-94	350,000	256,422
	1607	5 4491	REPL ECONOMIZER BOILER TUBES-PIPP #4	Mar-93	Jul-93	250,000	260,277

Plant	W/O or I/O	Project	Description			Approved Amount	
	16214		REPLACE HTSH WRAPPER TUBES - PIPP #5	Mar-94	Feb-95		321,320
i	16215	20226	REPLACE HTSH WRAPPER TUBES - PIPP #6	Mar-94	Feb-95	400,000	330,292
	16241	44800	PIPP #7 CLASSIFIER	Jun-94	Mar-96	400,000	352,098
1	16297	44798	REPLACE CLASSIFIERS PIPP # 8	May-95	Aug-97	325,000	303,445
	16302	44799	REPLACE CLASSIFIERS PIPP # 9	May-95	Jul-96	330,000	344,416
1	AC1000386		PIPP #8 BOILER REHEATER REPLACEMENT	May-98	Sep-99	1,300,000	1,319,450
1	AC1000582		PIPP #6 COAL STORAGE SILOS	Oct-99	Aug-00	1,600,000	1,609,396
I	AC10008B0		PIPP #5 COAL STORAGE SILOS	Feb-00	UC	1,600,000	
1	AC1001049		PIPP #1 BOILER CONTROLS -	May-00	UC	200,000	
1	AC1001050		PIPP #2 BOILER CONTROLS	May-00	UC	300,000	
	AC1001143		PIPP #3 REPLACE WATERWALL	Jan-99	Apr-98	497,500	545,075
1	AC1001349		PIPP #1 TURBINE OPENING/OVERHAUL	Feb-99	Apr-98	782,562	625,195
•	AC1001350		PIPP #2 TURBINE OPENING/OVERHAUL	Feb-99	Aug-99	_795,539	588,329
	AC1001374		PIPP #2 WATERWALL REPLACE.& BLR CLEANING	Sep-00	May-99	482,000	459,376
¥E T	AC1001483		PIPP #3 LOW NOX BURNERS	Nov-99	UC	4,000,000	
Ç.₩	AC1001536		PIPP #1-9 FUEL OIL TANK CONTAINMENT	Aug-00	UC	780,000	
Proprietary	AC1001484		PIPP #5 LOW NOX BURNER & OVER FIRED AIR	Nov-99	UC	6,500,000	
Proprietary	AC1001513		PIPP #3 TURBINE OPENING/OVERHAUL	Jun-99	Jun-99	1,609,200	1,666,652
n Z	AC1001738		PIPP #6 LOW NOX BURNER AND OVER FIRED AIR	Nov-99	UC	3,975,000	
₽Ĵ	AFO00284		PIPP #3 LTSH BOILER TUBE REPLACMENT	Mar-97	Aug-97	1,030,625	927,546
ρ _ο	AFO00286		PIPP #6 AGGLOMERATOR - INSTALLATION	Jan-97	Jul-98	1,200,000	1,195,308
	AFO00330		PIPP #4 LTSH BLR TUBE REPLACEMENT	Арг-98	Dec-98	1,000,000	1,091,572
	AFO00333		PIPP #1-4 FABRIC FILTER PROJECT	Jan-98	Јип-99	19,741,000	22,278,417
1	AFO00363		PIPP #7 REHEAT TUBE REPLACEMENT	May-98	May-00	1,300,000	1,340,585
				1			
bbbb	10734		GUILLOTINE AIR DAMPERS - PPPP	Sep-81	Jan-83	300,000	334,425
1	11262		ALT WATER SUPPLY - PPPP	Mar-83	Mar-84	655,000	696,239
	11791	20062	BURNER MNGMNT SYS - PPPP #1	Aug-84	Feb-86	244,900	268,219
	11860		GAS IGNITION CONV - PPPP	Oct-84	Jan-86	2,967,500	3,019,273
	12255		DRUM SWELL BLOWDWN PPPP #1	Sep-85	Aug-86	283,500	324,671
	12635	24641	SOLIDS REMOVAL FACILITY - PPPP	Aug-86	Sep-89	2,484,021	2,963,811
WEPCO	12922	24642	REPLAC MAKEUP WTR PIPELN - PPPP	Apr-87	88-vol/1	3,907,174	4,183,237
E.	13033	24694	COAL HANDL SYS FORS - PPPP	Jun-87	Nov-88	625,500	911,777
Š	13446		UPGRAD COAL HINDL HTG FAC - PPPP	Apr-88	Feb-89	986,000	1,137,764
ü	14289		PPPP UNIT 2 FD FAN MOTOR REPLMNT	Jui-89	Jul-91	621,000	655,858
30004	14503		PPPP AIR HTR WASHDOWN DRAIN LINE	Nov-89	Dec-90	350,000	326,666
2	14837		REPL SECONDARY AIR PREHEATER TUBE PPPP # 1	May-90	Apr-91	283,793	282,343
	15139		PPPP YARD-UNITRAIN CAR DUMPER BARREL REPL	Nov-90	Oct-92	1,621,558	1,685,172
	15687		INSTALL CEM'S PPPP UNITS 1 & 2	Dec-91	Nov-93	707,000	589,394

Plant	W/O or I/O	Project	Description	Approved Date	In-Service Date	Approved Amount	Total Expenditures
	16139	89900	PPPP GEN - REPLACE RAW WATER LINE	Aug-93	Jan-00	375,000	337,334
į	AC1000981		PPPP #1 UPGRADE HIGH PRESSURE TURBINE	Mar-98	Dec-98	5,285,000	5,524,076
Į.	AC1001035		PPPP #1 BOILER ECONOMIZER UPGRADE	Aug-98	Feb-99	593,168	447,787
]	AC1001205		PPPP ASH REBURN	Jan-99	Nov-00	4,000,000	3,092,422
	AC1001279		PPPP #1 REPAIR OF GENERATOR STATOR WINDING	Oct-98	Mar-99	1,700,000	1,704,021
1	AC1001396		PPPP #1 GENERATOR PARTIAL REWIND	Apr-99	Jun-00	1,629,500	1,676,946
	AC1001397		PPPP #1 REPLACE HIGH TEMPERATURE SUPERHEATER	May-99	Jun-00	5,250,000	5,421,036
1	AC1001398		PPPP #2 GEN GLOBAL EPOXY INJECTION	Арг-99	Jun-99	1,785,000	1,932,675
1	AC1001482		PPPP #2 SELECTIVE CATALYTIC REDUCTION PROJECT	Nav-99	UC	67,064,226	2,140,119
1	AFO00038		PPPP DCS COMPUTER UPGRADE	Sep-91	May-95	2,917,943	2,928,413
1	AFO00415		PPPP #1 AIR HEATER HOT SIDE SOOTBLOWERS	Sep-97	Dec-98	970,000	1,014,328
1	AFO00416		PPPP #2 AIR HEATER HOT SIDE SOOTBLOWERS	Sep-97	Jun-98	970,000	970,387
ł	15406		VENTILATING BOILER AIR/GAS SYSTEM	May-91	Oct-93	964,774	1,202,866
PWPP	15952	21764	RESTORE PULVERIZED FUEL BIN-PWPP 3	Sep-92	Sep-92	393,600	355,538
•	16284	89900	GENERATOR REWIND PWPP #1	Feb-95	Jan-00	1,035,700	1,082,868
	AC1000562		PWPP INST NEW COAL CRSHR & MOD EXIST STRUCTURE	Mar-99	Sep-00	490,000	436,693
	AC1001019		PWPP #3 GENERATOR ROTOR REWIND	Jun-98	Jun-99	1,320,000	1,398,606
	AC1001149		PWPP #2 AUX. POWER TRANSFORMER REPLACEMENT	Sep-98	Dec-99	325,000	252,811
	AC1001418		PWPP #4 GENERATOR ROTOR REWIND	Feb-99	Jul-99	1,220,000	997,343
	AFO00261.		PWPP # 3 REHEAT TUBES	Feb-98	Jun-00	690,000	689,543
•	AFO00262		PWPP # 2 REHEAT TUBES	Jan-98	May-99	690,000	850,930
	AFO00263		PWPP #1 REHEAT TUBES	Nov-97	Jul-98	775,000	947,697
•	AFO00264	· 	PWPP #4 REKEAT TUBES	Feb-98	Mar-98	690,000	843,015
	AFO00319		PWPP #1 REPL SCR TUBES, FRAT WTRWALLS, PLATAS	Oct-98	Jan-00	1,732,000	1,697,194
	AFO00325		PWPP #2 REPL WATERWALL CIRCUIT PROJECTS	May-97	Nov-97	515,701	720,296
L							
VAPP	5430		BOILER 2 SECONDARY HEATER	Aug-78	Oct-78	447,000	359,515
	8438		CONVERT BOILERS 1 & 2 - VAPP (BALANCE DRAFT)	Apr-74	Jul-79	2,725,000	2,595,919
	8439	107	CONVERT BOILERS 3 & 4 - VAPP (BALANCE DRAFT)	Apr-74	Nov-79	2,170,000	2,199,792
	9146	_	GENERATOR ROTOR - VAPP # 2	Mar-76	Jul-77	654,000	681,657
<u>.</u> :	9164	142	SECOND SUPERHTRISEC # BOILER	Mar-76	Aug-77	300,000	373,784
ଳ	11451	23946	REPAIR COAL SILOS VAPP #1	Oct-83	Feb-85	354,654	354,654
WEPCO	11452	23947	REPAIR COAL SILOS VAPP #2	Oct-83	Feb-85	314,763	314,763
ŏ	11463		UPGRADE WATER SAMPL SYS - VAPP	Oct-83	Oct-84	365,000	371,271
30005	11613		S03 FLUE GAS CONDITION - VAPP	Mar-84	Jul-85	1,975,000	1,953,773
00	12374	23921	INSTALL 20 INCH TURB BYPASS VAPP	Jan-86	Oct-88	560,700	584,908
UT	12409		VAPP DEMINERALIZER CONT UPGRADE	Feb-88	Jan-87	397,000	379,872
	12808	23939	PRIM SUPRHTR/ECON SURF-VAPP BLR 3	Jan-87	Dec-87	1,023,000	1,053,876

Plant	W/O or VO		Description	Approved Date	In-Service Date	Approved Amount	Total Expenditures
WE Proprietary	13449		ELEC ADJ SPEED DR - VAPP	B8-rqA	Dec-89	1,118,063	1,239,762
	13453	23982	PRIM SUPRHTR/ECONOM SURF-VAPP BLR 4	Apr-88	Jsn-89	1,218,479	1,219,983
	14118	24085	VAPP ID FANS VAR SPEED DRIVES 1-2	Apr-89	May-91	1,873,541	2,098,574
	14653	23981	REPL ECONOMIZER/PRIM SUPHTR-BLR 2 VAPP #1	Mar-90	Jun-91	1,067,448	1,040,325
	15688	40687	INSTALL CEM'S VAPP	Dec-91	Feb-94	1,450,000	1,527,553
	15815	24082	VAPP #1-CONTROL & MONITORING SYS	Apr-92	Aug-94	3,146,736	2,989,790
	15816	24083	VAPP #2-CONTROL & MONITORING SYS	Apr-92	Aug-95	2,566,352	2,398,299
	15967	24164	REWIND GENERATOR 1 STATOR VAPP #1	Sep-92	Анд-94	820,000	816,861
	16002	24291	REPLACE/UPGRADE PRECIPS BOILER 1-VAPP #1	Nov-92	Jul-94	363,000	5,182,842
E 7	16003	89900	REPLACE/UPGRADE PRECIPS BOILER 2-VAPP #1	Nav-92	Jul-94	363,000	4,836,988
& WEPCO 30006	16004	24294	REPLACE/UPGRADE PRECIPS BOILER 3-VAPP #2	Nov-92	Jul-95	4,600,682	5,103,385
	16005		REPLACE/UPGRADE PRECIPS BOILER 4-VAPP #2	Nov-92	Jul-95	4,533,120	5,123,627
	16006		INST LOW NOX BURNERS-BOILER 1-VAPP #1	Nov-92	Jul-95	1,427,535	1,326,598
	16007		INST LOW NOX BURNERS-BOILER 2-VAPP #1	Nov-92	Jul-95	1,385,302	1,241,679
	16008		INST LOW NOX BURNERS-BOILER 3-VAPP #2	Nov-92	Jun-95	1,454,528	945,894
	16021	89900		Nov-92	Jul-95	1,454,528	923,825
	16081		REPL BOILER #1 PRIM SUPHTR/ECONOMIZER V1	Apr-93	Jui-94	363,000	1,171,633
	16087		REPL CONTROLS-TURBINE 2 VAPP #2	Apr-93	Jan-95	296,000	382,859
	16088		REPL CONTROLS-TURBINE 1 VAPP #1	Apr-93	<u> Ѕер-94</u>	296,000	360,833
	16124		VAPP - REPLACE UNIT 1 HEATER	Jul-93	Aug-94	314,313	314,252
	16125	89900	VAPP - REPLACE UNIT 2 HEATER	Jul-93	Jul-95	363,000	301,628
	AC1001339	<u> </u>	VAPP #2 REPLACE FEEDWATER HEATER	Apr-99	Nov-99	260,000	281,463
	AC1001524		VAPP #1 EXCITATION SYSTEM	Aug-99	Sep-99	440,000	447,960
	AC1001657		VAPP #2 BLR 4 NEURAL NETWORK	Nov-99	Sep-00	400,000	166,695
	AF000077		VAPP ASH SYS CONTROLS	Mar-96	Feb-97	300,000	291,927
	AFO00222	<u> </u>	VAPP # 2 LOW NOX BURNERS BOILER 3	Oct-93	Sep-96	1,454,528	266,902
							
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^{*} Projects designated as "UC" are under construction. Total expeditures are not available for these projects.

Question - 13 Dates of Low-Nox Burner (LNB) Retrofits

Plant	Unit	Description	Date
OCPP	7	Install LNB	May-92
VAPP	1	Install LNB	May-94
VAPP	2	Install LNB	Jun-94
OCPP	8	Install LNB	Apr-95
VAPP	3	Install LNB	May-95
VAPP	. 4	Install LNB	Jun-95
PIPP	3	Install LNB	May-01
VAPP	3	Install LNB	Oct-01
VAPP	4	Install LNB	Oct-01
OCPP	7	Install LNB and OFA	Feb-02
VAPP	1	Instell LNB	Apr-02
VAPP .	2	Install LNB	Apr-02
PIPP	6	install LNB	Jun-02
OCPP '	8	Install LNB and OFA	Feb-03
PIPP	5	Install LNB	Mar-03
PIPP	4 :	Install LNB	Oct-03

Plant	Unit	Description	Date
•			
VAPP	3	Replace primary superheater/economizer	Oct-87
OCPP	6	Replace boiler reheater	Jul-88
OCPP	6	Replace boiler superheater front pendants	Jul-88
VAPP	4	Replace primary superheater/economizer	Jun-89
VAPP	2	Replace primary superheater/economizer	Jun-91
OCPP	7	Replace economizer	May-92
PIPP	6	Replace reheater section	Feb-93
PIPP	5	Replace reheater section	Feb-93
PIPP	4	Replace economizer tubes	Jun-93
VAPP	1	Replace primary superheater/economizer	May-94
PIPP	6	Replace high temp superheater tubes	Oct-94
PIPP	5	Replace high temp superheater tubes	Feb-95
OCPP	8	Replace economizer	Apr-95
OCPP	8	Replace reheater tubes	Apr-95
PIPP	3	Replace low temp superheater tubes	Jul-97
PIPP	4	Replace low temp superheater tubes	Nov-98
PIPP	8	Replace reheater tubes and supports	Feb-99
PIPP	7	Replace reheater tubes and supports	Feb-00
PPPP	1	Replace high temp superheater	May-00
OCPP	6	Replace economizer	Jun-01
OCPP	5	Replace economizer	Apr-02

future requirements and will not increase the cost of service without proportionately increasing the value or available quantity thereof.

This action is classified as a Type 3 action pursuant to PSC 2.90(3)(y), Wis. Adm. Code. In addition, no unusual circumstances have come to the attention of the Commission which would require further environmental review. It consequently

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State of Wisconsin \ Public Service commission

CHARLES N. THOMPSON, CHARMAN JOHN T. COUCHLIN, COMMISSIOHER CHERYL L. PARRINO, COMMISSIOHER 4802 Bhabotyan Avenus F. O Box 7884

P. O Box 7884 Medison, Wisconein 53707-7854

File No. 6630-CE-188

Mr. David K. Porter Senior Vice President Wisconsin Electric Power Company P.O. Box 2046 Milwaukee, WI 53201

RE: Application of Wisconsin Electric Power Company for Authority to Replace the Economizer Section of the Unit 7 Boiler at Its Oak Creek Power Plant in the City of Oak Creek, Milwaukee County

Dear Mr. Porter:

This letter order concerns the March 6, 1991, application of Misconsin Electric Power Company, as an electric public utility, pursuant to s. 196.49, Wis. Stats., and Chapter PSC 112, Wis. Adm. Code, for authority to replace the economizer section of the steam generator of the Unit 7 boiler at its Oak Creek Power Plant in the City of Oak Creek, Milwaukee County.

The Commission has investigated your application and finds the proposed facility improvements are necessary to satisfy the reasonable needs of the public for an adequate supply of electric energy in your system. The Commission also finds that the general public interest and convenience and necessity require that Wisconsin Electric Power Company, as an electric public utility, construct, install and place in operation the facilities described in your March 6, 1991, application, at a total estimated cost of \$4,335,000, distributed as follows:

Total Project Cost

\$4,335,000

Mr. David K. Porter Misconsin Electric Power Company Page 2

Associated project retirement is estimated to be \$570,300. The cost of the project would be met through internal sources and from the issuance and sale of securities.

This action is classified as a Type 3 action pursuant to PSC 2.90(3)(z), Wis. Adm. Code. In addition, no unusual circumstances have come to the attention of the Commission which would require further environmental review. It consequently requires neither an environmental impact statement under s. 1.11, Wis. Stats., nor an environmental assessment.

The Commission, therefore, certifies that Wisconsin Electric Power Company, as an electric public utility, be and it hereby is authorized to construct, install and place in operation the facilities needed to replace the economizer section in the Unit 7 boiler at its Oak Creek Power Plant as described in its March 6, 1991, application to the Commission, all at an estimated project cost of \$4,335,000, and that said utility be and it hereby is authorized to so proceed, subject to the following conditions:

- This authorization is for the specific project described in the March 6, 1991, application and at the stated project cost. Should the scope/design of the project be changed significantly, or if the expected project cost estimate (as reviewed upon receipt of bids or vendor quotations or at anytime during the project) exceeds that stated above by more than 10 percent, your utility shall promptly notify the Commission.
- Upon completion of the project, your utility shall inform
 the Commission of the date the facilities were placed in
 service and report final costs, segregated by plant
 accounts and by function as listed in the cost estimate
 herein, when such become available.
- This authorization is valid only if construction is started within two years of the date hereof.
- 4. The Commission retains jurisdiction in this matter.

Notice is hereby given that the expenses incurred or to be incurred by the Commission which are reasonably attributable to the investigation of this application shall be assessed and

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future requirements and will not increase the cost of service without proportionately increasing the value or available quantity thereof.

This action is classified as a Type 3 action pursuant to PSC 2.90(3)(y), Wis. Adm. Code. In addition, no unusual circumstances have come to the attention of the Commission which would require further environmental review. It consequently

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Mr. David K. Porter Wisconsin Electric Power Company Page 2

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The Commission, therefore, certifies that Wisconsin Electric Power Company, as an electric public utility, be and it hereby is authorized to construct, install and place in operation the facilities needed to replace the economizer section in the Unit 7 boiler at its Oak Creek Power Plant as described in its March 6, 1991, application to the Commission, all at an estimated project cost of \$4,335,000, and that said utility be and it hereby is authorized to so proceed, subject to the following conditions:

- This authorization is for the specific project described in the March 6, 1991, application and at the stated project cost. Should the scope/design of the project be changed significantly, or if the expected project cost estimate (as reviewed upon receipt of bids or vendor quotations or at anytime during the project) exceeds that stated above by more than 10 percent, your utility shall promptly notify the Commission.
- Upon completion of the project, your utility shall inform
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- This authorization is valid only if construction is started within two years of the date hereof.
- 4. The Commission retains jurisdiction in this matter.

Notice is hereby given that the expenses incurred or to be incurred by the Commission which are reasonably attributable to the investigation of this application shall be assessed and

JKR:AS:MOM:02159104.ERB/LORDER
CC: K. H. Mylotta, DUOR/CRAFS

See attached Notice of Appeal Rights.

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Mr. David K. Porter Wisconsin Electric Power Company Page 3

collected from the utility pursuant to s. 196.85, Wis. Stats., and Chapter PSC 5, Wis. Adm. Code.

By the Commission.

Signed 2nd day of April 1991

Jacqueline K. Reynolds Secretary to the Commission

JKR: MOM: 03199102. ERB/LORDER

See attached Notice of Appeal Rights.

Jacquerine K. Reynolds Secretary to the Commission

JKR: PC

cc: Richard Prestin, MSP Larry Thorson, DPC pavid Penn, MPPI Paul Vanderbloemen, MG&E

See attached Notice of Appeal Rights

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State of Wisconsin \ Public service commission

CHARLES H. THOMPSON, CHARMAN MARY LOU MUNTS, COMMISSIONER JOHN T. COUCHEN, COMMISSIONER 4802 Sneboysin Avenue P. Q. Sox 7854 Madison, Wiscomen B3707

Mr. David K. Porter Senior Vice President Misconsin Electric Power Company 231 West Michigan P.O. Box 2046 Milvauke, WI 53201 Pile No. 6630-CE-176

Re: Application of Wisconsin Electric Power Company for Authority to Install a 138-230 kV Replacement Transformer and Associated Equipment at the Existing Oak Creek Power Plant Substation in the City of Oak Creek, Milwaukee County

Dear Mr. Porter:

This letter order concerns the December 4, 1989, application by Misconsin Electric Power Company, as an electric public utility, pursuant to s. 196.49, Mis. Stats., and s. PSC 112, Mis. Adm. Code, for a certificate to install a new, 360 MVA, 138/230 kV, three-phase autotransformer and associated equipment at the Oak Creek Power Plant Substation.

The Commission has investigated the application and finds that the proposed project is necessary to satisfy the reasonable needs of the public for adequate and reliable electric service. The project is needed to replace an existing transformer bank, one unit of which is subject to risk of failure due to age and deterioration. The Commission also finds that the general public interest and public convenience and necessity require that Misconsin Electric Power Company, as an electric public utility, purchase, install and place in operation the proposed facilities, as described in you December 4, 1989, application. The estimated cost is \$1,982,800 for capital additions and improvements. Associated maintenance is estimated to be \$21,600 and total book value of retirements is \$310,263.

The construction, installation and operation of the proposed facilities at the estimated cost will not impair the efficiency of your utility's service, will not provide facilities unreasonably in excess of probable future requirements and will not increase the cost of service without proportionately increasing the value of available quantity thereof.

Mr. David K. Porter Wisconsin Electric Power Company Page 2

This action is classified as a Type 2 action pursuant to PSC 2.90(2)(c), Wis. Adm. Code. An environmental assessment was prepared to determine if the preparation of an environmental impact statement is necessary under s. 1.11, Wis. Stats. It has been determined that no significant environmental impacts are likely and therefore an environmental impact statement is not required.

The proposed facilities will not be located in a designated floodplain or floodprone area. Consequently, there is no significant flood risk to the proposed project per Executive Order 73.

The Commission, therefore, certifies that the Wisconsin Electric Power Company, as an electric public utility, be and it hereby is authorized to purchase, install and place in operation the proposed facilities, as described in its December 4, 1989, application at an estimated cost of \$1,902,800, and that the utility be and it hereby is authorized to so proceed, subject to the following conditions:

- This authorization is valid only if the construction is started within one year of the date hereof.
- 2. This authorization is for the specific project as described in the application at the stated project cost. Should the scope, design, or location of the project be changed significantly, or if the expected project cost (as reviewed upon the receipt of bids or as determined at any time during the project) exceeds that stated above by more than 10 percent, the utility shall properly notify the Commission.
- Applicant shall notify the Commission of the date the facilities are placed in service.
- Final costs, segregated by major plant accounts, shall be submitted to the Commission when such become available.
- 5. The Commission retains jurisdiction in this matter.
- . Notice is hereby given that the expenses incurred by the Commission which are reasonably attributed to the investigation of ...

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Mr. David K. Porter Wisconsin Electric Power Company Page 2

This action is classified as a Type 2 action pursuant to PSC 2.90(2)(c), Wis. Adm. Code. An environmental assessment was prepared to determine if the preparation of an environmental impact statement is necessary under s. 1.11, Wis. Stats. It has been determined that no significant environmental impacts are likely and therefore an environmental impact statement is not required.

The proposed facilities will not be located in a designated floodplain or floodprone area. Consequently, there is no significant flood risk to the proposed project per Executive Order 73.

The Commission, therefore, certifies that the Wisconsin Electric Power Company, as an electric public utility, be and it hereby is authorized to purchase, install and place in operation the proposed facilities, as described in its December 4, 1989, application at an estimated cost of \$1,902,800, and that the utility be and it hereby is authorized to so proceed, subject to the following conditions:

- This authorization is valid only if the construction is started within one year of the date hereof.
- 2. This authorization is for the specific project as described in the application at the stated project cost. Should the scope, design, or location of the project be changed significantly, or if the expected project cost (as reviewed upon the receipt of bids or as determined at any time during the project) exceeds that stated above by more than 10 percent, the utility shall properly notify the Commission.
- Applicant shall notify the Commission of the date the facilities are placed in service.
- Final costs, segregated by major plant accounts, shall be submitted to the Commission when such become available.
- 5. The Commission retains jurisdiction in this matter.

Notice is hereby given that the expenses incurred by the Commission which are reasonably attributed to the investigation of

Mr. David K. Porter Wisconsin Electric Power Company Page 3

this application shall be assessed against and collected from the utility pursuant to s. 196.85, Wis. Stats., and Chapter PSC 5, Wis. Adm. Code.

By the Commission.

Bigned 6th day of February 1990

Jacqueline K. Reynolds
Secretary to the Commission

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See attached Notice of Appeal Rights.



State of Wisconsin \ PUBLIC SERVICE COMMISSION

> CHAPLES IL THOMPSON, CHAIRMAN MARY LOU MUNTS, COMMISSIONER JOHN T. COUGHLIN, COMMISSIONER 4802 Sheboygen Avenue P. O. Box 7854

File No. 6630-CE-174

Mr. David K. Porter Senior Vice President Wisconsin Electric Power Company 231 West Michigan Street

P.O. Box 2046 Milwaukee, WI 53201

RE: Application of Wisconsin Electric Power Company for Authority to Install a Process Steam Header and Steam Distribution System at the Oak Creek Power Plant Located in the City of Oak Creek, Milwaukee County

Dear Mr. Porter:

This letter concerns the October 17, 1989, filing of Misconsin Electric Power Company, pursuant to s. 195.49, Mis. Stats., and Chapter PSC 112, Mis. Adm. Code, for Commission's determination as to the need for a certificate of public convenience and necessity for a project estimated to cost between \$1 and \$2 million. The Commission has determined to process this information as provided in s. PSC 112.05(2)(b)1, Wis. Adm. Code.

The Commission hereby acknowledges receipt of and accepts the information for filing. The Commission notes that work was started on part of this project because the ecope and estimated cost, as originally constituted, did not exceed \$1,000,000 but that the project, as now revised, is submitted for review pursuant to s. PSC 112.05(2). The company, therefore, may continue with the proposed installation of a process steam header and steam distribution system at the Oak Creek Power Plant, as described in your filing, subject to the conditions contained herein. The facilities are needed to provide a more flexible and reliable source of intermediate pressure steam for the operation of plant auxiliaries and heating.

The Commission has reviewed the filed information contained in the October 17, 1989, letter regarding the proposed project. The Commission has detagained that the proposed facilities are necessary to assume the reliability, availability and economic operation of the Oak Creek Power Plant.

Installation and operation of the proposed facilities at the estimated cost will not impair the utility's service, will not provide facilities unreasonably in excess of probable future

David K. Porter, Sr. V.P. Wisconsin Electric Power Company Page 2

requirements, and when placed in operation, will not add to the cost of service without proportionately increasing the value or available quantity thereof. .

This is a Type 3 action pursuant to s. PSC 2.90(3)(xd), Wis. Adm. Code. In addition, no unusual circumstances have come to the attention of the Commission which would require further environmental review. It consequently requires neither an environmental impact statement under s. 1.11, Wis. Stats., nor an environmental assessment.

The location of the proposed facilities is not within a flood herard area. Consequently, there is no significant flood risks to the proposed project per Executive Order 73.

This authorization is subject to the following conditions:

- This determination is for a specific project as described at an estimated cost of \$1,732,700. Should the scope or design of the project be changed significantly, or if the expected project cost estimate exceeds or is less than that stated in your October 17, 1989, letter by more than 10 percent, your utility shall promptly notify the Commission.
- Your utility shall notify the Commission when the project has been completed and final costs segregated by major accounts shall be submitted to the Commission when available.
- Commission retains jurisdiction in this matter.

By the Commission.

Jacqueline K. Reynolds Secretary to the Commission

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See attached Notice of Appeal Rights.

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State of Wisconsin \ PUBLIC SERVICE COMMISSION

CHARLES IN THOMPSON, CHAIRMAN MARY LOU MUNTS, COMMISSIONER JOHN T. COUCHEN, COMMISSIONER 4802 Snebdygen Avenue P. O. 80a 7854 Medson, Wiscomen 83707

File No. 6630-CE-174

Mr. David K. Porter. Senior Vice President Wisconsin Electric Power Company 231 West Michigan P.O. Box 2046 Milwaukee, WI 53201

RE: Proposed Installation of Process Steam Header and Steam Distribution System at Oak Creek Power Plant

Dear Mr. Porter:

The Commission acknowledges your April 10, 1990, letter notifying it of the revised scope and estimated cost for the subject project. The total cost of the project is now estimated to be \$2,668,600, which is \$935,900 above the original estimate of \$1,732,700, authorized in the November 21, 1989 Commission approval letter. The increased cost results from changes in the design and scope of the system and additional steam main.

Your notification is accepted as compliance with the November 21, 1989, Commission approval letter. Please be reminded that you are to continue to keep the Commission informed of any further substantial changes in design, location, size or cost of the project.

The project may proceed as revised. Because of continued uncertainties which may affect the actual scope, completion schedule, and final costs for this project, the Commission will retain jurisdiction for any final regulatory action based on the detailed review of the final project costs upon completion.

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Mr. David K. Porter Wisconsin Electric Power Company Page 2

The conditions of the Commission's November 21, 1989, approval remain in effect.

By the Commission.

Signed 15th day of May 1940

Jacqueline K. Reynolds Secretary to the Commission

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See attached Notice of Appeal Rights.

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CHURLE IL THOMPSON, CHURMAN MARY LOU MURTS, COMMISSIONER JOHN T. COUCHUR, COMMISSIONER 4802 SHeboyen Avenue P. O. Box 7854 Medson, Wisconsin 83707

File No. 6630-CE-166

Mr. Thomas J. Casaidy Executive Vice President Wisconsin Electric Power Company 231 Mest Michigan Street P.O. Box 2046 Milwaukee, WI 53201

RE: Application by Wisconsin Electric Power Company for Authority to Replace the Tubing and the Tubing Support System for the Furnace Rear Wall Radiant Superhester Section of Oak Creek Unit 5 Boiler, Milwaukee County

Dear Mr. Cassidy:

This letter concerns the May 19, 1989, filing of Wisconsin Flectric Power Company pursuant to a. 196.49, Mis. Stats., and Chapter PSC 112, Mis. Adm. Code, for Commission's determination as to the need for a certificate of public convenience and necessity for a project estimated to cost between \$1 and \$2 million. The Commission has determined to process this information as provided in s. PSC 112.05(2)(b)1, Mis. Adm. Coda.

The Commission hereby acknowledges receipt of and accepts the information for filing. The company, therefore, may proceed with the proposed replacement of the tubbing and tubbing support system for the furnace rear wall radiant superheater section of Oak Creek Unit 5 Boiler, as described in your filing, subject to the conditions contained herein.

The Commission has reviewed the information contained in your May 19, 1989 letter regarding the proposed project. The Commission has determined that the proposed facilities are necessary to assure the continued safe, reliable, and economic operation of the Oak Creek Unit 5 generation.

Installation and operation of the proposed facilities at the estimated cost will not lapair your utility's service, will not provide facilities unreasonably in excess of probable future requirements, and when placed in operation, will not add to the cost of service without proportionately increasing the value or available quantity thereof.

Mr. Thomas C. Cassidy Wisconsin Electric Power Company Page 2

This is a Type 3 action pursuant to PSC 2.92(3)(r), Wis. Adm. Code. In addition, no unusual circumstances have come to the attention of the Commission which would require further environmental review. It consequently requires neither an environmental impact statement under s. 1.11, Wis. Stats., nor an environmental assessment.

The location of these facilities are not within a flood hazard area. Consequently, there is no significant flood risk to the proposed project per Executive Order 73.

This authorization is subject to the following conditions:

- This determination is for a specific project as described at an estimated cost of \$1,779,000. Should the scope or design of the project be changed significantly, or if the expected project cost estimate exceeds or is less than that stated in your May 19, 1989 letter by more than 10 percont, your utility shall promptly notify the Commission.
- Your utility shall notify the Commission when the project has been completed, and final costs segregated by major accounts, shall be submitted to the Commission when available.
- The Commission retains jurisdiction in this matter.

By the Commission.

Bligned Jed day of August 1987 -

Jacqueline K. Reynolds
Secretary to the Commission

JKR:TLP:erb06028906

See attached Notice of Appeal Rights.

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cc: TDS/Steven WandenHeuvel CTCC/Terrence 8, Fox

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CHARLES M THOMPSON CHAIRMAN MARY LOU MUNTS. COMMISSIONER CHERYL L. POFANL. COMMISSIONER

4802 Steppinger Avenue P.O. Box 7854

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PUBLIC SERVICE COMMISSION

Mr. Thomas J. Cassidy File No. 6630-CE-161

Executive Vice President Wisconsin Electric Power Company 231 West Michigan P.O. Box 2046 Milwaukee, WI 53201

RE: Application by the Wisconsin Electric Power Company for Authority to Install Five Gas Conditioning Systems for Units 5 and 6 at Its Oak Cresk Power Plant - Extension of

Dear Mr. Cassidy:

In response to your April 3, 1989 request, the Commission hereby grants Wisconsin Electric Power Company a two-year extension of the effective period (until March, 1992) of the Commission's March 16, 1989, order authorizing the subject project.

All other conditions contained in the March 16, 1989, Commission order remain in effect.

By the Commission.

signed 16th day of Man 1989

Jacqueline K. Reynolds Secretary to the Commission

JKR:TLP:erb05098913

See attached Notice of Appeal Rights,

environmental review. It consequently requires neither an environmental impact statement under s. 1.11, Wis. Stats., nor an

Notice is hereby given that the expenses incurred by the Commission which are reasonably attributable to the investigation of this construction filing will be assessed against and collected



CHARLES H THOMPSON CHARMAN MARY LOU MURTS COMMISSIONER CHERYL L FORML COMPUSSIONER 4802 Sheborgan Avenue P. O Box 7854 Mapson, Wisconsin 83707

Charles J. Cummings, Attorney Wisconsin Gas Company 626 E. Wiaconsin Avenue Milwaukee, WI 53202

Dear Mr. Cummings:

This is in response to your waiver request dated January 23, 1989. The Commission granted your company a waiver of the provisions of your Priority of Service Program which would limit your customer, Consolidated Papers, to not more than 300 Dthm.s per day. The term of this waiver is two years.

By the Commission.

Bigned 16th day of Men 1989

Jacqueline K. Reynolds Secretary to the Commission

JKR:KMW:mad05088902

See attached Notice of Appeal Rights.

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MARY LDU MURITE, CHAMPERSON BRANK O TERZIC, COMMISSIONER OCINGR EDDAR, COMMISSIONER ANCI SHEROYGAN AVERIE P.O. JOS 1864 VADICON WISCONSIN SUNT

Pr. Thomas J. Cassidy Jacoutive Vice President Wisconsin Electric Power Company 231 West Michigan P.O. Rex 2046 Sillwakee, WI 53101

6630-Œ-119

Re: Replacement of the Unit 5 Reheater Tubing at the Oak Creek Power Plant.

Dear Mr. Cossidy:

This letter order concerns the June 11, 1986 application of Wisconsin Electric Fover Gregory, as an electric public utility, purmant to s. 196.49, Wis. Statn., and Capter ISC 117, Wis. Adm. Code, for authority to replace, over a three-year paried of time, the Unit 5 reheater tubing at its Oak Creek power plant, in the city of Oak Creek, Hilandwe County.

This action is classified as a Type 3 action parament to PSC 2.90(3)(z), Wis. Alm. Code. In addition, no unusual circumstances have come to the attention of the comission which would require further environmental review. It consequently requires neither an environmental impact statement under s. 1.11, Wis. Stats., nor an environmental assessment.

The cormission has investigated your application and finds the proposed facility improvements are necessary to satisfy the reasonable needs of the public for an adequate supply of electric energy in your system. The commission also finds that the general public interest and convenience and necessity require that Missecurin Electric Power Corpuny, as an electric public utility, construct and place in operation the facilities described in your June 11, 1986 application, at a total estimated cost of \$2.458,000 distributed as follows:

 Material
 \$ 988,000

 installation
 \$1,095,000

 Erroval Cost
 \$ 375,000

 Total
 \$2,458,000

Acrostated project retiremins are estimated to be \$749,383. The cost of the project would be ret through internal sources and from the figurace and male of securities.

The courieries therefore certifies that Wisconsin Electric Power Corpuny, as an electric soldie unility, he and it hereby is authorized to construct, install and there is over a three-year period of

K L 5

Mr. Thomas J. Cassidy Page 2

time, the reheater tubing in its Unit 5 boiler, at its Oak Creek power plant as decribed in its Iwae II. 1986 application to the commission, all at an estimated project - .t of 52,458,000; and that said utility be and it hereby is authorized to so proceed, subject to the following conditions:

- This authorization is for the specific project described in the June 11, 1956 application and at the stated project cost; Should the "scope/design" of the project be changed significantly, or if the expected project cost estimate (as reviewed upon receipt of hids or vendor quotations or at any time during the project) escrees that stated showe by wore than 10%, your utility shall promptly notify the condission.
- Upon completion of the project, your utility shall inform the commission of the date the facilities were placed in service and report final costs, segregated by plant accounts and by function as listed in the cost estimate herein, when such become available.
- This authorization is valid only if construction is started within one year of the date hereof.
- 4. That before submitting any further applications for Ook Creek plant improvements on a partial or individual project basis, the utility shall proceed to file the proposed consolidated application for all major Ook Creek removation items planned for implementation as a result of the 1984 Plant Availability Study.
- 5. The commission retains jurisdiction in this motter.

Notice is hereby given that the expenses incurred or to be incurred by the complisation which are reasonably attributable to the investigation of this application shall be assessed and collected from the utility pursuant to s. 196.85, Wis. Stats., and Chapter PSC 5, Wis. Adm. Code.

By the Commission.

Signed 22nd day of 1986

Jacqueline K. Reynolds Secretary to the Commission

JKR:RSC:SES:reb

See attached Notice of Appeal Rights.

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rocation, or cost as determined at any time during the project.

- That upon completion of the project, applicant shall notify the commission when the facilities were placed in service and shall submit a final report of the actual costs incurred, segregated by plant accounts.
- 4. That jurisdiction is retained.

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State of Wincommin \ Public Service Commission

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MESS PLORES, CHARMAN BRANKO TERZIC, COMMISSIONER MARY LOU SHARTH, COMMISSIONER 4002 SHEBOYDAN AVENUE P.O. BOX 7564 MADISON, WISCONEN S1777

Mr. Thomas J. Cassidy
Executive Vice President
Visconsin Electric Power Company
231 West Michigan
P. O. Box 2046
Milwaukee, WI 53201

File No. 6630-CE-115

RE: Oak Creek Unit-7 Boiler Reheat Tube Replacement

Dear Mr. Cassidy:

The commissions pursuant to s. 196.49, Wis. Stats., and Chapter PSC 112.05(2), Wis. Adm. Code, hereby acknowledges receipt of and accepts for filling your proposal for the replacement of tubes in the boiler reheat section front wall, front and rear reheat pendant tube assemblies and crossover tubing associated with the Oak Creek Unit-7 Steam Generator, as described in your March 19, 1986 letter. The estimated project cost is \$1,121,610, distributed as follows:

Haterial Installation Removal Cost

622,560 375,305 123,745

Total project cost

\$1.121.610

An estimated \$271,756 would be retired from appropriate plant accounts.

Please notify the commission when the project is completed. Also, final cocts, segregated by plant accounts, shall be submitted to the commission when such become available.

THE STATE OF THE S

The commission retains jurisdiction in this matter.

By the Commission.

Signed 15th day of fruit 1586

Jacqueline K. Reynolds Secretary to the Commission

JKR:SES:erb

See attached Notice of Appeal Rights,

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State of Wisconsin \ PUBLIC SERVICE COMMISSION

MESS FLORES, CHARMAN SHANG TEXEC, COMMISSIONES MARY LOW MUSTS, COMMISSIONES 4802 SHESOYGAN PARENTS P.O. SCX 786

Mr. Helvin Anderson, Superintendent Spooner Municipal Electric Utility Spooner, WI 54801

File No. 5630-ER-3

Dear Mr. Anderson:

The commission, in its open meeting today, granted your utility's request for an extension of time until August 1, 1986, to submit 12 months of load research data and time-of-day rate for the large power customers with monthly demand of 200 kW or more.

If you have any questions, please contact Barbara Palecek of the Utility Rates Division staff at (608) 267-3516.

By the Commission.

Signed 15th day of David 1984

Jacqueline K. Reynolds Secretary to the Commission

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Mr. Thomas J. Cassidy File No. 6630-CE-114
Executive Vice President Wisconsin Electric Power Company 2 P.O. Box 2046 Milwaukee, WI 53201

Dear Mr. Cassidy:

The commission received your letter of January 5, 1988 withdrawing your application for conversion of the North Oak Creek Power Plant to atmospheric fluidized bed. The commission has directed that the docket in this matter be closed.

While this project is drawing to a close the commission feels it is appropriate to comment on your company's efforts. The commission would like to take this opportunity to compliment WEPCO for its vision in trying to develop and commercialize a new clean coal technology in a retrofit application to extend the useful life of this existing plant. The commission views WEPCO's attempts to bring about the new technology as innovative and in the commission with the new technology as innovative and in the commission with the new technology as innovative and in the commission with the new technology as innovative and in the commission with the new technology. the forefront of the effort to find new ways to cleanly producing electricity for Wisconsin.

In addition, the commission commends WEPCO's willingness to quickly change course when a lower cost alternation [Freque not late) to this project presented itself. The commission is pleased with the company's work on this project and is looking forward to future proposals that show the same innovation and effort.

Jacqueline K. Reynolds Secretary to the Commission

JKR: RSC: reb01138802

cc: H. S. Druckenmiller, DNR

See attached Notice of Appeal Rights.

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SSTP REPORTING ELECTRIC METER

Robert Welson, Esq.

205 Worth Michigan Avenue
Suita 3200

Chicago, IL 60601

GROUP

Wiles Berman, Esq. Wheeler, Van Sickle, Anderson, Horman & Bernan, S.C. 25 W. Main Street Suite #01 Madison, WI 53703

Res Investigation of the Proposed Interlata Access Charge Tariff of Wisconsin Bell, Inc.; the Intrastate Capacity Plan, and Other Related InterLATA Compensation Matters - Docket 6720-TR-100.

Petition for Clarification and/or Rehearing.

Dear Mr. Welson and Mr. Bermani

At its open meeting of Pebruary 4, 1988, the commission considered your Patition for Clarification and/or Rehearing filed in Docket

Although your filing was captioned "Petition for Rehearing," the commission determined that said filing did not meet the reason requirements for a Petition for Rehearing under sec. 227.49, State Mevertheless, the commission considered your filing and treated it; as though it were a Motion for Reconsideration and/or Clarification. The commission denied your Petition for Rehearing and accepted your Petition for Clarification.

The Wisconain Bell tariff for interLATA access charges now in affect is the one which took effect on January 1, 1988 and which includes the amortized \$6 million reduction in the common line charge. This tariff was approved by the commission for filing on Pecember 29, 1987.

By its order of January 28, 1988, the commission suspended the tariff filed by Wisconsin Bell in compliance with the commission's order of December 28, 1987, which in susmary was a tariff to mirror Bell's tariff on file with the FCC.



State of Wisconsin \ Public service commission

CHARLES H. THOMPSON, CHARMAN MARY LOU MUNTS, COMMISSIONER GEORGE R. EDGAR, COMMISSIONER 4802 Shebaygan Avenue P. O. Box 7854 Medison, Wisconson 53777

Mr. Thomas J. Cassidy Executive Vice President Wisconsin Electric Power Company 231 W. Michigan Street P. O. Box 2046 Milwaukee, WI 53201

Docket 6630-CE-114

Dear Mr. Cassidy:

The commission considered your request for postponement of the preliminary hearing in this docket at its March 17, 1987, open meeting, and determined to grant the request, under the following

understandings:

1. WEPCO is developing new information which it wishes to present at the preliminary hearing. This information must be submitted to the commission at least 60 days before the preliminary hearing will be reopened.

As you know, the hearing was opened on March 24, 1987, as scheduled, to accommodate persons who may not have been aware of the schedule change. No testimony was taken.

When WEPCO has submitted the information it intends to present at the preliminary hearing on the timing of your proposal, it may request that the preliminary hearing be reopened and the schedule will be reset.

By the Commission.

Signed 200 day of April 1987

Jacqueline K. Reynolds Secretary to the Commission

JXR: BEJ: vm104168702

cc: Parties

See attached Notice of Appeal_Rights.

State of Wisconsin \ PUBLIC SERVICE COMMISSION

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State of Wisconsin \ PUBLIC SERVICE COMMISSION

CHARLES H. THOMPSON, CHARMAN MARY LOU MUNTS, COMMISSIONER GEORGE R. EDGAR, COMMISSIONER 4802 Sheebygan Avenue P. O. Sox. 7854 Medison, Wisconsin 53707

Mr. Peter Anderson Wisconsin Environmental Decade Suite 5 14 W. Mifflin Street Madison, WI 53703

Docket 6630-CE-114

Dear Mr. Anderson:

The commission considered your motion to defer the North Oak Creek Project review at its open meeting of March 17, 1987, and determined to take no action on the motion.

The reason for this determination is that the motion is premature in view of the hearing on scheduling which has been noticed and deferred, per the letter of this date from the commission to Mr. Cassidy.

By the Commission.

Jacqueline K. Reynolds Secretary to the Commission

JXR: BEJ: vm104168703

cc: Parties Staff

See attached Notice of Appeal Rights.



State of Wisconsin \ PUBLIC SERVICE COMMISSION



tale of Winconsin Public BERVICE COMMISSION

MARY LOW MUITS, CHARPERSON SHANGO TERICO, COMMISSIONER GEORGE EDBAR, COMMISSIONER 4002 SHEBOYGAN AVENUE P.O. BOX 7864

Mr. Thomas J. Cassidy
Executive Vice President
Wisconsin Electric Power Company
231 West Hichigan
P. O. Box 2046
Milwaukee, WI 53201

File No. 6630-CE-113

RE: Refurbishment of the Unit 5 Electrostatic Precipitator at the Oak Creek Power Plant

Dear Mr. Cassidy:

This letter order concerns the January 23, 1986 application of Wisconsin Electric Power Company, as an electric public utility, pursuant to s. 196.49, Wis. Stats., and Chapter PSC 112, Wis. Adm. Code, for authority to refurbish, over a three-year period of time, the Unit 5 electrostatic precipitator at its Oak Creek Power Plant, in the city of Oak Creek, Milwaukee County.

This is a Type 3 action according to PSC 2.90(3), Wis. Adm. Code. In addition, no unique circumstances have come to the attention of commission staff that would require further environmental analysis of the proposal. It consequently requires neither an environmental impact statement under s. 1.11. Wis. Stats., nor an environmental assessment.

The commission has investigated your application and finds the proposed facility improvements are necessary to satisfy the reasonable needs of the public for an adequate supply of electric energy in your system. The commission also finds that the general public interest and convenience and necessity require that wisconsin Electric Power Company, as an electric public utility, construct and place in operation the facilities described in your January 23, 1986 application, at a total estimated gross cost of \$6,236,530, distributed as follows:

Mr. Thomas J. Cassidy Executive Vice President, WEP Page 2

Duct modifications	\$ 554.000
Precipitator control room, solid state voltage controls, rapper controls, etc. Precipitator plates, support hardware, electrode wires, tensioning weights, top partition plates, anti-sneak	1,523,000
baffles and insulation Allowance for funds used during	2,924,000
construction	141,530
Sub total	\$5,142,530
Removals Associated maintenance costs	767,000 327,000
Total estimated gross project cost	\$6,236,530

Associated project retirements are estimated to be \$547,000.

The commission therefore certifies that Wisconsin Electric Power Company, as an electric public utility, be and it hereby is authorized to construct, install and place in operation the facilities needed to refurbish, over a three-year period of time, the Unit 5 electrostatic precipitator at its Oak Creek Power Plant, as described in its January 23, 1986 application to the commission, all at an estimated gross project cost of \$6,236,530; and that said utility be and it hereby is authorized to so proceed, subject to the following conditions:

- This authorization is for the specific project described in your January 23, 1986 application and at the stated project cost. Should the scope/design of the project be changed significantly, or if the expected project cost estimate (as reviewed upon receipt of bids or vendor quotations or at any time during the project) exceeds that stated above by more than 101, your utility shall promptly notify the commission.
- Upon completion of the project, your utility shall inform
 the commission of the date the facilities were placed in
 service and report final costs; segregated by plant
 accounts and by function as listed in the cost estimate
 herein, when such become available.
- This authorization is valid only if construction is started within one year of the date hereof.
- 4. The commission retains jurisdiction in this matter.

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See attached Notice of Appeal Rights.

Jacqueline K. Reynolds
Secretary to the Commission

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See attached Notice of Appeal Rights.

cc: Service List Gordon Grant

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BUITE, CHAIMPERSON RIXE, COMMISSIONER KARL COMMISSIONER ISHEBOYGAN AVENUE P O BOX 7864 DN, WISCOMSIN 63707

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Duct modifications Precipitator control room,	\$ 554,000
solid state voltage controls, rapper controls, etc. Precipitator plates, support hardware, electrode wires, tensioning weights, top	1,523,000
partition plates, anti-sneak baffles and insulation Allowance for funds used during	2,924,000
construction	141,530
Sub total	\$5,142,530
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Total estimated gross project cost	\$6,236,530

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The commission therefore certifies that Wisconsin Electric Power Company, as an electric public utility, be and it hereby is authorized to construct, install and place in operation the facilities needed to refurbish, over a three-year period of time, the Unit 5 electrostatic precipitator at its Oak Creek Power Plant, as described in its January 23, 1986 application to the commission, all at an estimated gross project cost of \$6,236,530; and that said utility be and it hereby is authorized to so proceed, subject to the following conditions:

- 1. This authorization is for the specific project described in your January 23, 1986 application and at the stated project cost. Should the scope/design of the project be changed significantly, or if the expected project cost estimate (as reviewed upon receipt of bids or vendor quotations or at any time during the project) exceeds that stated above by more than 101, your utility shall promptly notify the commission.
- Upon completion of the project, your utility shall inform
 the commission of the date the facilities were placed in
 service and report final costs, represented by plant
 accounts and by function as listed in the cost catimate
 herein, when such become available.
- This authorization is valid only if construction is started within one year of the date hereof.
- 4. The commission retains jurisdiction in this matter.

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Mr. Thomas J. Cassidy Executive Vice President, WEP Page 3

Notice is hereby given that the expenses incurred or to be incurred by the commission which are reasonably attributable to the investigation of this application shall be assessed and collected from the utility pursuant to s. 196.85, Wis. Stats. and Chapter PSC 5, Wis. Adm. Code.

By the Commission.

Signed 34 day of

Jacqueline K. Reynolds Secretary to the Commission

JKR:SES:erb

See attached Notice of Appeal Rights.

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Utility	Unit			Event	Start of		End of		Duration in	Cause	
#*	#	*Unit Name	GAC NAC	Type	Start of Event		Event		hours	Code	Description
521	158	Oak Creek #5		МО	12/5/1979	1:13	12/12/1979	17:05	183.86	1160	
		Oak Creek									
521	158	#5 Oak Creek		U1	12/22/1979	0:37	12/22/1979	16:12	15.58	1060	
521	158	#5		U1	12/23/1979	22:08	12/24/1979	23:12	25.06	1080	
521	158			U1	12/29/1979	1:14	12/31/1979	1:27	48.21	8560	
521	158			РО	1/5/1980	7:35	3/17/1980	12:25	1708.83	1999	
521	158	1		U1	3/17/1980	14:02	3/18/1980	7:38	17.6	1080	
521	158	į.		U1	3/21/1980	9:24	3/21/1980	10:04	0.66	4269	
521	158			MO	3/21/1980	23:18	3/24/1980	0:05	48.78	4099	
521	158			U1	3/28/1980	23:22	3/29/1980	23:17	23.91	1080	
521	158			U1	4/15/1980	19:20	4/17/1980	21:06	49.76	1080	
521				U1	4/19/1980	10:56	4/20/1980	3:27	16.51	1080	
521				U1	4/20/1980	4:55	4/20/1980	7:38	2.71	4099	
521	158			U1	5/3/1980	1:09	5/4/1980	14:07	36.96	1080	
521	158			U1	5/24/1980	3:48	5/25/1980	15:59	36.18	4099	
521	158	Oak Creek #5 Oak Creek		U1	. 5/27/1980	20:25	6/2/1980	1:48	125.38	1080	
521	158	#5		U1	7/26/1980	0:18	7/27/1980	11:04	34.76	1060	
521	158			U1	8/2/1980	15:25	8/3/1980	6:08	14.71	340	ı
521	158			U1	8/3/1980	19:54	8/4/1980	2:17	6.38	340	
521	158	Oak Creek #5		U1	8/17/1980	0:30	8/18/1980	14:20	37.83	1080	

Utility	*Unit			Event	Start of				Duration in-	Cause	
#	#	Unit Name	GAC NAC	Type	Event		Event		hours	Code	Description
521	158	Oak Creek #5		U1	8/19/1980	5.13	8/20/1980	2:45	21.53	1080	
021	100	Oak Creek		O	0/10/1000	3.13	0/20/1300	2.40	21.00	1000	
521	158			U1	8/20/1980	3:23	8/20/1980	3:39	0.26	1080	
F 24	158	Oak Creek		MO	0/22/4080	40.40	0/0/4000	40.04	204.7	4000	
521	150	Oak Creek		INIO	8/22/1980	16:19	9/3/1980	13:01	284.7	1080	
521	158	ı		U1	9/13/1980	22:15	9/14/1980	6:39	8.39	3110	
		Oak Creek									
521	158	#5 Oak Creek		U1	9/22/1980	20:42	9/23/1980	8:28	11.76	1080	·
521	158			U1	10/3/1980	4:58	10/5/1980	21:17	64.31	1080	
		Oak Creek									
521	158			U1	10/27/1980	20:38	10/31/1980	10:18	85.66	1080	
521	158	Oak Creek		U1	11/5/1980	9:35	11/7/1980	6:11	44.6	1080	
321	130	Oak Creek		01	11/3/1900	9.55	11///1900	0.11	44.0	1000	
521	158	#5		U1	11/10/1980	9:21	11/11/1980	11:12	25.85	1080	
504	450	Oak Creek		N40	40/00/4000	00.54	40/04/4000	04.00.00	400.45	4.400	
521	158	#5 Oak Creek	<u> </u>	МО	12/23/1980	23:51	12/31/1980	24:00:00	192.15	1486	
521				МО	1/1/1981	0:01	1/5/1981	3:26	99.41	1486	
		Oak Creek									
521	158	#5 Oak Creek		U1	1/10/1981	20:40	1/12/1981	1:41	29.01	1080	
521	158			U1	1/17/1981	4:13	1/18/1981	15:22	35.15	1080	·
		Oak Creek									
521	158			U1	1/31/1981	1:54	2/3/1981	14:17	84.38	1060	
521	158	Oak Creek #5		U1	2/21/1981	4:47	2/22/1981	3:14 ₁	22,45	1080	
		Oak Creek		<u> </u>	2/21/1301	7,71	<i>LILLI</i> 1301	J. 14	22,70	1000	
521				U1	3/7/1981	22:17	3/8/1981	7:56	9.64	8560	
521	158	Oak Creek #5		U1	4/3/1981	23:43	4/6/1981	5:03	53.33	8580	
		Oak Creek			57 1001	20.10	., 3, 1331	0.00	33.30		
521				U1	4/6/1981	7:40	4/6/1981	11:06	3.43	4309	
521	158	Oak Creek		U1	4/14/1004	0.04	A/4 A/4004	4.00	4.00	4200	
521	158	#ɔ		UT	4/14/1981	0:24	4/14/1981	1:26	1.03	4309	

					Start of		End of		Duration in	Cause	
#			GAC NAC	Type	Event		Event		hours	Code	Description
		Oak Creek							ļ		
521	158			U1	4/28/1981	0:40	5/4/1981	3:57	147.28	1486	
504		Oak Creek			5/0/4004	2.07	5/0/4004	2.20	0.0	4000	
521	158	#5 Oak Creek		U1	5/8/1981	3:27	5/8/1981	3:39	0.2	4269	
521	158			U1	5/8/1981	23:33	5/11/1981	8:00	56.45	8325	
		Oak Creek		_							
521	158			U1	5/11/1981	8:00	5/12/1981	8:55	24.91	1040	
		Oak Creek									
521				РО	6/6/1981	0:09	6/6/1981	12:10	12.01	1999	
501	158	Oak Creek		РО	6/6/1981	13:20	6/6/1981	17:36	4.26	4400	
521	150	#5 Oak Creek		PU	0/0/1901	13.20	0/0/1901	17.30	4.20	4400	
521	158	}		PO	6/6/1981	18:53	7/13/1981	2:25	871.53	1999	
		Oak Creek						-			
521	158			U1	7/13/1981	4:20	7/14/1981	13:07	32.78	4309	
		Oak Creek									1
521	158			U1	7/14/1981	14:09	7/14/1981	14:14	0.8	4269	,
521	158	Oak Creek #5		U1	7/24/1981	22:34	7/27/1981	11:21	60.78	1060	
- JZ 1	100	Oak Creek			112411301	22.04	112111301	11.21	- 00.70	1000	
521	158			U1	7/27/1981	14:01	7/27/1981	14.09	0.13	4269	
		Oak Creek									
521	158			U1	7/31/1981	22:45	8/1/1981	1:57	3.2	1486	
504	450	Oak Creek			0/4/4004	2,44	0/0/4/004	0.54	54.40	4400	
521	158	#5 Oak Creek		U1	8/1/1981	2:44	8/3/1981	8:54	54.16	1486	
521	158	·		U1	8/3/1981	9:14	8/3/1981	12:22	3.13	1486	
	.00	Oak Creek		 	3, 3, 1001	0.14	3, 3, 1001		3.10		
521	158	#5		U1	8/13/1981	2:52	8/14/1981	3:03	24.18	1080	
		Oak Creek									
521	158			U1	8/23/1981	1:59	8/26/1981	1:34	71.58	8560	, , , , , , , , , , , , , , , , , , , ,
524	150	Oak Creek		U1	9/1/1981	0:23	9/1/1981	4:49	4.43	4609	
521		#5 Oak Creek		01	9/1/1961	0.23	9/1/1901	4.49	4.43	4009	
521	158	l .		U1	9/2/1981	4:21	9/2/1981	18:52	14.51	3621	
		Oak Creek			5,2,,501		3.2301				
521	158	#5		U1	9/2/1981	20:20	9/3/1981	5:45	9.41	4269	

					Start of		End of -		Durationin	Cause	
#	#		GAC NA	C Type	Event		Event		hours	Code	Description
		Oak Creek									
521	158			U1	9/6/1981	15:52	9/8/1981	8:50	40.96	1060	
504	450	Oak Creek		U1	0/00/4004	45.50	0/00/4004	2.40	25.70	1000	
521	158	#5 Oak Creek	 	101	9/20/1981	15:53	9/22/1981	3:40	35.78	1080	
521	158	(U1	9/29/1981	23:56	10/3/1981	12:04	84.13	1080	ļ
021	100	Oak Creek			0/20/1001	20.00	10/0/1001	12.04	04.10	1000	
521	158			U1	10/21/1981	20:47	10/28/1981	13:28	160.68	1486	
		Oak Creek									
521				U1	11/1/1981	15:08	11/3/1981	6:49	39.68	1080	i
1		Oak Creek									
521				U1	11/10/1981	3:54	11/10/1981	5:59	2.08	4269	
504		Oak Creek		114	44404004	0.00	444044004	2.00	4.70	4000	
521	158	#5 Oak Creek		U1	11/10/1981	6:33	11/10/1981	8:20	1.78	4269	
521	1			U1	12/7/1981	20.43	12/10/1981	16:05	67.36	1060	·
321		Oak Creek		0 1	12///1901	20.43	12/10/1901	10.03	07.50	1000	
521	1			U1	12/19/1981	6:36	12/19/1981	21:48	15.2	1060	
		Oak Creek									
521				U1	12/29/1981	2:31	12/31/1981	24:00:00	69.48	1040	
		Oak Creek									
521				U1	1/1/1982	0:01	1/4/1982	15:38	87.61	1040	Superheater, Repair Leak
		Oak Creek			4444600	4= 00	4.544000		00.05	4000	
521		#5 Oak Creek	ļ. <u></u> -	U1	1/4/1982	17:38	1/5/1982	14:35	20.95	1080	Economizer North, Repair Leak
521	158			U1	1/18/1982	6:45	1/18/1982	13:06	6.35	4303	Electrical problem in turbine trip circuit causing generator trip
321		Oak Creek		01	1/10/1902	0.45	1/10/1902	13.00	0.33	4302	generator trip
521	158			U1	1/18/1982	15:00	1/18/1982	18:49	3.81	4299	Control oil trouble
		Oak Creek	<u> </u>	- 		.5.50		10.10	3.01		
521	158	#5		U1	1/21/1982	1:33	1/21/1982	4:10	2.61	4299	Control oil trouble
		Oak Creek									
521				U2	1/30/1982	22:23	2/1/1982	0:45	26.36	1060	Out to repair reheat leak elev 81 northeast corner
		Oak Creek			0/45/:055		0/00/10			400-	
521	158	#5 Oak Creek	 	U1	2/15/1982	2:39	2/20/1982	15:25	132.76	1080	Leak at south inlet header to economizer-repair leaks
521	158			U1	2/20/1982	19:10	2/20/1982	23:51	4.68	4200	Turbine, unit trip on failure to maintain sufficient control oil pressure
J2 1	1	Oak Creek		0	2/20/1902	19.10	2/20/1902	23.51	4.00	4299	oii pressure
521	158			мо	2/25/1982	0:14	3/1/1982	10:10	105.93	266	 Wash air heater
521	100	110		IVIO	2/20/1002	0.14	3/1/1302	10.10	100.50	200	vvasii ali ilealei

Contraction of the Contraction o						Start of		End of		Duration in	Cause	
#	₩**	⊚Unit Name Oak Creek	GAC	NAC	∵lype∵ ∣	Event *		Event		hours	Code Description	41-1975-1804
521	158	#5			U1	3/1/1982	10:35	3/1/1982	11:21	0.76	4293 Unit trip	i
521	158				MO	3/11/1982	23:19	3/14/1982	11:36	60.28	540 Reheat tube north long elev 54	
521	158	Oak Creek #5			U2	3/19/1982	23:50	3/22/1982	9:35	57 <i>.</i> 75	Repair economizer leak repair leak on interme 1080 hdr 3 cell	d supth
521	158	Oak Creek #5			U1	3/22/1982	10:15	3/22/1982	12:00	1.75	4299 Unit trip on relay oil pressur	
521	158	Oak Creek #5			MO	4/3/1982	1:40	4/3/1982	3:35	1.91	4460 Turbine overspeeds	
521	158	Oak Creek			РО	4/3/1982	6:20	8/5/1982	7:17	2976.95	1800 Boiler and turbine, annual outage	
521	158	Oak Creek			U1	8/7/1982	23:44	8/9/1982	4:45	29.01	8560 clear precipitator grounds	
521	158	Oak Creek			U1	8/17/1982	0:20		3:42	51.36	540 ruptured reheat tube-replace section of tube	•
521	158	Oak Creek			U2	8/27/1982	0:30		4:33	76.05	1060 boiler, reheat leak	•
521	158	Oak Creek			U1	9/30/1982	23:15	-	5:35	6.33	1060 boiler, repair reheat tube leak EL 54 southeast	corner
521	158	Oak Creek			U1	10/12/1982		10/18/1982	5:38	134.58	1140 conv superheater, repair ruptured superheater	
521	158	Oak Creek			U2	11/11/1982		11/12/1982	7:05	30.16	1080 repair thermocoupling well in south econ inlet	
521	158	Oak Creek			U2	11/25/1982	0:30			202.91		·
		Oak Creek									1060 boiler, repair reheat leaks	
521	158	Oak Creek			U1	12/30/1982	0:08			47.86	1040 superheat leak	
		Oak Creek			U2	1/1/1983	0:01	1/3/1983	6:00	53.98	1060 repair reheat leaks	
521		Oak Creek			U2	1/3/1983	6:01	1/5/1983		44.76	1040 repair superheat leak	
521	158	#5 Oak Creek			U2	1/13/1983	21:00	1/16/1983	7:30	58.5	1060 repair reheat leaks	-
521	158	#5 Oak Creek	-		U1	1/21/1983	22:50	1/22/1983	7:46	8.93	1440 repair #3 primary air damper	
521	<u>15</u> 8	1			U1	2/3/1983	23:39	2/6/1983	18:00	66.35	1060 repair reheat leaks	

					Event	Start of		End of		Duration in	Process (2000)	
#	#	Unit Name Oak Creek	GAC	NAC	Type	Event		Event		hours	Code	Description
521	158	I .			U2	2/6/1983	18:01	2/9/1983	23:37	77.6	4613	repair high speed generator inboard hydrogen seal
		Oak Creek										intercepting valves closed causing turbine to roll back
521	158				U1	2/10/1983	15:30	2/10/1983	16:13	0.71	4262	and trip
521	158	Oak Creek			U1	2/14/1983	19:22	2/15/1983	5:59	10.61	3110	repair condenser leaks
021	100	Oak Creek				2/14/1303	15.22	2/10/1000	3.03	10.01	3110	Tepail Condenser reaks
521	158	#5			<u>U</u> 1	2/16/1983	22:15	2/20/1983	8:16	82.01	1040	repair superheat leak
521	158	Oak Creek			U1	2/16/1983	0.20	2/16/1983	9:50	0.3	4200	Limit tain togeting love an old governor tran Valva
321	150	Oak Creek		-	UI	2/10/1903	9:32	2/10/1903	9.50	0.3	4302	unit trip-testing low speed governor trap valve
521	158	#5			U1	2/20/1983	8:16	2/21/1983	8:17	24.01	4286	correct tubrine control oil problem
521	158	Oak Creek			U1	2/21/1983	8:20	2/21/1983	11:44	3.4	4440	high vibration intermediate property turbing
321	130	Oak Creek			UI	2/2//1903	0.20	2/2 1/ 1903	11.44	3.4	4140	high vibration intermediate pressure turbine
521	158	1		}	U1	2/21/1983	11:55	2/21/1983	13:25	1.5	4140	high vibration intermediate pressure turbine
		Oak Creek										
521	158	#5 Oak Creek			U1	2/28/1983	20:15	3/7/1983	7:00	154.75	1020	boiler tube leak in convection section
521	158				U1	3/7/1983	7:01	3/8/1983	11:34	28.55	1040	intermediate superheat tube leak at header north end
_		Oak Creek								-		
521	158				U1 .	4/29/1983	23:38	5/2/1983	6:11	54.55	1060	repair reheater leaks 1 & 4 cells
521	158	Oak Creek #5			PO	5/13/1983	19:49	6/12/1983	18:49	719	1800	annual outage
		Oak Creek										
521	158	L			U1	6/22/1983	17:20	6/23/1983	18:35	25.25	1060	took unit out to repair reheat leak in #1 cell
521	158	Oak Creek #5	'		U1	6/23/1983	18:35	6/24/1983	7:31	12.93	265	51 air heater out of service, won't turn
		Oak Creek										,
521	158	1	*		U3 .	7/19/1983	19:13	7/20/1983	18:59	23.76	1060	reheat leak on EL 86 south side of boiler
521	158	Oak Creek #5	*		U1	7/23/1983	16:58	7/25/1983	9:55	40.95	1060	broken reheat tube in #1 cell EL 54
		Oak Creek				7,23,1000	10.00	112011000	3.33	70.33	1000	DISKOTT CHOCK (USC III II I OCII EE OT
521	158	#5	*		U1	8/2/1983	. 9:18	8/6/1983	18:03	104.75	1060	reheat tube rupture
521	158	Oak Creek #5	*		U1	8/11/1983	7:10	8/12/1983	1:30	18.33	3440	internal leaks 6B and 6A feedwater heaters
	-	Oak Creek										
521	158	#5	*		U1	8/12/1983	1:30	8/12/1983	12:17	10.78	1050	repair leak at radiant superheat header

						Start of		End of		**************************************		
#			GAC	NAC	Type	Event		Event		hours	Code	Description
521	158	Oak Creek #5	*		U2	8/30/1983	20:04	9/6/1983	7:12	155.13	1060	reheat leak north wall elev 54
- 021		Oak Creek				0/00/1000		5/5/1505	7,12	100.10	1000	Torreat roak north wall clev o
521	158	#5	*		U1	10/6/1983	14:22	10/10/1983	14:02	95.66	1040	repair superheat leak
521	158	Oak Creek #5	*		PO	10/27/1983	22:29	12/31/1983	24:00:00	1585.51	1800	annual outage, extends into '84
02.		Oak Creek			. •			, ., ., .,				
521	158				PO	1/1/1984	0:00	2/13/1984	9:01	1041.01	1800	annual outage. Event is from '83, event number 110
521	158				U1	2/15/1984	17:59	2/18/1984	11:48	65.81	4140	inter. Press. Turb. Bearings
	,	Oak Creek				0.10.14.00.4	20.47				4000	
521	158	#5 Oak Creek			U1	3/2/1984	20:17	3/4/1984	22.32	50.25	1060	FIRST REHEATER
521					мо	4/12/1984	23:57	4/14/1984	3:30	27.55	4301	TURB GOVERNING SYSTEM
		Oak Creek										
521		#5 Oak Creek			U1	4/14/1984	3:30	4/15/1984	11:13	31.71	1040	SUPERHEATER LEAK
521		#5			МО	5/25/1984	2:42	5/30/1984	12:30	129.8	4261	TURBINE CONTROL VALVES
521	158	Oak Creek #5			U1	5/30/1984	12:30	5/30/1984	17:30	5	380	LIGHT OFF SYSTEMS
521	158	Oak Creek #5			МО	5/30/1984	17:30	5/31/1984	9:15	15.75	4261	TURBINE CONTROL VALVES
021		Oak Creek				0/00/1001	17.00	0/0 1/ 100 1	0.10	10.70	7201	TOTAL CONTINUE VICEVES
521	158				U1	5/31/1984	9:15	5/31/1984	23:00	13.75	1040	FIRST SUPERHEATER
521		Oak Creek #5			U1	5/31/1984	23:00	6/1/1984	3:00	4	410	OTHER BURNER PROBLEMS
		Oak Creek			<u> </u>		23113					
521	158				U1	6/1/1984	3:00	6/1/1984	5:11	2.18	1040	FIRST SUPERHEATER
521	158				U1	6/5/1984	12:58	6/9/1984	24:00:00	107.03	4040	BEARINGS
521		Oak Creek #5			U2	6/10/1984	0:01	6/10/1984	10:45	10.73	265	AIR PREHEATER
		Oak Creek										
521	158	#5 Oak Creek	-		U1	6/10/1984	10:45	6/11/1984	4:52	18.11	4040	BEARINGS
521	158	#5			U1	6/15/1984	17.39	6/17/1984	2:57	33.3	1040	SUPERHTR LEAK
521	158	Oak Creek #5	*		U1	7/3/1984	11:54	7/8/1984	14:01	122.11	1040	FIRST SUPERHEATER
521	100	#3	<u> </u>	لـــــــــــــــــــــــــــــــــــــ	U I	11311904	11.54	110/1904	14.01	144.11	1040	I II/OT OUPERHEATER

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Jtility	Unit				Event	Start of		and the contract of the contra				
#		Unit Name		NAC	Type	Event		Event		hours	Code	Description
521	158	Oak Creek	 *	'	U1	7/11/1984	l 5⋅39	7/11/1984	10:00	4.35	1060	FIRST REHEATER
		Oak Creek	+	 	10.	11111100	1	77177100.	10.55		1000,	TROTILLIER
521	158	3 # 5	*'	'	U2	7/11/1984	13:41	7/13/1984	9:27	43.76	1050	SECOND SUPERHEATER
	†	Oak Creek	1		,							
521	158	0ak Creek	<u>*</u> '	 '	U3	8/11/1984	1:11	8/11/1984	21:30	20.31	240'	PULVERIZED COAL BIN
521	158		 *	'	U1	8/11/1984	21:30	8/12/1984	3:00	5.5	.1 240	PULVERIZED COAL BIN
		Oak Creek	+	 	10.	0/11/1001		0/12/100-	0.00			FOLVERIZED SOME BILV
521	158	#5	*'	'	U3	8/12/1984	3:01	8/12/1984	10:51	7.83	240	PULVERIZED COAL BIN
		Oak Creek	,	'	· ·							
521	158		* . !	<u> </u>	U1	8/20/1984	21:07	8/23/1984	11:48	62.68	1040	SUPERHEAT LEAK
521	158	Oak Creek	*	'	U3	9/7/1984	23:42	9/9/1984	0:15	24.55	3134	1 AIR EJECTOR PIPING & VLVS
- 52 1		Oak Creek	+		103	3///1007		רטטוופוט	0.10	24,00	3101	AIR EJECTOR FIFTING & VEVS
521	158		*	'	U1	9/10/1984	17:10	9/13/1984	20:18	75.13	105C	SECOND SUPERHEATER
		Oak Creek			· · · · · · ·							
521	158		* '	<u> </u>	U1	9/30/1984	11:03	9/30/1984	18:33	7.5	1070	SECOND REHEATER
521	158	Oak Creek		'	U1	10/16/1984	1 2:06	10/16/1984	21:58	19.86	364/	4 PROTECTION DEVICES
521		Oak Creek	+		101-	10/10/1504		10/10/1504	21.50	19.00	3044	PROTECTION DEVICES
521	158	1	* '	'	U1	10/31/1984	19:35	11/11/1984	13:28	257.88	1040	FIRST SUPERHEATER
		Oak Creek		ļ	'							
521	158		*	<u> </u>	U2	11/30/1984	22:07	12/2/1984	22:25	72.3	1040	FIRST SUPERHEATER
504		Oak Creek	'	1	1	10/0/4004	0.40	13/14/1004	04:54	457.40	1000	OT LED ATILIO TUDEO
521	158	0ak Creek	 '	<u> </u>	U1	12/8/1984	8:43	12/14/1984	21:54	157.18	1005	GENERATING TUBES
521			 *	1	U3	12/28/1984	14:58	12/31/1984	24:00:00	81.03	1040	FIRST SUPERHEATER
		Oak Creek	 			12.25	- · · · · · · · · · · · · · · · · · · ·	12.5	2 1.00.0		 -	11101 331 2.112
521	158	3 #5		<u> </u>	U3	1/1/1985	0:01	1/2/1985	1:54	25.88	1040	FIRST SUPERHEATER
		Oak Creek		- T		1117/4005	1 22:40	111211005	10:10	20	1200	THE TAKE
521	158	0ak Creek		<u>'</u>	U2	1/17/1985	22:18	1/19/1985	10:18	36	1060	FIRST REHEATER TUBE LEAKS
521	1 1	I .	'	1	U1	2/8/1985	15:54	2/9/1985	13:30	21.6	3440	HI PRESS HTR TUBE LEAK
		Oak Creek	+	\vdash			· · · · · · · · · · · · · · · · · · ·		10.22		1	THE COURT TO BE BEAUTI
521	158	#5]!	'	U1	2/9/1985	13:30	2/10/1985	8:23	18.88	1040	FIRST SUPERHEATER
		Oak Creek	1					1			1 , , _ ,	
521	158	# 5	'	'	U1	3/17/1985	12:09	3/22/1985	12:36	120.45	<u>1150'</u>	SECOND SUPERHEATER

					Start of		End of			Cause	
#		Onit Name Oak Creek	GAC NAC	⊺Type≟ ∣	Event		Event		hours	Code*	<u>Description</u>
521	158			мо	4/2/1985	1:24	4/6/1985	12:00	106.6	1005	GENERATING TUBE
		Oak Creek									
521	158	#5 Oak Creek		U1	4/2/1985	0:44	4/2/1985	1:02	0.3	1000	TRIP - UNKOWN
521	158			SF	4/6/1985	12:00	4/9/1985	2:35	62.58	1005	GENERATING TUBE
504		Oak Creek			4/40/4005	40.04	4/40/4005	47.04		2440	LIL DDGGG LITD TUDG LEAVE
521	158	#5 Oak Creek		U1	4/10/1985	10:31	4/12/1985	17:31	55	3440	HI PRESS HTR TUBE LEAKS
521	158	#5		U1	5/18/1985	1:46	5/21/1985	1:37	71.85	1050	SUPERHEATER LEAK
521	158	Oak Creek #5		U1	6/3/1985	20:20	6/5/1985	13:00	40.66	4609	OTHER EXCITER PROBLEMS
-		Oak Creek									
521	158	#5 Oak Creek		МО	6/5/1985	13:00	6/7/1985	8:59	43.98	1070	SECOND REHEATER
521	158			U1	6/7/1985	23:47	6/9/1985	6:44	30.95	1070	SECOND REHEATER
		Oak Creek					044044005	40.00		4050	
521	158	#5 Oak Creek		U1	6/9/1985	8:08	6/12/1985	13:22	77.23	1050	SUPERHEATER LEAK
521	158	#5		РО	6/27/1985	19:17	8/15/1985	5:50	1162.55	1800	ANNUAL OUTAGE
521	158	Oak Creek #5		U1	8/16/1985	8:25	8/19/1985	10:26	74.01	880	FLYASH HANDLING
521	158	Oak Creek #5		U1	8/27/1985	17:05	8/28/1985	14:07	21.03	1040	FIRST SUPERHEATER
	158	Oak Creek		U1	9/18/1985	17:45		23:11	101.43		FIRST SUPERHEATER
521	156	Oak Creek		01	9/10/1903	17.45	9/22/1905	23.11	101.43	1040	FIRST SUFERHEATER
521	158			МО	10/1/1985	17:08	10/3/1985	10:26	41.3	1070	SECOND REHEATER
521	158	Oak Creek #5		мо	10/3/1985	12:14	10/4/1985	4:54	16.66	4290	HYDRAULIC SYSTEM PUMPS
_		Oak Creek									
521	158	#5 Oak Creek		U1	10/11/1985	20:50	10/15/1985	13:59	89.15	1050	SUPERHEAT LEAK
521	158	#5		U1	10/21/1985	5:40	10/21/1985	23:30	17.83	920	FLYASH EQUIPMENT BREAKDOWN
521	158	Oak Creek #5		U1	10/26/1985	22:27	10/31/1985	19:24	116.95	1050	SUPERHEAT LEAK
521		Oak Creek		МО	12/27/1985		12/29/1985	22:50	68.75		ELECTROSTATIC PRECIP PROBLEMS
5∠ I	158	[#5		LIVIO	12/2//1905	2.05	12/29/1905	22.50	00.75	0000	ELECTROSTATIC PRECIP PROBLEMS

Utility	Unit			*Event	Start of		End of				
#		Unit Name	GAC NAC	Type	Event		Event		hours	Code	Description
504		Oak Creek			10/04/4005	7.50	10/04/1005	04.00.00	40.00	0.0	FUEL DIN EVELOCION
521	158	#5 Oak Creek		U1	12/31/1985	7:58	12/31/1985	24:00:00	16.03	90	FUEL BIN EXPLOSION
521	158			U1	1/1/1986	0:01	1/5/1986	17:35	113.56	90	FUEL BIN EXPLOSION. EVENT STARTED 12-31-85
021		Oak Creek			17 11 1333	0.0.1	11 07 1000				
521	158			U1	1/6/1986	22:47	1/7/1986	6:18	7.51	880	FLYASH SYSTEM PROBLEMS
		Oak Creek									
521	158			U1 ,	1/24/1986	16:50	2/5/1986	0:09	271.31	1005	GENERATING TUBE LEAK
521	158	Oak Creek		МО	3/10/1986	21:40	3/14/1986	13:10	87.5	8560	 PRECIPITATORS FIELD GROUNDS
321		Oak Creek		IVIO	3/10/1980	21.40	3/14/1300	13.10	07.5	0300	TREGITATORS FILLD GROUNDS
521	158			SE	3/14/1986	13:10	3/17/1986	11:59	70.81	1005	GENERATING TUBE LEAK
		Oak Creek									
521	158		*	МО	4/7/1986	15:53	4/8/1986	4:00	12.11	1060	FIRST REHEATER TUBE LEAK
504		Oak Creek			4/0/4000	4.00	4/40/4000	7.07	102 11	4040	FIRST CUREDUEATER
521	158	#5 Oak Creek		U1	4/8/1986	4:00	4/13/1986	7:07	123.11	1040	FIRST SUPERHEATER
521	158		*	мо	4/15/1986	0:58	4/17/1986	3:00	50.03	1040	FIRST SUPERHEATER
		Oak Creek		1	.,						
521	158		*	SF	4/17/1986	3:00	4/17/1986	23:58	20.96	4640	SEAL OIL SYSTEM AND SEALS
		Oak Creek									
521	158	#5 Oak Creek	*	U1	4/18/1986	14:17	4/20/1986	12:30	46.21	1040	FIRST SUPERHEATER
521	158		*	U1	4/20/1986	12:30	4/21/1986	21:44	33.23	1005	CONVECTION TUBE
. 521		Oak Creek		-	4/20/1000	12.00	4/2 1/ 1300	۵۱	00.20	1000	CONVECTION TOBE
521	158		*	U1	4/25/1986	21:51	4/28/1986	4:33	54.7	4140	A4 TURBINE BEARING LEAK
		Oak Creek									
521	158		*	U2	4/28/1986	11:10	5/1/1986	13:03	73.88	4140	A4 TURBINE BRG OIL LEAK
521	158	Oak Creek	*	U2	5/1/1986	22:06	5/9/1986	17:53	187.78	4140	A4 TURBINE BRG OIL LEAK
521		#5 Oak Creek		UZ	0/1/1900	22.00	01811800	17.53	107.78	4 140	INTERNAL LEAKAGE 7A FDWTR 2ND SET OF
521	158		*	U1	5/10/1986	7:25	5/10/1986	21:24	13.98	3440	HEATERS
		Oak Creek									
521	1		*	U1	6/18/1986	17:04	6/22/1986	19:30	98.43	1020	CONVECTION PASS TUBE LEAK
		Oak Creek			0/00/4000	7.05	0/00/4000	40:47	44-	0440	A O D EFEDIAVATED LIFATED LEAVES
521	158	#5 Oak Creek	-	U2	6/23/1986	7:35	6/23/1986	19:17	11.7	3440	A&B FEEDWATER HEATER LEAKS
521	158		*	U1	7/2/1986	16:37	7/6/1986	4:34	83.95	1020	CONVECTION PASS TUBE LEAK
521	158	#5		UT	//2/1986	16:37	7/6/1986	4:34	83.95	1020	CONVECTION PASS TUBE LEAK

						Start of				Duration in	Cause	
#			GAC	NAC	Type	Event		Event		hours	Code	Description
521	158	Oak Creek #5	*		U2	7/6/1986	12:00	7/7/1986	11:15	23.25	1050	SECOND SUPERHEATER
		Oak Creek							•			
521	158		*		U1	7/10/1986	1:12	7/10/1986	1:52	0.66	9900	OPERATOR ERROR
521	158	Oak Creek #5	*		U1	7/10/1986	1:52	7/11/1986	14:35	36.71	1040	FIRST SUPERHEATER LEAK
521	158	Oak Creek #5	*		SF	7/11/1986	14:35	7/13/1986	10:38	44.05	1040	FIRST SUPERHEATER LEAK
		Oak Creek				77171000	14.00		10.00	17.00		
521	158		*		U1	7/13/1986	14:35	7/13/1986	15:07	0.53	4299	HYDRAULIC SYSTEM PROBLEMS
521	158	Oak Creek #5	*		PO	7/19/1986	4:18	9/29/1986	13:45	1737.45	1800	ANNUAL OUTAGE
504		Oak Creek			114	0.000,440,000	40.45	40/5/4000	0.00	400.75	205	OTHER AIR PREHEATER PROPERTIES
521	158	#5 Oak Creek	^		U1	9/29/1986	13:45	10/5/1986	0:30	130.75	265	OTHER AIR PREHEATER PROBLEMS
521	158	#5			U1	10/5/1986	0:30	10/9/1986	9:15	104.75	1005	GENERATING TUBE LEAK
521	158	Oak Creek #5			МО	10/17/1986	0.04	10/19/1986	6:32	54.46	4299	OTHER HYDRAULIC SYSTEM PROBLEMS
021		Oak Creek				10/1//1000	0.01	10/10/1000	0.02	01.10	1200	OTTIENT TO SEE OF OTTENT TO SEE OF OTTENT TO SEE OTTENT TO
521					МО	10/21/1986	1:22	10/23/1986	12:00	58.63	8560	ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #5			мо	10/23/1986	12:00	11/11/1986	13:21	457.35	1510	FLUEGAS DUCTS
521	158	Oak Creek			МО	11/15/1986	18.50	11/16/1986	11:52	17.03	8560	PRECIPITATION INSPECTION
321		Oak Creek	-		IVIO	11/13/1900	10.50	11/10/1900	11.52	17.03	0300	FIXEGIFITATION INSPECTION
521		#5			МО	12/12/1986	21:45	12/14/1986	6:27	32.7	8560	PRECIPITATOR PROBLEM
521	158	Oak Creek #5			MO	1/9/1987	20:46	1/11/1987	1:33	28.78	520	REPLACE SUPERHTR DRAIN VLV
		Oak Creek										
521	158	#5 Oak Creek			U1	2/9/1987	9:31	2/9/1987	10:39	1.13	4299	OTHER HYDRAULIC SYSTEM PROBLEMS
521	158	#5			U1	2/9/1987	10:54	2/9/1987	20:54	10	4260	MAIN STOP VALVE
521		Oak Creek #5			U1	2/19/1987	10:22	2/19/1987	11:08	0.76	4299	OTHER HYDRAULIC SYSTEM PROBLEMS
		Oak Creek	*		PO				12:15			
521	158	Oak Creek			170	4/10/1987	19.04	7/17/1987	12.15	2345.18	1000	ANNUAL OUTAGE
521	158		*		U1	7/17/1987	22:02	7/20/1987	10:18	60.26	4289	INTERMEDIATE PRESS TRBN BRNG

					Start of	a literatus in	End of		Duration in	Cause	Difference of the engineering services and the services and the services and the services and the services and the services and the services are services as the services are services and the services are services as the services are services as the services are services as the services are services are services as the services are services are services and the services are servic
#	Jili Heli Tolles		GAC	NAC Type	Event		Event		hours	Code	Description
521	158		*	U2	7/23/1987	10:48	7/25/1987	3:59	41.18	1040	SUPERHEAT LEAK
521	158		*	МО	8/4/1987	23:46	8/5/1987	7 19:19	19.54	3110	CONDENSER TUBE LEAK
521	158		*	МО	8/13/1987	20:18	8/17/1987	13:48	89.5	4260	REMOVE STEAM STRAINERS
521	158	Oak Creek #5 Oak Creek	*	U1	8/20/1987	13:23	8/23/1987	3:02	61.65	1050	SUPERHEAT PENDANT TUBE FAILURE
521	158		*	РО	9/7/1987	7:12	9/7/1987	7 7:42	0.5	4460	TURBINE OVERSPEED TEST
521	158	8 #5	*	мо	9/10/1987	22:15	9/12/1987	7 17:45	43.5	1040	FIRST SUPERHEATER
521	158			U2	10/4/1987	3:07	10/11/1987	7 11:10	176.05	4261	1 CONTROL VALVES
521	158			мо	10/30/1987	22:31	11/1/1987	7 14:30	39.98	1070	SECOND REHEATER
521	158	Oak Creek #5 Oak Creek		U2	1/16/1988	1:18	1/19/1988	0:07	70.81	1050	SECOND SUPERHEATER
521	158	l I	*	U2	5/28/1988	0:12	5/28/1988	6:50	6.63	4261	1 CONTROL VALVES
521	158			МО	8/20/1988	17:38	8/22/1988	7:51	38.21	1040	RADIANT SUPERHEAT LEAK
521	158			МО	8/26/1988	22:04	8/29/1988	8:34	58.5	1040	RADIANT SUPERHEAT LEAK
521	158	· ·	-	U1	8/30/1988	18:24	8/30/1988	23:12	4.8	3150	LOSS OF VACUUM
521	158	l I	*	МО	10/3/1988	21:20	10/4/1988	9:44	12.4	880	FLY ASH HANDLING
521	158		*	U2	11/16/1988	13:05	11/16/1988	14:00	0.91	3344	4 DEAERATOR
521	158		*	U2	11/16/1988	14:01	11/24/1988	21:52	199.85	8560	ELECTROSTATIC PRECIPITAOR
521	158	1	*	МО	11/28/1988	23:46	11/29/1988	11:55	12.15	3110	CONDDENSOR TUBE LEAKS
521	158	1	*	U2	12/15/1988	23:33	12/17/1988	1:24	25.85	1005	GENERATING TUBES
521		1 :	*	PO	12/28/1988	0:01	12/31/1988	24:00:00	95.98	1800	RENOVATION OUTAGE

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100000					Start of		End of		Duration in	WS 1/1/1/1/1/2	
#	#	Unit Name	GACN	IAC Type	Event		Event		hours	Code	Description
521	158	Oak Creek #5	*	РО	1/1/1989	0:01	6/17/1989	15:33	4023.5	1800	ANNUAL OUTAGE STARTED 12-28-88
		Oak Creek								<u> </u>	
521	158	_	*	U1	6/26/1989	1:05	6/26/1989	2:15	1.16	4700	GENERATOR VOLTAGE CONTROLS
521	158	Oak Creek #5	*	U2	6/26/1989	23:16	6/29/1989	7:30	56.23	1040	FIRST SUPERHEATER
521	158	Oak Creek #5	*	U2	10/1/1989	23:03	10/9/1989	9:19	178.26	1050	CONVECTION SUPERHEAT TUBE 947349 000000
<u> </u>		Oak Creek	 		10/1/1000	20.00	10/0/1000	0.10	170.20	1000	CONTROL CONTROL OF CAMERIA TO BE CALLED A CONTROL OF CONTROL OF CAMERIA CONTROL OF CAMERI
521	158	#5	*	МО	10/16/1989	22:59	10/19/1989	10:22	59.38	310	PULV MILL PROBLEM
521	158	Oak Creek #5	*	U1	10/24/1989	8:27	10/24/1989	11:57	3.5	4499	OTHER STEAM TURBINE PROBL
521	158	Oak Creek	*	U1	12/8/1989	6.30	12/14/1989	7:05	144.58	1005	GENERATING TUBE
321		Oak Creek			12/0/1303	0.50	12/14/1303	7.00	144.50	1000	OLIVEIVATINO FOBE
521	158	#5	*	SF	12/14/1989	7:05	12/14/1989	10:03	2.96	3612	SWITCHYARD SYSTEM
521	158	Oak Creek #5	*	U1	12/14/1989	16:01	12/14/1989	17:46	1.75	4292	HYDRAULIC SYSTEM FILTERS
		Oak Creek	*	U2	1/17/1990			23:45			
521	158	#5 Oak Creek		- 02	1/1//1990	2:25	1/18/1990	23.43	45.33	340	PUL. VENTAGE PROBLEMS
521	158	#5	*	МО	1/18/1990	23:45	1/20/1990	12:16	36.51	855	BLR. DRUM RELIEF / SAFETY VALVES
521	158	Oak Creek #5	*	U1	3/2/1990	3:04	3/2/1990	5:24	2.33	4262	INTERCEPT VALVES
521	158	Oak Creek	*	U1	3/25/1990	1:56	3/25/1990	5:10	3.23	4262	INTERCERT VALVES
521	150	Oak Creek		- 01	3/23/1990	1.56	3/23/1990	5.10	3.23	4202	INTERCEPT VALVES
521	158	l	*	МО	5/19/1990	1:20	5/21/1990	6:39	59.31	1070	SECOND REHEATER
521	158	Oak Creek #5	*	PO	9/7/1990	19:04	12/31/1990	24:00:00	2788.93	1800	PLANNED MAINTENANCE OUTAGE
		Oak Creek			0,7,7000	10.01	12/01/1000	21.00.00	2700.00		PLANNED MAINTENANCE OUTAGE - STARTED 9-
521	158		*	PO	1/1/1991	0:01	1/16/1991	18:22	378.35	1800	
521	158	Oak Creek #5	*	РО	1/24/1991	13:13	1/25/1991	1:20	12.11	3634	480V PROTECTION DEVICES
521	158	Oak Creek #5	*	PO	1/25/1991	19:35	1/29/1991	0:32	76.94	270	PRIMARY AIR DUCTS & DAMPERS
<u> </u>	100	Oak Creek			1720/1001	10.00	1/20/1001	. 0.02	70.34		THE TAIN DOOTS & DAME LING
521	158	#5	*	PO	1/29/1991	7:36	1/29/1991	13:42	6.1	3430	FDWTR REGULATING VALVE

Utility								End of		Duration in		
#		Unit Name	GAC	NAC	Type	Event		Event	1	hours	Code	Description
521	158		*	l	РО	2/2/1991	14:20	2/2/1991	16:33	2.21	9910	MAINTENANCE ERROR
521	158		*		мо	2/16/1991	0:37	2/18/1991	3:12	50.58	1800	MAINTENANCE OUTAGE
521	158		*		U1	2/18/1991	5:36	2/18/1991	5:55	0.31	1799	OTHER CONTROL PROBLEMS
521	158		*		U1	2/21/1991	1:03	2/21/1991	1:30	0.45	4302	HI SPEED TURB TRIP SYSTEM
521	158		*		U1	2/21/1991	6:10	2/21/1991	6:31	0.35	1799	OTHER CONTROL PROBLEMS
521	158		* .		U1	2/23/1991	18:00	2/23/1991	20:01	2.01	1799	OTHER CONTROL PROBLEMS
521	158		*	1	U1	4/5/1991	2:31	4/5/1991	5:31	3	4302	HIGH SPEED TURB TRIP SYSTEM
521	158		*		U1	4/13/1991	3:17	4/13/1991	4:57	1.66	3412	FDWTR PUMP DRIVE - STEAM TURB
521	158		*	!	U1	4/18/1991	0:47	4/18/1991	1:37	0.83	4302	HIGH SPEED TURB TRIP SYSTEM
521	158		*	ļ	U1	4/29/1991	4:25	4/29/1991	4:45	0.33	1799	OTHER CONTROL PROBLEMS
521	158		*		U1	5/7/1991	2:36	5/7/1991	3:06	0.5	1710	COMBUSTION / STM CONDITION CTRLS
521	158		*	l	U1_	5/28/1991	14:28	5/28/1991	15:11	0.71	1710	COMBUSTION CONTROLS
521	158		*		U1	5/28/1991	17:26	5/28/1991	17:59	0.55	1710	COMBUSTION CONTROLS
521	158		*	ļ	U1	5/28/1991	19:41	5/28/1991	20:24	0.71	1710	COMBUSTION CONTROLS
521	158		*		U1	8/11/1991	16:56	8/11/1991	18:08	1.2	9910	MAINTENANCE ERROR
521	158		*	. (U1	8/12/1991	5:20	8/12/1991	7:48	2.46	250	53 MILL FEEDER TRIP
521	158		*	ı	MO	8/23/1991	10:03	8/25/1991	21:28	59.41	1060	FIRST REHEATER
521	158		*	l	U2	8/27/1991	19:16	8/29/1991	17:00	45.73	1040	FIRST SUPERHEATER
521	158	Oak Creek #5	*]	МО	8/29/1991	17:00	9/7/1991	18:35	217.58	4260	MAIN STOP VALVE

Utility	Unit				Event	Start of		End of		Duration in	Cause	Description
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
521	158		*		U1	9/18/1991	4:33	9/18/1991	5:39	1.1	4700	GENERATOR VOLTAGE CONTROLS
521	158		*		U1	10/24/1991	5:48	10/24/1991	6:15	0.45	1710	COMBUSTION CONTROLS
521			*		U1	10/24/1991	6:43	10/24/1991	7:12	0.48	1710	COMBUSTION CONTROLS
521	158		*		U1	10/25/1991	5:59	10/25/1991	6:26	0.45	1710	COMBUSTION CONTROLS
521	158		*		U1	11/30/1991	3:58	11/30/1991	6:42	2.73	1710	COMBUSTION CONTROLS
521	158		*		МО	12/30/1991	0:01	12/31/1991	23:59	47.96	1800	PLANNED MAINT. OUTAGE
521	158		*		PO	1/1/1992	0:02	2/1/1992	20:46	764.73	1800	PLANNED MAINT. OUTAGE (STARTED 12-30-91)
521	158		*		МО	2/1/1992	21:15	2/1/1992	23:13	1.96	338	PULVERIZER CONTROL SYS
521	158	L	*		мо	2/1/1992	1:35	2/2/1992	3:28	1.88	9910	MAINTENANCE ERROR
521	158		*		MO	2/2/1992	17:45	2/3/1992	18:10	24.41	4283	LUBE OIL SYS VALVES & PIPING
521	158		*		U1	2/5/1992	9:52	2/5/1992	11:17	1.41	3412	FEED PUMP DRIVE STEAM TURBINE
521	158		*		U1	2/14/1992	0:05	2/14/1992	18:07	0.752083333	9910	MAINTENANCE ERROR
521	158		*		U1	3/15/1992	4:40	3/15/1992	5:22	0.7	3412	FEED PUMP DRIVE STEAM TURBINE
521	158		*		U1	3/27/1992	3:48	3/27/1992	4:10	0.36	3113	CONDENSER TUBE & WTRBX CLEANING
521	158		*		U1	3/27/1992	4:17	3/27/1992	4:47	0.5	1700	FEEDWATER CONTROLS
521	158		*		U1	7/1/1992	9:45	7/1/1992	11:45	2	380	LIGHT OFF IGNITERS
521	158		*		U1	7/1/1992	13:14	7/1/1992	22:36	9.36	380	LIGHT OFF IGNITERS
521	158		*		U1	7/16/1992	13:22	7/16/1992	16:15	2.88	1799	OTHER CONTROL PROBLEMS
521	158	Oak Creek #5	*		U1	7/19/1992	16:00	7/19/1992	16:16	0.26	380	LIGHT OFF IGNITERS

Utility	Unit			Event	Start of		End of		Duration in	Cause	Description
#	#	Unit Name	GAC	NAC Type	Event		Event		hours	Code	Description
521	158	Oak Creek #5	*	U1	7/19/1992	17:01	7/19/1992	17:10	0.15	380	LIGHT OFF IGNITERS
		Oak Creek	_		7/40/4000	4= 0.4	7/10/1000	17.45	2.40		HOUT OFF IONITED
521	158	#5 Oak Creek	*	U1	7/19/1992	17:34	7/19/1992	17:45	0.18	380	LIGHT OFF IGNITERS
521	158	#5	*	U1	7/28/1992	0:17	7/28/1992	0:39	0.36	1710	COMBUSTION CONTROLS
521	158		*	U1	8/10/1992	20:52	8/10/1992	22:34	1.7	1750	BURNER MANAGEMENT SYSTEM
521	158		*	U1	9/7/1992	21:32	9/7/1992	22:26	0.9	1750	BURNER MANAGEMENT SYSTEM
521		Oak Creek #5	*	U1	9/9/1992	10:14	9/9/1992	11:07	0.88	1750	BURNER MANAGEMENT SYSTEM
521	158	Oak, Creek #5	*	U1	9/9/1992	21:39	9/9/1992	23:23	1.73	1750	BURNER MANAGEMENT SYSTEM
021		Oak Creek			0,0,1002	21.00	0/0/1002	20.20	1.70	1100	BOTALLA MARKATA CONTRACTOR CONTRA
521			*	U1	10/4/1992	22:42	· 10/4/1992	23:30	0.75	380	LIGHT OFF SYSTEMS
521	158		*	U1	10/5/1992	0:52	10/5/1992	2:13	1.35	380	LIGHT OFF SYSTEMS
521	158		*	МО	10/7/1992	23:37	10/8/1992	12:30	12.88	4430	GLAND SEAL SYSTEM
521		Oak Creek #5	*	МО	10/8/1992	12:30	10/9/1992	6:37	18.11	1090	RADIANT SUPERHEAT LEAK
521	158	Oak Creek #5	*	МО	11/12/1992	21:54	11/14/1992	12:45	38.84	1090	OTHER BIOLER TUBE LEAKS
521		Oak Creek	*	U1	11/20/1992	2:42	11/20/1992	4:08	0.41	0270	WET COAL
521		#5 Oak Creek		01	11/20/1992	3.43	11/20/1992	4.00		9270	WEI GOAL
521	158	#5	*	U1	12/8/1992	17:21	12/9/1992	2:43	9.36	1799	OTHER BOILER CONTROL PROBLEMS
521	158		*	U1	12/9/1992	3:17	12/9/1992	3:52	0.58	380	LIGHT OFF SYSTEMS
521		Oak Creek #5	*	U1	12/9/1992	8:37	12/9/1992	10:13	1.6	380	LIGHT OFF SYSTEMS
521		Oak Creek #5	*	U1	12/13/1992	21:20	12/14/1992	1:46	4.43	380	LIGHT OFF SYSTEMS
521	158	Oak Creek #5	*	U1	12/14/1992		12/17/1992	2:45	71.98		FIRST SUPERHEATER
		Oak Creek	*	мо	12/17/1992		12/18/1992	16:30	37.75		TUBE SUPPORTS / ATTACHMENTS

Jnit Name Jak Creek Jak Creek	* * * * * * * *	U1 U1 U1 U1 U1 U1 U1 MO PO	12/20/1992 12/20/1992 12/20/1992 12/31/1992 1/1/1993 1/5/1993 1/17/1993 1/25/1993 3/20/1993	16:37 21:50	1/5/1993 1/17/1993 1/17/1993 1/29/1993	10:13 17:40 22:10 0:31 2:15 9:07 14:35 18:07	2.66 1.04 0.33 0.4 0.45 3.18 1.55 0.4 88.61	380 380 4302 1750 3950 0:00	Description OTHER PULVERIZER PROBLEMS LIGHT OFF IGNITERS LIGHT OFF IGNITERS LO SPEED TURB TRIP DEVICE BURNER MANAGEMENT SYSTEM PROCESS COMPUTER FEEDWATER CONTROLS BURNER MANAGEMENT SYSTEM FIRST REHEATER
rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5 rak Creek 5	* * * * * * * * * * * * * * * * * * * *	U1 U1 U1 U1 U1 MO PO	12/20/1992 12/20/1992 12/31/1992 1/1/1993 1/5/1993 1/17/1993 1/17/1993 1/25/1993	16:37 21:50 0:07 1:48 5:56 13:02 17:43 10:38	12/20/1992 12/20/1992 12/31/1992 1/1/1993 1/5/1993 1/17/1993 1/17/1993 1/29/1993	17:40 22:10 0:31 2:15 9:07 14:35 18:07	1.04 0.33 0.4 0.45 3.18 1.55	380 380 4302 1750 3950 0:00	LIGHT OFF IGNITERS LIGHT OFF IGNITERS LO SPEED TURB TRIP DEVICE BURNER MANAGEMENT SYSTEM PROCESS COMPUTER FEEDWATER CONTROLS BURNER MANAGEMENT SYSTEM
Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek 5	* * * * * * * * * *	U1 U1 U1 U1 U1 MO PO	12/31/1992 1/1/1993 1/5/1993 1/17/1993 1/17/1993 1/25/1993	21:50 0:07 1:48 5:56 13:02 17:43 10:38	12/20/1992 12/31/1992 1/1/1993 1/5/1993 1/17/1993 1/17/1993 1/29/1993	0:31 2:15 9:07 14:35 18:07	0.4 0.45 3.18 1.55	4302 1750 3950 0:00 1750	LO SPEED TURB TRIP DEVICE BURNER MANAGEMENT SYSTEM PROCESS COMPUTER FEEDWATER CONTROLS BURNER MANAGEMENT SYSTEM
5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek	* * * * * * * * * * * * * * * * * * * *	U1 U1 U1 U1 MO PO	1/1/1993 1/5/1993 1/17/1993 1/17/1993 1/25/1993	1:48 5:56 13:02 17:43 10:38	1/1/1993 1/5/1993 1/17/1993 1/17/1993 1/29/1993	2:15 9:07 14:35 18:07	0.45 3.18 1.55 0.4	1750 3950 0:00 1750	BURNER MANAGEMENT SYSTEM PROCESS COMPUTER FEEDWATER CONTROLS BURNER MANAGEMENT SYSTEM
5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek	* * * * * * *	U1 U1 U1 MO PO	1/5/1993 1/17/1993 1/17/1993 1/25/1993	5:56 13:02 17:43 10:38	1/5/1993 1/17/1993 1/17/1993 1/29/1993	9:07 14:35 18:07	3.18 1.55 0.4	3950 0:00 1750	PROCESS COMPUTER FEEDWATER CONTROLS BURNER MANAGEMENT SYSTEM
5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek 5 dak Creek	* * * * * *	U1 U1 MO PO	1/17/1993 1/17/1993 1/25/1993	13:02 17:43 10:38	1/17/1993 1/17/1993 1/29/1993	14:35 18:07	1.55	0:00 1750	FEEDWATER CONTROLS BURNER MANAGEMENT SYSTEM
5 Pak Creek 5 Pak Creek 5 Pak Creek 5 Pak Creek	* * * * *	MO PO	1/17/1993	17:43 10:38	1/17/1993	18:07	0.4	1750	BURNER MANAGEMENT SYSTEM
5 Pak Creek 5 Pak Creek 5 Pak Creek 5	* *	МО	1/25/1993	10:38	1/29/1993				
5 Pak Creek 5 Pak Creek 5	*	РО				3:15	88.61	1060	 FIRST REHEATER
5 Oak Creek 5	*		3/20/1993	9.42	4/00/4000				THOU MENE WENT
5	*			3.72	4/30/1993	15:31	989.81	1800	PLANNED MAINTENANCE OUTAGE
ak Creek		PO	5/1/1993	2:17	5/1/1993	2:39	0.36	1710	COMBUSTION CONTROLS
5	*	РО	5/1/1993	15:00	5/1/1993	16:09	1.15	1710	COMBUSTION CONTROLS
ak Creek 5	*	U1	5/19/1993	1:04	5/19/1993	1:30	0.43	1990	BOILER PERFORMANCE TESTING
ak Creek 5	*	U1	5/20/1993	1:36	5/20/1993	1:55	0.31	1990	BOILER PERFORMANCE TESTING
ak Creek 5	*	U1	5/20/1993	17:18	5/20/1993	17:51	0.55	1710	COMBUSTION CONTROLS
5	*	U1	5/20/1993	20:11	5/20/1993	20:36	0.41	1710	COMBUSTION CONTROLS
5	*	МО	6/16/1993	2:43	6/16/1993	3:29	0.76	4293	HYDRALIC SYSTEM PIPES & VLVS
5 .	*	SF	9/25/1993	11:13	9/25/1993	11:50	0.61	1710	COMBUSTION CONTROLS
oak Creek 5	*	U1	10/16/1993	7:55	10/16/1993	9:47	1.86	4601	EXCITATION FIELD RHEOSTAT
a 5 a 5 a 5 a	k Creek k Creek k Creek k Creek	k Creek k Creek k Creek *	k Creek	k Creek	k Creek	k Creek * U1 5/20/1993 17:18 5/20/1993 k Creek * U1 5/20/1993 20:11 5/20/1993 k Creek * MO 6/16/1993 2:43 6/16/1993 k Creek * SF 9/25/1993 11:13 9/25/1993 k Creek	k Creek * U1 5/20/1993 17:18 5/20/1993 17:51 k Creek * U1 5/20/1993 20:11 5/20/1993 20:36 k Creek * MO 6/16/1993 2:43 6/16/1993 3:29 k Creek * SF 9/25/1993 11:13 9/25/1993 11:50 k Creek	k Creek * U1 5/20/1993 17:18 5/20/1993 17:51 0.55 k Creek * U1 5/20/1993 20:11 5/20/1993 20:36 0.41 k Creek * MO 6/16/1993 2:43 6/16/1993 3:29 0.76 k Creek * SF 9/25/1993 11:13 9/25/1993 11:50 0.61 k Creek	k Creek * U1 5/20/1993 17:18 5/20/1993 17:51 0.55 1710 k Creek * U1 5/20/1993 20:11 5/20/1993 20:36 0.41 1710 k Creek * MO 6/16/1993 2:43 6/16/1993 3:29 0.76 4293 k Creek * SF 9/25/1993 11:13 9/25/1993 11:50 0.61 1710 k Creek

Utility	Unit.				Event	Start of		End of		Duration in	Cause	Description
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
521	158		*		U1	11/6/1993	16:36	11/6/1993	17:59	1.38	3950	PROCESS COMPUTER
521	158		*		U1	11/16/1993	22:51	11/22/1993	11:00	132.14	4520	GENERATOR STATOR GROUND
521	158	Oak Creek #5 Oak Creek	*		МО	11/22/1993	11:00	11/23/1993	1:09	14.15	4613	HYDROGEN SEAL HS
521	158		*		МО	12/27/1993	1:01	12/31/1993	23:59	118.96	4240	LP TURBINE BEARING
521	158		*		МО	1/1/1994	0:02	1/3/1994	17:26	65.4	4240	LP TURBINE BEARING
521	158	i i	*		U1	1/6/1994	10:53	1/6/1994	12:39	1.76	1700	FEEDWATER CONTROLS
521	158		*		U1	3/25/1994	6:07	3/25/1994	8:13	2.09	1710	COMBUSTION CONTROLS
521	158	#5	*		U1	6/3/1994	16:29	6/8/1994	8:00	111.51	1090	OTHER BOILER TUBE LEAK
521	158		*		SF	6/12/1994	9:15	6/16/1994	5:23	92.13	4260	MAIN STOP VALVE
521	158		*		U2	7/1/1994	22:48	7/4/1994	4:07	53.31	1090	OTHER BOILER TUBE LEAK
521	158		*		SF	7/4/1994	4:07	7/4/1994	5:06	0.98	380	LIGHT OFF SYSTEM
521	158	1	*		U3	7/8/1994	1:17	7/8/1994	9:09	7.86	3119	CONDENSER TUBE LEAK
521	158		*		U1	7/30/1994	11:03	7/30/1994	13:50	2.78	9900	OPERATOR ERROR
521	158		*		U2	9/6/1994	22:40	9/11/1994	13:10	110.5	1050	SECOND SUPERHEATER
521	158		*		U1	9/21/1994	14:29	9/21/1994	17:02	2.55	1570	BURNER MANAGEMENT SYSTEM
521	158		*		U1	9/22/1994	1:20	9/22/1994	2:59	1.65	1570	BURNER MANAGEMENT SYSTEM
521	158		*		U1	9/22/1994	3:24	9/22/1994	6:18	2.9	1570	BURNER MANAGEMENT SYSTEM
521	158		*		U2	10/9/1994	22:53	10/12/1994	10:47	59.9	1040	FIRST SUPERHEAT
521	158	Oak Creek #5	*		U1	10/18/1994	7:03	10/18/1994	7:46	0.71	1710	COMBUSTION CONTROLS

				Event	Start of		End of	N.	Duration in_	Cause	
#	#``	Oak Creek	GAC NAC	ੋ Type∜ ∣	Event		Event		hours	"Code	Description
521	158	#5	*	U1	10/19/1994	1:31	10/19/1994	1:59	0.46	1710	COMBUSTION CONTROLS
521	158		*	РО	12/1/1994	0:27	12/13/1994	2:00	289.54	1800	PLANNED ANNUAL OUTAGE
521	158		*	SF	12/13/1994	2:00	12/15/1994	6:14	52.23	1005	GENERATING TUBE
521	158		*	SF	12/15/1994	6:14	12/15/1994	18:14	12	3644	PROTECTION DEVICES
521	158	Oak Creek #5 Oak Creek	*	мо	12/20/1994	21:28	12/21/1994	8:24	10.93	3110	CONDENSER TUBE LEAK
521	158		*	U1	3/1/1995	3:40	3/1/1995	4:50	1.16	3271	INTAKE GRATING FOULING
521	158		*	МО	3/28/1995	23:04	4/2/1995	21:43	118.65	1060	FIRST REHEATER
521	158		*	SF	4/2/1995	21:43	4/2/1995	23:09	1.43	380	LOSS OF FLAME IGNITORS
521	158		*	U1	4/3/1995	13:19	4/3/1995	13:34	0.25	1710	COMBUSTION CONTROLS
521	158	_	*	МО	4/4/1995	1:15	4/4/1995	1:40	0.41	4750	TEST REVERSE POWER RELAY
521	158	i ·	*	U1	5/2/1995	9:10	5/8/1995	1:23	136.21	1005	GENERATING TUBE
521	158		*	U1	5/10/1995	19:47	5/16/1995	2:34	126.78	1005	GENERATING TUBE
521	158	#5	*	SF	7/4/1995	17:00	7/8/1995	0:32	79.53	4240	TURBINE BEARINGS
521	158	[· · ·	*	U1	7/13/1995	12:21	7/13/1995	13:20	0.98	3499	OTHER FDWTR SYS PROBLEMS
521	158		*	U1	7/13/1995	20:53	7/13/1995	21:58	1.08	3499	OTHER FDWTR SYS PROBLEMS
521	158		*	U1	7/16/1995	0:39	7/16/1995	1:13	0.56	9270	WET COAL
521	158		*	мо	9/1/1995	0:20	9/4/1995	17:57	89.61	670	FDWTR PPNG DOWNSTREAM OF REG VLV
521	158	1	*	РО	11/11/1995	0:42	12/27/1995	2:26	. 1129.73	4510	ROTOR COLLECTOR RINGS
521	158	Oak Creek #5	*	U1	12/29/1995	10:52	12/29/1995	11:35	0.71	4309	TURB CONTROL SYS DIGITAL CONTRO

Jtility						Start of		End of		And the control of th	00000000000000000000000000000000000000	A Benefit Consultation with the consultation of the second
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
504	450	Oak Creek				5,00,4000	5.40		22.22	444.40	1000	
521	158				МО	5/30/1996	5:19	6/3/1996	20:30	111.18	4260	NIL
504	450	Oak Creek			U1	6/5/4000	10.40	6/9/1996	40.44	07.00	4040	NIII
521	100	#5 Oak Creek			01	6/5/1996	12:40	0/9/1996	13:44	97.06	1040	NIL
521	158		*		U1	6/12/1996	17:16	6/24/1996	8:04	278.79	1040	NII
321	100	Oak Creek	-		<u> </u>	0/12/1330	17.10	0/24/1000	0.04	270.73	1040	TVIL
521	158		*		U3	8/23/1996	1:38	8/24/1996	1:15	23.61	3110	NIL
		Oak Creek							1			1
521	158		*		U1	8/26/1996	19:24	9/2/1996	0:54	149.5	1040	NIL
1		Oak Creek				·-						
521	158		*		U1	9/3/1996	12:03	9/8/1996	14:15	122.2	1040	NIL
		Oak Creek										
521	158		*		U1	9/10/1996	0:36	9/19/1996	15:59	231.38	1040	NIL
		Oak Creek						ľ				
521	158		*		U1	9/19/1996	19:23	9/19/1996	19:45	0.36	380	
		Oak Creek	l. 1									
521	158	#5 Oak Creek	*		U1	9/23/1996	8:18	9/23/1996	8:45	0.45	1470	
521	150		*		U3	11/21/1996	12:00	11/25/1996	3:46	87.76	4611	
321	130	Oak Creek			03	11/21/1990	12.00	11/23/1990	3.40	07.70	4011	
521	158		*	l,	U1	11/25/1996	3:46	11/26/1996	5:25	25.65	1055	
		Oak Creek				1172071000		11,20,1000	0.20	20.00		
521	158		*		U1	12/20/1996	2:51	12/20/1996	13:30	10.65	250	
		Oak Creek				-				-		DPU51 Failure Initiated Unit Trip Due to Compute
521	158	#5	*	- 1	U1	2/21/1997	17:43	2/21/1997	23:30	5.78	3950	Communication Problems
		Oak Creek										
521	158		*	į	MO	3/4/1997	0:56	3/8/1997	13:05	108.15	4611	Maint Outage Replace Hydrogen Cooler Gaskets
		Oak Creek		-								
.521	158		*		<u>U1</u>	3/10/1997	8:26	3/17/1997	20:36	180.16	1040	Superheat Leak
504	450	Oak Creek	*	.	U1	2/22/4007	40.00	2/27/4007	10.50	440.0	4040	Company and Tolk all and
521	158	#5 Oak Creek			υI	3/22/1997	19:38	3/27/1997	18:56	119.3	1040	Superheat Tube Leak
521	152		*	ļ	U1	4/8/1997	10:24	4/15/1997	2:17	159.88	1040	Superheat Tube Leak
JZ 1	100	Oak Creek			<u> </u>	4/0/1337	10.24	7/13/133/	2.17	109.00	1040	Joupennear Tube Leak
521	158		*	1	U1	5/8/1997	20:33	5/11/1997	19:03	70.5	1040	Superheat Tube Leak
		Oak Creek								, 5.6	.0.0	
521	158		*		U3	5/16/1997	16:24	5/18/1997	19:45	51.35	1040	Delayed Outage to Repair Tube Leak

Utility						Start of		End of		Duration in		
#	#	Unit Name Oak Creek	GAC	NAC	Type	Event		Event		hours	Code	Description
521	158		*		U2	5/22/1997	0:04	5/22/1997	16:30	16.43	4293	Repair EHC Piping Leak
50.4	450	Oak Creek			1.1.4	710011007	45.04					
521	158	#5 Oak Creek			U1	7/29/1997	15:31	7/29/1997	16:40	1.15	3416	Steam Boiler Feed Pump Trip
521	158	#5	*		U1	8/11/1997	18:59	8/16/1997	15:41	116.7	1040	Superheat Tube Leak
521	158		*		U1	8/20/1997	7:49	8/26/1997	22:05	158.26	.1040	Superheat Tube Leak
521	158		*		PO	12/26/1997	4:18	12/31/1997	23:59	139.68	1800	Planned Annual Outage
521	158		*		PO	1/1/1998	0:01	4/3/1998	13:03	2221.03	1800	Planned Annual Outage (started 12-26-97)
521	158	Oak Creek #5	*		МО	5/6/1998	23:04	5/7/1998	6:20	7.26	4430	Gland Seal System
521	158	Oak Creek #5	*		МО	5/23/1998	5:26	5/30/1998	18:24	180.96	4260	Main Stop Valves
- 521	158	Oak Creek #5	*		U1	6/13/1998	16:22	6/13/1998	16:53	0.51		Failure of Unit Computer
521	158	Oak Creek #5	*		U2	6/16/1998	0:21	6/16/1998	14:45	14.4	3110	Condenser Tube Leak
521	158	Oak Creek #5	*		SF	6/16/1998	14:45	6/20/1998	12:30	93.75	4609	Other Exciter Problems
521	158	Oak Creek #5	*		U1	6/20/1998	12:30	6/21/1998	1:21	12.85	9900	Operator Error
521	158	Oak Creek #5	*		PO	7/4/1998	17:18	7/4/1998	19:08	1.83	4460	Overspeed Trip Test
521	158	Oak Creek #5	*		МО	7/11/1998	1:15	7/13/1998	5:22	52.11	4640	Seal System and Seals
521	158		*		МО	7/23/1998	7:28	7/24/1998	22:47	39.31	800	Repair South Drum Door Leak
521	158		*		U2	9/11/1998	17:28	9/12/1998	6:14	12.76	8550	Precipitator Fouling
521	158	Oak Creek #5	*		U1	9/14/1998	7:30	9/14/1998	13:40	6.16	3261	Travelling Screen Fouling
521	158	Oak Creek #5	*		U1	9/19/1998	10:17	9/19/1998	10:55	0.63	410	Burner Problems
521	158	Oak Creek #5	*		мо	9/25/1998	23:21	10/2/1998	2:30	147.14	1800	Maintenance Outage

Utility			1			Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
504	450	Oak Creek			1.10	40/40/4000	04.50	40/44/4000	0.40	44.20	0550	Dua sinitatan Faulin n
521	158	#5 Oak Creek			U3	10/10/1998	21:50	10/11/1998	9:13	11.38	8550	Precipitator Fouling
521	158		*		MO	11/25/1998	21:37	11/30/1998	1:13	99.6	8656	Planned Outage for Precip Repairs
		Oak Creek			WIO	11/20/1000	21.07	1170071000	1.10		- 0000	Training datage for thought topalie
521	158		*		U1	12/6/1998	10:37	12/6/1998	14:00	3.38	4550	Generator Brgs and Lube Oil System
		Oak Creek										
521	158		*		U2	12/31/1998	10:35	12/31/1998	23:59	13.4	540	Reheat Steam Piping Up to Main Stop VIvs
504	450	Oak Creek	*		U2	1/1/1999	0:01	1/2/1999	0.51	22.02	E40	Reheat Steam Piping Up to Main Stop VIvs (started 12-
521	158	#5 Oak Creek	-		02	1/1/1999	0.01	1/2/1999	9:51	33.83	540	31-99)
521	158		*		U2	1/12/1999	0:52	1/15/1999	10:34	81.69	1040	Tube Leak Repair
021		Oak Creek				11,12,1000	0.02	17 107 1000	10.01	0 1100	1010	Tubo Zouki Kopan
521	158	#5	*		U1	1/21/1999	19:50	1/22/1999	5:49	9.98	1799	DCS Drop 5 Problems
		Oak Creek										
521			*		U1	1/30/1999	10:22	1/30/1999	11:36	1.23	1020	TBFP Trip - Back Pressure
504		Oak Creek				4/20/4000	40.04	4/20/4000	44.04	0.00	4000	Facility Duckleys
521	158	#5 Oak Creek			U1	1/30/1999	12:01	1/30/1999	14:21	2.33	4609	Exciter Problems
521	158		*		U1	3/27/1999	8:58	4/1/1999	18:30	129.53	1080	 Economizer Tube Leak
32.		Oak Creek					0.00					
521	158	#5	*		MO	4/27/1999	1:34	4/28/1999	15:00	37.43	1060	Reheat Tube Repair
		Oak Creek										
521	158		*		MO	4/28/1999	15:00	5/2/1999	19:33	100.55	3431	Repair FW Tie Valves
504	150	Oak Creek	*		U1	0/24/4000	4:35	6/24/1999	5:16	0.00	1750	
521	158	#5 Oak Creek			UT	6/24/1999	4.35	6/24/1999	5, 16	0.68	1/50	Unit Trip on Loss of Flame Scanner on 1A & 2A Ignitor
521	158		*		U2	8/17/1999	8:11	8/17/1999	13:07	4.93	3261	Travelling Water Screen Fouling
		Oak Creek				3				.,,,,		
521	158		*		U1	8/17/1999	13:53	8/23/1999	14:11	144.3	1040	Superheat Tube Leak
		Oak Creek										
521	158		*		U1	9/14/1999	23:28	9/14/1999	23:58	0.5	370	Loss of Flame Scanners 1A/2A
521	158	Oak Creek	*		MO	10/23/1999	2.15	10/26/1999	2:25	72.16	3/131	Repair of Feed Pmp Discharge Limitorque VIv
021	130	Oak Creek			IVIO	10/23/1333	2.15	10/20/1333	2.25	12.10	3431	LS NUI Meter in Cntrl Rm Was Not Calibrate with
521	158		*		U1	10/26/1999	3:31	10/26/1999	11:14	7.71	4309	Action Pack in Bazler Cabinet
					·							

Utility	Unit		Ě	vent S	tart of		End of	_	Duration in	Cause	
#			GAC NAC T				Event				Description
521	168		P	0	1/1/1977	0:09	1/30/1977	22:36	718.45	1999	
521	168	Oak Creek #6 Oak Creek	U	1	2/1/1977	2:02	2/1/1977	2:53	0.85	4301	
521	168		U	1	2/11/1977	22:37	2/13/1977	23:29	48.86	1060	
521	168	i	U	1	2/19/1977	1:58	2/21/1977	0:03	46.08	1060	
521		I .	U	1	2/22/1977	20:51	2/24/1977	12:55	40.06	1080	
521	168		U	1	3/5/1977	1:25	3/7/1977	6:16	52.85	1060	·
521	168	#6 Oak Creek	U	1	3/11/1977	22:40	3/14/1977	3:59	53.31	1060	
521	168	#6 Oak Creek	U	1	3/14/1977	9:16	3/16/1977	5:50	44.56	1040	
521	168	#6 Oak Creek	U		4/3/1977	7:58	4/6/1977	4:12	68.23	1005	
521	168	Oak Creek	U		5/7/1977	0:45	5/9/1977	3:38	50.88	1100	
521	168	Oak Creek	U		5/19/1977	22:20	5/20/1977	3:10	4.83	1060	
521 521	168 168	Oak Creek	U		5/28/1977 6/11/1977	0:18	5/30/1977 6/14/1977	15:19 2:20	63.01 73.03	1040 1060	
521	-	Oak Creek	U		6/14/1977	23:55	6/15/1977	5:17	5.36	1060	
521		Oak Creek #6	U		6/15/1977	23:59	6/17/1977	4:49	28.83	1040	
521	168		U	1	7/7/1977	12:34	7/11/1977	2:56	86.36	1000	
521	168		U	1	7/26/1977	18:36	7/27/1977	0:01	5.41	8560	
521	168	1	U	1	7/31/1977	0:36	7/31/1977	20:08	19.53	1060	
521	168	Oak Creek #6	U	1	8/1/1977	23:51	8/2/1977	1:44	1.88	4609	

		A W		E	Event	Start of		End of	and the second s			
#	# .	Unit Name	GAC	NAC :	Туре	Event		Event		hours	Code	Description
		Oak Creek										
521	168	#6		L	J1	8/11/1977	0:13	8/12/1977	15:49	39.59	1060	
		Oak Creek					-					
521	168	#6		L	J1	8/27/1977	0:15	8/29/1977	19:10	66.91	1060	
		Oak Creek									· -	
521	168	#6		L	J1	9/9/1977	23:32	9/12/1977	4:48	53.26	1060	
		Oak Creek										
521	168	#6	1	L	J1	9/18/1977	6:50	9/18/1977	23:58	17.13	1455	
		Oak Creek					•					
521	168	#6		lι	J1	9/24/1977	1:48	9/26/1977	4:50	51.03	1040	
		Oak Creek										·
521	168			L	J1	9/28/1977	21:46	9/29/1977	6:29	8.71	340	
		Oak Creek	1									
521	168		1 1	l.	J1	10/16/1977	9.11	10/22/1977	5:47	140.6	1005	
021		Oak Creek	-		,	10/10/10//		10,22,10,7	0.17	110.0	1000	
521	168				J1	11/18/1977	23:46	11/21/1977	8:07	56.35	1060	
321	100	Oak Creek	 			1171071071	20.40	11/21/101/	0.07	00.00	1000	
521	168				J1	11/25/1977	21.13	11/27/1977	1:23	28.16	1060	
321	100	Oak Creek	-		, ,	11/25/19/7	21.13	11/2//19//	1.23	20.10	1000	
521	168				J1	12/23/1977	U-33	12/24/1977	3:30	26.95	1060	
321	100	Oak Creek				12/23/19/7	0.55	1212411911	3.30	. 20.33	1000	
E21	168			.	J1	1/4/1978	17:30	1/5/1978	23:40	30.16	1000	
521	100	Oak Creek	-) I	1/4/19/0	17.30	1/3/19/0	23.40	30.16	1000	
504	400				o	4 (7 (4 0 7 0	4.40	0/00/4070	0.40	4050	4000	
521	168			ļF	,0	1/7/1978	1:13	2/28/1978	6:13	1253	1999	
504	400	Oak Creek		١.		0/00/4070	0.40	0/0/4070	4.40	40.45	1000	
521	168		 		J1	2/28/1978	8:43	3/2/1978	4:10	43.45	4099	
		Oak Creek										
521	168				J1	3/10/1978	21:48	3/11/1978	13:30	15.7	8560	
		Oak Creek										
521	168			Ĺ	J1	3/20/1978	19:05	3/20/1978	20:58	1.88	340	
	4 = -	Oak Creek			.,			_,				
521	168				J1	3/21/1978	13:22	3/23/1978	4:47	39.41	1040	
		Oak Creek										
521	168			Į.	J1	3/23/1978	20:15	3/26/1978	19:04	70.81	4640	
		Oak Creek		ļ								
521	168			L	J1	4/18/1978	22:00	4/19/1978	6:06	8.1	4269	
		Oak Creek						-				
521	168	#6		١L	J1	4/24/1978	0:45	4/24/1978	19:58	19.21	1080	

		4						Duration in	Cause	
# ,		Unit Name GA	C NAC Tyl	pe Event		Event 7		hours	Code	Description
521	168	Oak Creek #6	U1	5/11/1978	13:10	5/14/1978	11:58	70.8	1060	
		Oak Creek	- -	0,11,1070	10.10	0/14/10/0		70.0	1000	
521	168	#6	U1	5/23/1978	9:29	5/24/1978	12:05	26.6	1080	
504	168	Oak Creek	U1	0/0/4079	12.00	6/0/4070	7.40	40.04	4000	
521		Oak Creek		6/6/1978	13:06	6/8/1978	7:43	42.61	1000	
521	168	#6	U1	7/1/1978	0:57	7/5/1978	1:12	96.25	1060	
		Oak Creek								
521	168	#6 Oak Creek	U1	8/2/1978	21:16	8/4/1978	5:04	31.8	1080	
521	168		U1	8/12/1978	0:40	8/14/1978	4:53	52.21	1060	
		Oak Creek								
521	168		U1	8/19/1978	0:22	8/21/1978	2:36	50.23	1060	
521	168	Oak Creek	U1	8/25/1978	23:49	8/28/1978	1:29	49.66	1060	
- 52 1		Oak Creek		0/23/19/0	23.43	0/20/19/0	1.23	49.00	1000	
521	168	#6	U1	9/2/1978	0:21	9/5/1978	6:37	78.26	1060	
504		Oak Creek		044044070	2.24	0/40/4070	2.45		4000	
521	168	#6 Oak Creek	U1	9/16/1978	0:34	9/18/1978	3:45	51.18	1060	
521	168		U1	9/22/1978	23:49	9/26/1978	6:14	78.41	1060	
		Oak Creek								
521	168		U1	9/30/1978	1:12	10/2/1978	12:23	59.18	1060	
521	168	Oak Creek #6	U1	10/3/1978	23:17	10/4/1978	11:24	12.11	1400	
		Oak Creek		10,0,10,0				12.11	, , , , ,	
521	168		U1	10/14/1978	0:34	10/16/1978	10:34	58	1060	
521	168	Oak Creek #6	U1	11/4/1978	บ∙บ3	11/7/1978	3:07	75.06	1060	
		Oak Creek		11/4/13/0	0.03	111111310	3.07	7 3.00	1000	
521	168	#6	PO	11/11/1978	10:30	12/26/1978	1:21	1094.85	1999	
504		Oak Creek	114	4/0/4070	40.44	4/44/4670	47.65	40.05	4000	
521	168	#6 Oak Creek	U1	1/9/1979	16:14	1/11/1979	17:05	48.85	1060	
521	168		U1	1/12/1979	15:26	1/14/1979	0:44	33.3	1040	
		Oak Creek			-					
521	168	#6	U1	1/21/1979	1:04	1/22/1979	2:12	25.13	1040	

					vent Start of		End of			1 900000 annual 90000 (annual)	, timeth
#	#		GAC	NAC T	ype Event		Event		hours	Code	Description
504	400	Oak Creek		,,	4/05/4070	00.00	4/00/4070	40.55	22.52	4040	
521	168	Oak Creek		U.	1/25/1979	23:23	1/28/1979	19:55	68.53	1040	
521	169			U	2/22/1979	22:44	2/26/1979	3:06	76.36	1060	
JZ 1		Oak Creek	-		2/22/19/9	22.44	2/20/19/9	3.00	70.30	1000	
521	168			۔ ا	3/2/1979	0:33	3/4/1979	5:28	52.91	1060	
		Oak Creek				27.5.5	0	0.20	02.01	1000	
521	168	#6		U1	3/19/1979	22:23	3/22/1979	6:07	55.73	1060	
		Oak Creek									
521	168			U1	3/31/1979	23:31	4/1/1979	5:47	6.26	4640	
		Oak Creek									
521	168	1		U1	5/4/1979	9:28	5/6/1979	23:26	61.96	1060	
521	168	Oak Creek		U1	5/40/4070	00.07	0/7/4070	0.00	405.54	0500	
521	100	Oak Creek		0	5/18/1979	23:07	6/7/1979	8:38	465.51	8560	
521	168			U1	6/14/1979	20:57	6/15/1979	3:35	6.63	1060	
32 1	100	Oak Creek			0/14/19/9	20.31	0/13/19/9	3.33	0.03	1000	
521	168			U1	6/23/1979	16:27	6/26/1979	4:18	59.85	8560	
		Oak Creek									
521	168			U1	7/6/1979	19:46	7/8/1979	23:06	51.33	1060	
		Oak Creek									
521	168			U1	7/20/1979	22:16	7/23/1979	6:26	56.16	1060	
504	100	Oak Creek			7/24/4070	0.47	0/5/4070	42.00	400.7	4000	•
521	168	Oak Creek		U1	7/31/1979	0:47	8/5/1979	13:29	132.7	1999	
521	168			U1	8/22/1979	23:07	8/23/1979	13:23	14.26	1060	
32 1	100	Oak Creek	-		0/22/19/3	23.01	0/23/13/3	13.23	14.20	1000	
521	168			М	9/1/1979	5:15	9/1/1979	6:02	0.78	4301	
		Oak Creek					,		,		
521	168	#6		Mo	9/1/1979	7:06	9/1/1979	8:29	1.38	4301	
		Oak Creek									
521	168			PC	9/1/1979	13:40	12/15/1979	3:35	2533.91	1999	
504	400	Oak Creek			10/10/15		10/10/10==				
521	168			PC) 12/19/1979	3:16	12/19/1979	3:44	0.46	9720	
521	168	Oak Creek		M	0 12/31/1979	0.15	12/31/1979	6.45	6	4204	
JZ 1	100	Oak Creek		IVIC	12/3//19/9	0.15	12/3//19/9	6:15	Ь	4301	
521	168			U1	1/6/1980	7:49	1/9/1980	14:29	78.66	1005	
		<u></u>	1		17071000	770	1.071000	17.20	7 0.00	1000	

					Start of	*	End of		Duration in	Cause	and the contract of the second
#		Unit Name	GAC NAC	Type	Event		Event		hours	Code	Description
521	168	1		U1	1/26/1980	0:30	1/28/1980	2:09	49.65	4269	
521	168	1		U1	2/11/1980	2:28	2/11/1980	3:38	1.16	440	
521	168			U1	2/15/1980	0:35	2/19/1980	19:12	114.61	1060	
521	168			U1	3/8/1980	2:45	3/8/1980	3:18	0.55	9900	
521	168			U1	3/29/1980	0:34	3/31/1980	8:35	56.01	1060	
521	168			U1	4/18/1980	4:06	4/22/1980	6:35	98.48	1060	
521	168			U1	5/1/1980	9:34	5/5/1980	8:30	94.93	1040	
521	168			U1	5/6/1980	15:35	5/13/1980	19:39	172.06	1000	:
521	168			U1	5/16/1980	17:25	5/19/1980	9:06	63.88	1000	
521	168			U1	6/24/1980	12:49	6/26/1980	7:40	42.85	1060	
521	168			U1	7/19/1980	0:01	7/19/1980	6:34	6.55	1400	
521	168			U1	7/19/1980	13:15	7/19/1980	16:35	3.33	3440	
521	168			U1	8/7/1980	22:51	8/8/1980	6:04	7.21	1400	
521	168			<u>U</u> 1	8/9/1980	18:59	8/15/1980	6:28	131.48	1040	
521	168			U1	8/15/1980	22:39	8/17/1980	22:15	47.6	1060	
521	168			U1	9/13/1980	3:07	9/15/1980	4:11	49.06	1060	
521	168			U1	9/20/1980	0:48	9/22/1980	4:36	51.8	1060	
521	168			U1	10/17/1980	23:24	10/17/1980	23:59	0.58	9999	
521	168	Oak Creek #6		PO	10/18/1980	5:14	11/16/1980	23:29	714.25	1999	

Utility	Unit				Event	Start of		End of		Duration in	Cause			
#	#	Unit Name						Event					Description	
521	168	Oak Creek #6			U1	11/23/1980	10:25	11/24/1980	21:27	35.03	3440			
		Oak Creek												
521					U1	12/5/1980	22:22	12/8/1980	1:07	50.75	1060			
521	168				U1	1/2/1981	8:19	1/2/1981	13:06	4.78	3440			
521		Oak Creek #6			U1	1/16/1981	23:38	1/19/1981	6:05	54.45	8560			i
521	168	Oak Creek #6			U1	2/6/1981	23:59	2/10/1981	11:38	83.65	1060			
021		Oak Creek			<u> </u>	2,0,1001	20.00	271071001	11.00		1000			
521	168				МО	2/20/1981	23:50	2/22/1981	17:15	41.41	3110			
521	168				U1	2/22/1981	17:15	2/23/1981	19:49	26.56	4500			
521	168	Oak Creek #6			U1	2/24/1981	6:00	3/2/1981	3:52	141.86	1060			-
521	168	Oak Creek #6			U1	3/3/1981	23:12	3/5/1981	8:44	33.53		-		
521		Oak Creek	٠		U1	3/6/1981	22:22	3/7/1981	6:35	8.21				
521		Oak Creek			U1	4/2/1981	12:17	4/16/1981	22:09	345.86				
021		Oak Creek			<u> </u>	472/1001	12.17	471071001	22.00	040.00	1000			
521					U1	5/2/1981	23:35	5/3/1981	10:02	10.45	8560			
521	168	Oak Creek #6			U1	5/9/1981	1:59	5/11/1981	7:05	53.1	1060			
521	168	Oak Creek #6			U1	5/19/1981	19:40	5/21/1981	23:14	51.56	9720			
521		Oak Creek			MO	5/24/1981	0:02	6/6/1981	21:27	333.41	840			
521		Oak Creek			U1	6/9/1981	9:34		8:05	22.51	3440		,	
521		Oak Creek			U1				-					
521		Oak Creek			U I	6/11/1981	23:48	6/12/1981	8:38	8.83	8560			
521	168	#6	_		U1	6/27/1981	0:27	6/29/1981	6:21	53.9	1040		<u> </u>	
521	168	Oak Creek #6			U1	7/28/1981	23:33	8/2/1981	0:36	97.05	1060			

						Start of-		End of		Duration in	Cause	
#	#		GAC	NAC	Type	Event		Event		hours	Code	Description
521	168	Oak Creek		,	J1	8/17/1981	22:08	8/21/1981	11:46	85.63	1040	
321	100	Oak Creek				0/1//1901	22.00	0/21/1901	11.40	65.65	1040	
521	168			ι	J1	8/27/1981	9:35	8/27/1981	19:33	9.96	1060	·
		Oak Creek									-	
521	168			l v	МО	9/5/1981	0:45	9/8/1981	5:31	76.76	3261	
521	168	Oak Creek			J1	0/25/1001	21.51	0/20/1091	22:45	06.4	1040	
521	100	#6 Oak Creek			JI	9/25/1981	21:51	9/29/1981	22:15	96.4	1040	
521	168			ι	J1	10/5/1981	10:49	10/11/1981	10:33	143.73	1040	
		Oak Creek										
521	168			ι	J1	10/11/1981	10:40	10/17/1981	18:33	151.88	4520	
521	168	Oak Creek		,	J1	40/02/4094	44.40	40/00/4084	5.44	62.42	4040	
321		#6 Oak Creek			J I	10/23/1981	14.10	10/26/1981	5:44	63.43	1040	
521	168				- 0	11/6/1981	22:05	11/6/1981	23:07	1.03	9999	
		Oak Creek										
521	168			F	20	11/7/1981	4:44	12/20/1981	21:06	1072.36	1999	
504	400	Oak Creek		.	1.4	40/04/4004	0.00	10/04/1004	40.50	04.00	4040	
521	168	#6 Oak Creek			J1	12/21/1981	3:00	12/24/1981	12:58	81.96	1040	
521	168				J3	1/9/1982	5:57	1/9/1982	21:30	15.55	4261	Turbine Control Valve Cam Replacement
		Oak Creek										Water Entered Precipitator Causing Ash Removal
521	168		,	(J <u>1</u>	1/21/1982	10:40	1/26/1982	13:34	122.9	8560	Problems
504	400	Oak Creek			J1	4/20/4000	47.45	4/00/4000	00:45		4050	Dankara Ballan Matan kananan afi Kirib Cilia
521	168	#6 Oak Creek			J I	1/28/1982	17:15	1/29/1982	20:15	27	1850	Replace Boiler Water because of High Silica
521	168			اار	J1	1/31/1982	1:21	2/1/1982	7:20	29.98	1060	Repair Reheater Leak in 1 Cell
		Oak Creek										Convection Superheater, Tube Rupture #1 and #4 cells
521	168			L. L	J1	2/7/1982	19:22	2/11/1982	22:06	98.73	1020	- Repair Leaks
F04	100	Oak Creek			10	2/42/4000	4.40	0/4.4/4.000	22,22	45.70	040	Class Fire Cool and of 64 % 62 Bully Fire! Bire
521	168	#6 Oak Creek		L	J2	2/13/1982	. 1:46	2/14/1982	23:33	45.78	240	Clean Fire Coal out of 61 & 62 Pulv Fuel Bins
521	168			اار	J1	3/4/1982	13:47	3/8/1982	5:41	87.9	360	Repair Pulverized Fuel Leak at Burners
		Oak Creek										
521	168			L	J1	3/9/1982	21:55	3/10/1982	6:34	8.64	1060	Reheat Leak North Side Elev 45 Repair From Outside
504	400	Oak Creek			14	0.100.110.00		0/04/4005	0.40	=	40=0	
521	168	#6			J1	3/20/1982	22:44	3/21/1982	6:13	7.48	1070	Repair Reheater Leak

Itility	Unit			Event	Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC NAC	Type	Event		Event		hours	Code	Description
		Oak Creek									
521	168			U2	3/27/1982	21:42	3/28/1982	20:40	22.96	1130	Remove Slag From Furnace Bottom
521	168	Oak Creek		PO	4/4/1982	1:29	4/4/1982	9:24	7.91	8560	Precip Grounds
321	100	Oak Creek		<u> </u>	4/4/1302	1.23	7/7/1302	3.24	7.31	0300	Trecip Grounds
521	168	#6		U1	4/4/1982	20:52	4/7/1982	15:15	66.38	1160	Reheat Tube Leak
		Oak Creek									
521	168			U1	4/11/1982	2:08	4/15/1982	14:00	107.86	1030	Boiler, Repair Water Tube Leak
521	168	Oak Creek		U1	5/14/1982	22:24	5/15/1982	12:09	13.75	250	Repair Damage from 62 Pulverized Feeder Fire
321	100	Oak Creek		01	3/14/1302	22.27	3/13/1302	12.03	10.70	250	Boiler and Precips, Reheat Leak One and Four Cells
521	168			U1	5/20/1982	19:42	5/23/1982	3:32	55.83	1060	also Insp Precip for Grounds
		Oak Creek					-				
521	168			U1	5/25/1982	22:24	5/26/1982	6:20	7.93	8560	Precipitator, Remove Broken Wire
521	. 168	Oak Creek		U1	6/10/1982	23:24	6/17/1982	7:49	152.41	1060	Pailer Papair Pahaat Laaka
521	100	Oak Creek		UI	6/10/1962	23.24	0/1//1902	7.49	152.41	1060	Boiler, Repair Reheat Leaks Boiler, Intermiediate Superheat Tube on Number One
521	168			U1	6/20/1982	20:50	6/24/1982	6:20	81.5	1040	Division Wall
		Oak Creek									
521	168			U1	7/25/1982	0:48	7/28/1982	9:14	80.43	540	Repair Reheat Tube Leak North East Corner Elev 67
521	168	Oak Creek		U1	9/15/1982	2:42	9/20/1982	14:02	131.33	1000	Bailer Banair Bahast Lask
521	100	Oak Creek		UI	9/13/1962	2.42	9/20/1902	14.02	131.33	1060	Boiler, Repair Reheat Leak
521	168)		U1	10/1/1982	18:48	10/1/1982	19:39	0.85	4460	Generator, Test Turbine Over Speed Trips
		Oak Creek							-		
521	168			PO	10/2/1982	0:26	11/25/1982	6:26	1302	1800	Boiler, Annual Outage
501	168	Oak Creek		U1	11/25/1982	15.10	11/26/1982	20:30	29.23	1000	Palacat Lack North Mall Consents at Lack #4 Div Mall
521	100	Oak Creek		UI	11/25/1962	15.16	11/20/1902	20.30	29.23	1060	Reheat Leak North Wall Superheat Leak #1 Div Wall Boiler, Superheat Tube Leak #1 Division Wall - Took
521	168			U2	11/28/1982	16:21	11/30/1982	4:35	36.23	1040	Unit Out for Repairs
		Oak Creek	ľ						,		
521	168			U2	12/3/1982	23:53	12/4/1982	18:06	18.21	8560	Precip Fields Out, Clear Grounds
E 0.4	100	Oak Creek		1.14	12/17/1000	22.54	10/10/1000	10:20	20.00	4040	
521	168	#6 Oak Creek		U1	12/17/1982	22:54	12/18/1982	19:32	20.63	4613	H2 Leaks on Hi-Lo Speed Generator Repair H2 Leakage on High and Low Speed
521	168			U1	12/24/1982	2:29	12/24/1982	21:15	18.76	4619	Generators
		Oak Creek		- •					10.10	.5.70	
521	168			U2	12/31/1982	0:41	12/31/1982	8:24	7.71	8560	Clear Precip Grounds

						Start of				Duration in	Cause	
#	#	Unit Name	GAC	NAC	Туре	Event		Event		hours	Code	
521	168			L	J1	2/17/1983	12:14	2/18/1983	4:24	16.16	8430	Grounds in Precipitator - Cleared Grounds
521	168			ι	J3	3/12/1983	0:08	3/18/1983	20:15	164.11	1040	Reheat and Superheat Leaks
521	168			ι	J2	4/20/1983	22:51	4/25/1983	3:55	101.06	1070	Repair Boiler Reheat Leak and Superheat Leak
521	168		*	L	J1	8/17/1983	3:58	8/17/1983	6:30	2.53	3611	Line 862 OCB BO Oil Leak After Lighting
521	168			l	J1	8/17/1983	6:31	8/25/1983	3:01	188.5	1060	Reheater Leaks
521	168		*	L	J1	9/6/1983	19:49	9/10/1983	8:39	84.43	1020	Convection Waterwall Tube Leak
521	168		*	ι	J1	9/20/1983	2:23	9/25/1983	14:36	132.21	4740	Generator Lockout
521	168		*	Ĺ	J1	9/25/1983	15:40	9/27/1983	11:30	43.83	1140	Radiant Superheater Tube Failure
521	168		*	F	PO	10/13/1983	13:41	10/30/1983	12:55	407.23	1810	Planned Outage for Inspections
521	168			L	J1	1/4/1984	3:38	1/9/1984	22:44	139.1	1060	Reheat Leak
521	168			l	J2	1/12/1984	23:40	1/15/1984	15:09	63.48	1060	Reheat Leaks
521	168			L	J1	1/25/1984	9:46	1/30/1984	11:56	122.16	1080	Economizer
521	168	Oak Creek #6		L	J1	2/14/1984	15:30	2/19/1984	11:42	116.2	1020	Convection Leak
521	168			Ĺ	J1	2/22/1984	21:49	2/23/1984	6:00	8.18	8560	Electrostatic Precip Problems
521	168	L		L	J1	2/23/1984	6:00	2/23/1984	8:00	2	4309	Other Turb Inst & Cont Problems
521	168			L	J1	3/30/1984	20:30	4/6/1984	6:05	153.58	1060	Repair Reheat Leaks
521	168			F	- 0	4/24/1984	23:38	4/25/1984	1:10	1.53	4460	Turbine Overspeed Trip Test
521	168	Oak Creek #6		F	9 0	4/28/1984	2:32	7/29/1984	16:54	2222.36	1800	Annual Outage
521	168	Oak Creek #6	*	l	J3	8/1/1984	18:46	8/3/1984	16:00	45.23		Hydrogen Seal

Jtility -	Unit				nt Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC	NAC Typ	oe Event		Event		hours	Code	Description
504	400	Oak Creek	_		0/9/1001	40.04	01111001	4405	20.4	4000	
521	168	#6 Oak Creek		U3	8/3/1984	16:01	8/4/1984	14:25	22.4	1060	Reheat Leak
521	168	1	*	U1	8/11/1984	5:05	8/11/1984	22:41	17.6	1080	Economizer
		Oak Creek			0,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		0,11,1001		,,,,	- 1000	250101111251
521	168		*	U1	8/20/1984	4:58	8/24/1984	15:36	106.63	1080	Economizer Tube Leak
50.4	400	Oak Creek			0.107.1400.4		0.000,400,4		22.22	4000	
521	168	#6 Oak Creek		U1	8/27/1984	5:59	8/30/1984	3:57	69.96	1080	Economizer Leak
521	168		*	U1	9/9/1984	9:24	9/9/1984	10:46	1.36	1470	ID Fan Motors & Drives
		Oak Creek						7,77,7		, , , , ,	
521	168	l	*	U1	9/9/1984	10:46	9/9/1984	19:05	8.31	4609	Other Excitor Problems
		Oak Creek	.								
521	168	#6 Oak Creek	*	U1	9/17/1984	2:32	9/18/1984	5:50	27.3	1080	Econ Leak
521	168		*	U1	11/21/1984	19·17	11/25/1984	22:18	99.01	1005	Generating Tube
021	100	Oak Creek		01	11/21/1304	15.17	11/20/1004	22.10	33.01	1000	Ocherating rube
521	168	#6	*	U1	11/28/1984	13:42	11/30/1984	9:46	44.06	1005	Generating Tube Rupture in Boiler Convection Section
	400	Oak Creek									
521	168	#6 Oak Creek		U2	1/18/1985	21:49	1/19/1985	9:20	11.51	1060	First Reheat Tube Leaks
521	168			МО	1/22/1985	21:00	1/29/1985	12:00	159	1060	Maintenance Outage
		Oak Creek			1.22,1000	21.00	112011000	12.00	- 100	.000	maintenance dutage
521	168	4		U1	1/29/1985	12:00	1/31/1985	24:00:00	60	880	Flyash Handling
		Oak Creek									
521	168	#6 Oak Creek		SF	1/31/1985	24:00:00	2/1/1985	13:30	13.5	4283	Lube Oil Sys VIvs & Piping
521	168			U1	2/26/1985	19:02	3/2/1985	23:00	99.96	1005	 Generating Tube
		Oak Creek			2/20/1000	10.02	0/2/1000	20.00	00.00	1000	Concrating rape
521	168			SF	3/2/1985	23:00	3/4/1985	9:58	34.96	920	Other Slag Removal Problems
	400	Oak Creek			0.00		,,,,,=====				
521	168	#6 Oak Creek		U1	3/27/1985	10:55	4/1/1985	1:00	110.08	1060	Reheater Leaks
521	168			SF	4/1/1985	1:00	4/1/1985	7:41	6.68	4609	Other Excitor Problems
- 521		Oak Creek			17 17 1000	1.00	1, 1, 1000	1.71	0.00	7000	· ·
521	168	#6		U1	4/13/1985	23:04	4/29/1985	0:35	361.51	4520	Gen Winding Bshngs & Terminals
		Oak Creek									
521	168	#6		МО	5/10/1985	17:05	5/15/1985	3:24	106.31	1005	Generating Tube

THE PARTY OF	11:254										
Utility #	Unit #	Unit Name	GAC NAC	Event	Start of Fvent		End of Event	AN 14 - 24 - 32 - 32 - 32 - 32 - 32 - 32 - 3	Duration in	Cause	Description
12.000	. Kalisii	Oak Creek		lype		500/40 AD 400 A	7.X	*** *********	Hours	Coue	
521	168			МО	5/16/1985	22:29	5/18/1985	16:42	42.21	1020	Convection Pass Wall
521	168	Oak Creek #6		U1	5/31/1985	20:42	6/1/1985	4:50	8.13	410	Other Burner Problems
<u> </u>		Oak Creek			0/01/1000	20.42	0/1/1000	7.00	0.10		Otto Burier Folicins
521	168			МО	6/21/1985	22:35	6/26/1985	8:05	105.5	1070	Second Reheater
521	168	Oak Creek		SF	6/20/4095	9.05	C/07/400E	0.50	40.00	E20	Other Main Steams Sup Broklams
521	100	#6 Oak Creek		SF	6/26/1985	8:05	6/27/1985	0:58	16.88	530	Other Main Steam Sys Problems
521	168	#6		мо	7/5/1985	21:32	7/6/1985	15:45	18.21	800	Repair Leaking Drum Safety Vlvs
	400	Oak Creek			0.10.1.10.0		- 12 11				
521	168	#6 Oak Creek		U1	9/2/1985	13:27	9/3/1985	3:04	13.61	9910	Maintenance Error
521	168			мо	9/14/1985	22:57	9/21/1985	4:24	149.45	1070	Second Reheater
		Oak Creek									
521		#6 Oak Creek		U1	9/22/1985	2:01	9/23/1985	24:00:00	45.98	1005	Generating Tube
521				U1	10/7/1985	11:59	10/12/1985	16:04	124.08	1050	Second Superheater
		Oak Creek									- Cooling Capolineate
521	168			U1	10/18/1985	22:19	10/23/1985	10:31	108.2	1005	Generating Tubes
521	168	Oak Creek #6		U1	11/18/1985	20.00	11/20/1985	8:31	36.51	1080	Economizer Tube Failure
521	100	Oak Creek		01	11/10/1303	20.00	11/20/1303	0.01	30.31	1000	Continue raine
521	168			U1	11/20/1985	8:31	11/20/1985	14:43	6.2	9900	Operator Error
521	168	Oak Creek		MO	11/27/1985	22.21	11/30/1985	10:24	58.88	1005	Congreting Tube Look
321	100	Oak Creek		IVIO	11/2//1905	23.31	11/30/1903	10.24	50.00	1005	Generating Tube Leak
521	168			PO	12/6/1985	9:57	12/31/1985	24:00:00	614.05	1800	Annual Outage
521	168	Oak Creek		PO	1/1/1006	0.04	2/17/1000	6.16	1006.05	1000	Annual Outage Started 12 C 95
521	168	#6 Oak Creek		120	1/1/1986	0:01	3/17/1986	6:16	1806.25	1800	Annual Outage. Started 12-6-85
521	168	#6	*	U1	3/30/1986	8:14	4/4/1986	11:26	123.2	9910	Maintenance Error
- A 4	400	Oak Creek	*		4/44/4000	40.05	4/4 4/4000	2.05	50.00	4000	Internation 1
521		#6 Oak Creek	<u> </u>	MO	4/11/1986	19:35	4/14/1986	6:25	58.83	4262	Intercept Valve
521			*	U1	6/5/1986	3:34	6/5/1986	4:34	1	4292	Hydraulic System Failures
		Oak Creek					=-				
521	168	#6	*	U1	6/11/1986	6:45	6/15/1986	2:55	92.16	1080	Economizer Leak

Utility						Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
		Oak Creek										
521	168	#6 Oak Creek	*	-	U1	6/15/1986	2:55	6/20/1986	16:00	133.08	1005	Water Wall Leak
521	168		*		MO	8/1/1986	22:45	8/4/1986	7:56	57.18	1590	Stack Inspection
021	-100	Oak Creek			1010	0/1/1300	22.40	0/4/1300	7.00	37.10	1000	otack inspection
521	168	#6	*		U1	8/17/1986	8:18	8/17/1986	16:25	8.11	4600	Exciter Motor - L.S.
		Oak Creek					-					
521	168		*		U1	8/20/1986	23:05	8/31/1986	4:37	245.53	1005	Generating Tube
521	168	Oak Creek	*		U1	9/30/1986	22:49	10/2/1986	5:42	30.88	1000	Economizer Leak
321	100	Oak Creek	-		01	9/30/1980	22.49	10/2/1900	3.42	30.00	1000	Economizer Leak
521	168				МО	10/25/1986	20:46	10/26/1986	4:43	7.95	220	Pulv Sys-Cyclone Spectator
		Oak Creek										
521	168				U1	11/8/1986	7:38	11/8/1986	19:40	12.03	220	Pulverizer System
		Oak Creek										
521	168	#6 Oak Creek			МО	11/13/1986	3:51	11/16/1986	7:55	76.06	570	Reheat Steam Problem
521	168	[РО	12/24/1986	23.38	12/31/1986	34.00.00	168.36	1800	Annual Outage
321	100	Oak Creek			, 0	12/24/1300	20.00	12/31/1300	24.00.00	100.50	1000	Aillidai Odlage
521	168	#6			РО	1/1/1987	0:01	2/7/1987	10:23	898.36	1800	Annual Outage. Started 12-24-86
		Oak Creek										
521	168				PO	2/14/1987	21:13	2/14/1987	21:58	0.75	4460	Resv Shutdown - Turb Ovrspd Test
521	168	Oak Creek			мо	2/20/1987	1:44	2/23/1987	6:15	76.51	4202	Control Oil Leak at Stop VV
321	100	Oak Creek			IVIO	2/20/196/	1.44	2/23/190/	0.13	76.51	4293	Control On Leak at Stop VV
521	168		ĺ		U2	2/25/1987	0:01	3/2/1987	20:56	140.91	1090	Steam Drum Feeder Tube
		Oak Creek										
521	168				PO	3/8/1987	3:41	3/8/1987	8:57	5.26	4460	Test HS Overspeed Stop
50.1	400	Oak Creek	_			4/4 4/4 0.5-	40.40	4/40/400	45.51		40.5	
521	168	#6 Oak Creek			U2	4/14/1987	18:42	4/18/1987	15:54	93.2	1040	First Superheater
521	168		*		U1	5/11/1987	7:14	5/12/1987	8:40	25.43	1080	Econ Leak
021		Oak Creek	-			3,11,1001	7.17	5/ 12/ 100/	0.40	20.40	1000	- Louis - Loui
521	168	#6 .	*		U2	6/10/1987	15:45	6/29/1987	14:16	454.51	880	Flyash Handling
		Oak Creek										
521			*		U2	7/13/1987	23:57	7/16/1987	0:43	48.76	1005	Generating Tubes
521		Oak Creek	*		MO	7/27/1097	22.20	7/20/4097	2.42	20.20	1000	Drum Fooder Tube
521	ממו	#0			IVIO	7/27/1987	23:20	7/29/1987	3:43	28.38	1090	Drum Feeder Tube

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Utility				Event	Start of		End of				
#	#	Unit Name	GAC	NAC Type	Event		Event		hours	Code	Description
521	168	Oak Creek #6	*	U2	7/29/1987	18:34	7/31/1987	11:07	40.55	1090	Drum Feeder Tube
521	168	Oak Creek #6	*	U2	8/10/1987	19:54	8/12/1987	8:07	36.21	400	Burner Windbox Fires
		Oak Creek									
521	168	75 Oak Creek	ļ^	MO	9/19/1987	22:50	8/23/1987	3:00	76.16	410	Other Burner Problems
521	168	#6		U1	10/26/1987	17:18	10/30/1987	23:00	101.7	1005	Generating Tube
521	168	Oak Creek #6		U2	10/30/1987	23:01	11/2/1987	10:10	59.15	880	Flyash Silo
521	168	Oak Creek #6		МО	1/12/1988	22:00	1/15/1988	. 12:00	62	1120	Ash Fouling Appeture
	. =	Oak Creek									
521	168			U2	2/23/1988	14:25	2/25/1988	3:33	37.13	1005	Water Tube Leak
521	168			U2	3/20/1988	20:16	3/24/1988	12:41	88.41	1005	Generating Tube Failure
521	168	Oak Creek #6	*	U2	4/5/1988	7:10	4/7/1988	11:25	52.25	1005	Generating Tube Failure
521	168	Oak Creek #6	*	SF	4/7/1988	11:25	4/8/1988	0:29	13.06	4299	Other Hydraulic Sys Problems
521		Oak Creek	*	U3	4/19/1988	17:18		16:00			Economizer Tube Leak
521	_	Oak Creek					. ,,				
521	168	#6 Oak Creek	*	PO	5/12/1988	10:51	7/8/1988	22:32	1379.68	4400	Annual Outage
521	168	#6		РО	7/17/1988	1:40	7/7/1988	2:31	0.85	4460	Overspeed Trip Test
521	168	Oak Creek #6		РО	7/30/1988	0:08	7/30/1988	3:02	2.9	4301	Turb Governing System
521	168	Oak Creek #6		MO	8/11/1988	2:03	8/14/1988	12:40	82.61		Remove Steam Strainer Screens
		Oak Creek		SF							
521	168	#6 Oak Creek		55	8/14/1988	12:40	8/16/1988	11:30	46.83	1005	WTR Tube Leak
521	168	#6		SF	8/16/1988	11:30	8/17/1988	4:27	16.95	4301	Turb Governor System
521	168	Oak Creek #6	*	МО	10/15/1988	4:44	10/15/1988	14:30	9.76	775	Economizer Piping
521	168	Oak Creek #6	*	SF	10/15/1988	14:30	10/16/1988	19:10			Hydrogen Coolers

Utility					Event	Start of	4.0	End of		Duration in	Cause	
#		Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
521	168		*		U2	10/18/1988	4:53	10/20/1988	1:48	44.91	1090	Drum Feeder Tube
521	168		*		U2	10/24/1988	5:05	10/28/1988	2:11	93.1	1090	Drum Feeder Tube
521	168		*		U2	11/26/1988	18:14	12/1/1988	13:35	139.35	1050	Second Super Htr Tube Failure
521	168		*		MO	12/9/1988	23:39	12/11/1988	23:50	48.18	400	Burner Windbox Fires
521	168		*		мо	2/12/1989	18:17	2/13/1989	10:41	16.4	3441	HI Press Htr Drain Valving
.521	168		*		МО	2/17/1989	19:58	2/20/1989	6:15	58.28	1005	Generating Tube Failure
521	168		*		SF	2/20/1989	6:15	2/20/1989	12:45	6.5	799	Other Piping Sys Problems
521	168		*		U1	2/23/1989	16:34	2/23/1989	21:30	4.93	4301	Turb Valve Control
521	168		*		SF	2/23/1989	21:30	2/24/1989	7:30	10	1005	Generating Tube Failure
521	168		*		PO	2/24/1989	7:30	3/3/1989	12:13	172.71	1800	Planned Outage
521	168		*	1	МО	3/17/1989	21:54	3/19/1989	16:13	42.31	1070	Second Reheater
521	168		*		U2	3/31/1989	9:10	4/3/1989	8:08	70.96	1005	Generating Tube
521	168		*		МО	5/5/1989	17:29	5/7/1989	8:42	39.21	1510	Flue Gas Duct
521	168		*		U2	5/7/1989	13:34	5/10/1989	9:57	68.38	1040	Primary Superheater
521	168		*	,	SF	5/10/1989	9:57	5/13/1989	20:40	82.71	1040	Primary Superheater
521	168		*		U2	6/4/1989	19:34	6/8/1989	10:06	86.53	1005	Generating Tube Failure
521	168		*		U2	6/26/1989	8:26	6/29/1989	14:17	77.85	1005	Generating Tube Failure
521	168		*		U1	7/5/1989	3:55	7/5/1989	4:43	0.8	4302	Turbine Throttle Trip
521	168	Oak Creek #6	*		U1	9/6/1989	13:11	9/6/1989	16:43	3.53	9910	Maintenance Error

Utility					Start of		End of	,e*	Duration in	Cause	
#	#	Unit Name	GAC	NAC Type	Event		Event		hours	Code	Description
521	168	Oak Creek	*	SF	9/6/1989	16:43	9/6/1989	19:12	2.48	3140	Loss of Vacuum
	100	Oak Creek			3/0/1303	10.43	3/0/1303	13.12	2.40	3143	Loss of vacuum
521	168		*	мо	9/8/1989	21:34	9/11/1989	7:23	57.81	1050	Second Superheater
	-	Oak Creek									
521	168	1	*	PO	9/13/1989	19:37	12/31/1989	24:00:00	2644.38	1800	Planned Maintenance Outage
521	168	Oak Creek	*	PO	1/1/1990	0:01	4/9/1990	7:40	2359.64	1800	Planned Maint Outage Started 9-13-89
- 32.1	100	Oak Creek			17171990	0.01	4/3/1330	7.40	2555.04	1000	Trained Mant Odtage Started 5-15-65
521	168	#6	*	U1	4/13/1990	2:16	4/13/1990	3:01	0.75	4309	Turbine Control
		Oak Creek									
521	168		*	U1	4/25/1990	1:26	4/25/1990	2:26	1	1710	Combustion Controls
521	168	Oak Creek	*	SF	4/25/1990	2:26	4/25/1990	5:40	3.23	4810	Generator Output Breaker
321	100	Oak Creek			4/25/1550	2.20	4/20/1000	3.40	5.25	7010	Cenerator Output Breaker
521	168		*	SF	4/25/1990	6:00	4/25/1990	8:00	2	1700	Feedwater Controls
		Oak Creek									
521	168		*	SF	4/25/1990	8:00	4/25/1990	13:19	5.31	4810	Generator Output Breaker
521	168	Oak Creek	*	U1	4/27/1990	21:08	4/28/1990	2:30	5.36	1490	#61 & #62 ID Fan Tripped
321	100	Oak Creek		01	4/2//1990	21.00	4/20/1990	2.30	3.30	1400	#01 & #02 ID 1 all Tripped
521	168		*	U1	4/28/1990	2:30	4/28/1990	6:00	3.5	1480	Other ID Ran Problems
_		Oak Creek									
521	168		*	MO	4/30/1990	23:49	5/4/1990	12:22	84.55	8600	SO3 Injection System
504	400	Oak Creek		114	5/7/4000	40.07	5/7/4000	40.50	0.00	4740	Complementary Company
521	168	#6 Oak Creek	<u> </u>	U1	5/7/1990	16:07	5/7/1990	16:59	0.86	1/10	Combustion Control Drop
521	168		*	мо	5/8/1990	23:26	5/9/1990	11:05	11.65	3190	Repair LP Hood Rupture Discs
		Oak Creek			3.0,1000						
521	168		*	U1	5/15/1990	0:59	5/15/1990	3:32	2.55	4261	Turb Control Valves
501	400	Oak Creek		25	E 14 E 14 O C C	0.40	E 14 E 14 O C C	7.04	0.05	4740	
521	168	#6 Oak Creek	-	SF	5/15/1990	3:43	5/15/1990	7:04	3.35	1/10	Combustion Controls
521	168	1	*	U1	5/18/1990	15:35	5/18/1990	16:44	1.15	9910	Maintenance Error
J_ j_		Oak Creek			3, 13, 1300	.5.50	3, 13, 1300	10.11	1.10	0010	
521	168	#6	*	U1	5/19/1990	6:35	5/19/1990	8:11	1.6	1710	Combustion Controls
		Oak Creek									
521	168	#6	*	U2	5/19/1990	11:48	5/21/1990	10:42	46.9	1040	First Superheater

Jtility	Unit					Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC I	NAC T	Type	Event		Event	1	hours	Code	Description
521	168	1	* .	L	J1 .	5/23/1990	19:54	5/23/1990	20:52	0.96	1710	Combustion Controls
521	168		*	. s	SF	5/23/1990	20:52	5/23/1990	21:47	0.91	9900	Operator Error
521	168		*	L	J1	5/24/1990	13:50	5/24/1990	17:23	3.55	1710	Combustion Controls
521	168		*	L	J1	6/1/1990	23:56	6/2/1990	2:15	2.31	1710	Combustion Controls
521	168		*	ر	J1	6/5/1990	21:22	6/10/1990	6:00	104.63	1050	Superheater Second
521	168		*	L	J1	6/10/1990	20:57	6/10/1990	22:12	1.25	1480	#62 & #61 Fans Tripped
521	168		*	N	ИО	6/16/1990	2:24	6/25/1990	7:00	220.6	1340	Boiler Tube Modifications
521	168	L	*	N	MO	6/25/1990	7:00	6/25/1990	18:23	11.38	1710	Combustion Controls
521	168		*	L	J1	6/30/1990	0:18	6/30/1990	2:20	2.03	1710	Combustion Controls
521	168		*	Ĺ	J1	7/3/1990	18:30	7/3/1990	19:25	0.91	1470	#62 ID Fan
521	168		*	L	J1	7/3/1990	19:53	7/3/1990	20:18	0.41	1710	Combustion Controls
521	168		*	L	J1	7/3/1990	22:54	7/3/1990	23:47	0.88	1710	Combustion Controls
521	168	Oak Creek #6	*	S	SF	7/3/1990	23:47	7/4/1990	3:40	3.88	3430	Start-Up Failure
521	168		*	L	J1	7/5/1990	2:45	7/5/1990	3:18	0.55	1700	Feedwater Controls
521	168		*	ر	J1	7/5/1990	14:04	7/6/1990	7:30	17.43	4299	Other Hydraulic Sys Problems
521	168		*	L	J1	8/15/1990	3:32	8/15/1990	4:21	0.81	1710	Combustion Controls
521	168		*	Ĺ	J1	8/16/1990	6:35	8/16/1990	8:27	1.86	1470	62 ID Fan Trip
521	168		*	L	J1	8/26/1990	12:45	8/26/1990	14:11	1.43	1470	61 ID Fan Trip
521	168	Oak Creek #6	*	s	SF	8/26/1990	14:11	8/26/1990	15:26	1.25	9900	Start-Up Failure

Utility								End of		-Duration in	Cause	
#		Unit Name				Event		Event		hours	Code	Description
504	400	Oak Creek				0/0/4000	40.00	01111000		22.22	0.4.0.4	A. F. A. B A
521	168	#6 Oak Creek			МО	9/3/1990	12:00	9/4/1990	8:41	20.68	3131	Air Ejector Piping & VIvs
521	168		*		U1	9/4/1990	15:43	9/4/1990	16:43	1	1700	 Feedwater Controls
		Oak Creek				10/4/ 1000	10.40	0/4/1000	10.40		1.00	1 Couraci Congois
521	168		*		SF	9/4/1990	16:43	9/4/1990	20:52	4.15	380	Light-Off Systems
50.4	400	Oak Creek										
521	168	#6 Oak Creek	*		U1	9/7/1990	3:50	9/7/1990	4:36	0.76	1710	Combustion Controls
521	168		*		U1	9/7/1990	15:25	9/7/1990	15:56	0.51	3250	Circ Wtr Stem Instrumnts & Ctrl
OZ.		Oak Creek			<u> </u>	37771000	10.20	3/1/1330	10.00	0.01	3230	Circ var otem maramina a oti
521	168		*	i	U1	9/7/1990	21:22	9/7/1990	21:49	0.45	1710	Combustion Controls
		Oak Creek										,
521	168		*		U1	9/8/1990	2:49	9/8/1990	4:26	1.61	1710	Combustion Controls
521	168	Oak Creek	*		U1	9/10/1990	11:39	9/10/1990	12:19	0.66	3840	Other Service Air Problems
321	100	Oak Creek	-		01	3/10/1990	11.55	3/10/1330	12.13	0.00	3043	Other Service All Problems
521	168		*		U1	9/10/1990	22:54	9/10/1990	23:20	0.43	1710	Combustion Controls
		Oak Creek										
521	168		*		U1	9/14/1990	4:04	9/14/1990	4:47	0.71	1475	62 ID Fan Controls
521	168	Oak Creek	*		U1	9/22/1990	21:54	9/22/1990	23:00	1.1	1400	Other ID Fan Problems
321	100	Oak Creek			UI	9/22/1990	21.54	9/22/1990	23.00	1.1	1460	Other ID Fan Problems
521	168		*		SF	9/22/1990	23:00	9/23/1990	6:25	7.41	4309	Other Turb Instru & Ctrl Problm
		Oak Creek										
521	168		*		U1	10/1/1990	19:51	10/1/1990	22:45	2.9	1475	ID Fan Controls
F24	168	Oak Creek	*		SF	10/1/1990	22:45	10/4/1990	5:06	EA 0E	4440	LD Turking Turning Coor 9 8 8 8 4 m
5∠1	108	75 Oak Creek			<u>ه</u>	10/1/1990	22.45	10/4/1990	5:06	54.35	44 10	LP Turbine Turning Gear & Mtr
521	168		*		U1	10/4/1990	6:32	10/4/1990	7:31	0.98	9900	Operator Error
		Oak Creek										
521			*		U1	10/4/1990	18:53	10/4/1990	20:21	1.46	1475	61 ID Fan Controls
504		Oak Creek	*		U1	10/4/1000	22.50	10/4/1000	22.24	0.0	4475	ID 5-2 0-24-1-
521	168	#6 Oak Creek			ŲΙ	10/4/1990	22:58	10/4/1990	23:34	0.6	14/5	ID Fan Controls
521	168		*		U1	10/5/1990	6:15	10/5/1990	7:56	1.68	1475	ID Fan Controls
		Oak Creek					36					12 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -
521	168	#6	*		U1	10/6/1990	8:24	10/6/1990	9:12	0.8	338	Pulverizer Control Systems

t

	Unit				Start of		End of		Duration in		
#	#		GAC	NAC Type	Event	E.S.	Event		hours	Code	Description
521	168		*	U1	10/6/1990	10:53	10/6/1990	12:06	1.21	4309	Control Valve Problem
521	168		*	U1	10/6/1990	14:55	10/6/1990	15:52	0.95	1475	ID Fan Controls
521	168		*	U1	10/8/1990	6:32	10/8/1990	7:04	0.53	1475	ID Fan Controls
521	168		*	U1	10/8/1990	11:25	10/8/1990	12:00	0.58	1475	ID Fan Controls
521	168	** -	*	U1	10/13/1990	7:35	10/13/1990	8:09	0.56	1710	Combustion/Steam Condition Ctrl
521	168		*	U1	10/19/1990	20:53	10/19/1990	21:37	0.73	1710	Combustion Controls
521	168		*	U1	12/14/1990	15:58	12/14/1990	19:19	3.35	9910	Maintenance Error
521	168		*	U1	12/14/1990	21:49	12/17/1990	12:00	62.18	1040	First Superheater
521	168	Oak Creek #6	*	U1	12/17/1990	12:00	12/18/1990	5:36	17.6	4611	Hydrogen Coolers Head Leak
521	168	Oak Creek #6	*	МО	12/26/1990	7:30	12/30/1990	20:45	109.25	4261	Control Valve Repair
521	168		*	U1	1/19/1991	6:07	1/19/1991	8:26	2.31	1799	Other Control Problems
521	168	Oak Creek #6	*	U1	1/19/1991	8:42	1/19/1991	9:24	0.7	1799	Other Control Problems
521	168	Oak Creek #6	*	U1	6/22/1991	1:22	6/22/1991	4:26	3.06	9900	Operator Error
521	168		*	U1	6/22/1991	4:42	6/22/1991	8:30	- 3.8	4260	Main Stop Valves
521	168		*	U1	6/23/1991	0:12	6/23/1991	1:04	0.86	1710	Combustion/Steam Condition Ctrl
521	168		*	SF	8/12/1991	5:20	8/12/1991	9:48	4.46	3411	Feedwater Pump Drive Mtr
521	168	1	*	SF	8/12/1991	9:48	8/12/1991	22:20	12.53	4030	Rotor Shaft
521	168		*	РО	10/4/1991	16:08	11/9/1991	10:54	858.76	1800	Planned Maintenance Outage
521	168	Oak Creek #6	*	РО	11/9/1991	11:24	11/9/1991	12:29	1.08	3441	Other Hp Fdwtr Htr Problems

Utility	Unit			. Even	t Start of	***	End of		Duration in	Cause	
#	#	Unit Name	GAC	NAC _, Type	Event		Event		hours	Code	Description
521	168		*	U1	12/2/1991	11:25	12/5/1991	7:46	68.35	1005	Generating Tube
521	168	1	*	U1	1/5/1992	21:31	1/5/1992	22:30	0.98	3502	Heater Level Control
521	168		*	U1	2/21/1992	1:34	2/21/1992	2:10	0.6	1710	Combustion Controls
521	168		*	U1	4/9/1992	9:12	4/9/1992	10:15	1.04	3430	Feedwater Regulating Valve
521	168		*	U1	4/20/1992	11:06	4/23/1992	7:51	68.75	1005	Generating Tube
521	168		*	U1	5/7/1992	6:21	5/11/1992	0:16	89.91	1005	Generating Tube
521	168		*	U1	5/16/1992	14:31	5/16/1992	15:40	1.15	1710	Combustion Controls
521	168	4	*	U1	6/13/1992	6:58	6/13/1992	8:38	1.66	1750	Burner Management System
521	168		*	U1	6/13/1992	18:31	6/14/1992	10:13	15.7	4740	Emergency Gen Trip Device
521	168		*	U1	6/14/1992	16:06	6/14/1992	17:35	1.48	3502	Htr Level Control
521	168		*	U1	6/18/1992	16:53	6/18/1992	21:51	4.96	3664	4160V Protective Devices
521	168		*	U1	6/19/1992	1:13	6/19/1992	2:06	0.88	1750	Burner Management System
521	168		*	U1	7/28/1992	15:43	7/28/1992	17:10	1.45	1799	Other Boiler Control Problems
521	168		*	U1	7/29/1992	6:47	7/29/1992	10:30	3.71	1750	Burner Management System
521	168		*	U1	9/5/1992	22:48	9/6/1992	0:40	1.86	4302	Turbine Trip Devices
521	168		*	U1	9/6/1992	0:40	9/6/1992	0:56	0.26	1799	Other Boiler Control Problems
521	168		*	U1	9/8/1992	2:02	9/8/1992	2:25	0.38	1750	Burner Management System
521	168		*	U1	10/31/1992	21:15	10/31/1992	22:12	0.95	1799	Other Boiler Control Problems
521	168	Oak Creek #6	*	U1	11/13/1992	22:56	11/14/1992	4:38	5.7	280	Pulverizer Fire

	Unit			Start of		End of		Duration in	Sugar Service and American	
# , ,	# Unit Name	GACNAC	Type	Event		Event		hours	Code	Description
521	Oak Creek 168 #6	*	U1	11/14/1992	16.15	11/14/1992	17:20	1.08	1750	Burner Management System
521	Oak Creek		01	11/14/1332	10.13	1111411332	17.20	1.00	1730	Dunier Management System
521	168 #6	*	PO	11/24/1992	6:24	12/27/1992	3:07	812.71	1800	Planned Maintenance Outage
	Oak Creek	1.								
521	168 #6 Oak Creek	*	U1	12/30/1992	19:42	12/30/1992	20:16	0.56	9270	Wet Coal
521	i	*	МО	1/6/1993	21:55	1/7/1993	4:09	6.23	8550	 Electrostatic Precips Fouling
	Oak Creek									
521	168 #6	*	U1	1/10/1993	15:45	1/10/1993	18:32	2.78	1750	Burner Management System
504	Oak Creek		U1	2/24/1993	20:40	2/25/1993	13:54	17.23	4600	Other Exciter Problems
521	168 #6 Oak Creek		101	2/24/1993	20.40	2/25/1995	13.54	17.23	4609	Other Exciter Problems
521		*	SF	2/25/1993	14:15	2/25/1993	14:39	0.4	1710	Combustion Controls
	Oak Creek									
521	168 #6 Oak Creek	*	U1	3/28/1993	1:26	3/28/1993	3:23	1.95	1710	Combustion Controls
521		*	U1	4/20/1993	14:45	4/20/1993	15:37	0.86	3230	Circulating Water VIvs
02.	Oak Creek									- Transacting Transaction
521	168 #6	*	SF	5/16/1993	1:00	5/20/1993	21:52	116.86	4260	Main Stop Valves
521	Oak Creek 168 #6	*	U1	7/7/1993	13:02	7/7/1993	14:22	1.33	3650	Other DC Power Problems
321	Oak Creek		01	77771333	13.02	11111995	14.22	1.55	3033	Other DC Fower Froblems
521	168 #6	*	U1	9/7/1993	2:20	9/7/1993	2:51	0.51	3430	Fdwtr Regulating Valve
504	Oak Creek			40/07/4000	44.47	40/07/4000	40.57	4.40	0040	
521	168 #6 Oak Creek	1	U1	12/27/1993	11:47	12/27/1993	12:57	1.16	9910	Elect. Maint. Error Caused MFT
521	168 #6	*	U1	1/30/1994	17:05	1/30/1994	17:24	0.31	1750	Burner Management System
	Oak Creek									
521	168 #6	*	МО	4/26/1994	23:50	5/1/1994	16:48	112.96	1040	First Superheater
521	Oak Creek 168 #6	*	U1	5/23/1994	12:49	5/23/1994	14:13	1.4	1799	Other Control Problems
- UZ 1	Oak Creek	+		3/20/1004	12.40	3/20/1004	17.10	1.7	1,00	Carlo Carlada Frobiolità
521	168 #6	*	U1	5/23/1994	15:11	5/23/1994	15:37	0.43	1799	Other Control Problems
E 0.4	Oak Creek		1.14	E/02/4004	47.00	E/02/4004	17.50	0.00	200	Light Off Custom
521	168 #6 Oak Creek		U1	5/23/1994	17:33	5/23/1994	17:50	0.28	380	Light Off System
521	168 #6	*	U1	5/23/1994	20:20	5/23/1994	20:46	0.43	380	Light Off System

#	Unit Unit Name	GAC NA	10 Time	Event		End of *** Event		Duration in a	Cada	Description
	Oak Creek		ype:	LAGIII		Lvein.		nours	Code	
521	1	*	U1	5/24/1994	9:04	5/24/1994	10:14	1.16	9900	Operator Error
	Oak Creek			0.2 1.100 7		0/2 // 1004	10.14	- 1.10		operator Error
521	168 #6	*	U1	7/7/1994	0:15	7/7/1994	2:00	1.75	1400	Forced Draft Fan
	Oak Creek									
521	168 #6	*	U1	7/7/1994	2:00	7/7/1994	16:50	14.83	4410	Turning Gear and Motor
	Oak Creek									
521		*	U1	8/18/1994	5:18	8/22/1994	0:01	90.71	4520	Stator Windings
	Oak Creek									
521		*	PO	8/22/1994	0:01	10/10/1994	8:14	1184.21	4520	Planned Annual Outage
504	Oak Creek			40/40/4004	04.40	40/44/4004	47.00	40.00	0000	A 01
521	168 #6 Oak Creek	+	U1	10/10/1994	21:48	10/11/1994	17:02	19.23	3832	Aux Steam Valves
521	168 #6	*	U1	10/17/1994	23.05	10/18/1994	5:53	6.8	1710	Combustion Controls
- 52 1	Oak Creek	-		10/1//1994	25.05	10/10/1994	3.33	0.8	17 10	Combustion Controls
521	168 #6	*	мо	10/21/1994	4:25	10/25/1994	2:09	93.73	4260	Main Stop Valves
	Oak Creek									
521	168 #6	*	U1	11/1/1994	15:46	11/1/1994	16:39	0.88	3412	Feedwater Pump Drive Turbine
	Oak Creek									
521	168 #6	*	U1	11/3/1994	23:38	11/4/1994	0:53	1.25	340	Other Pulverizer Problems
	Oak Creek	1.								l
521	168 #6	*	U1	3/1/1995	3:42	3/1/1995	7:31	3.81	3271	Intake Grating Fouling
521	Oak Creek 168 #6		мо	3/7/1995	5.04	2/12/1005	5.51	100.45	4642	L C Congretor I hydrogon Cools
521	Oak Creek		- IVIO	3///1995	5:24	3/12/1995	5:51	120.45	4613	L.S. Generator Hydrogen Seals
521	168 #6	*	SF	3/12/1995	5:51	3/12/1995	21:45	15.9	520	Main Steam Drain Line Leak
	Oak Creek	 			0.01	0,12,1000				The state of the s
521	168 #6	*	U1	4/13/1995	18:15	4/16/1995	11:00	64.75	1080	Economizer Leak
	Oak Creek									
521	168 #6	*	U2	4/19/1995	12:36	4/22/1995	0:02	59.43	1005	Steam Generating Tube
	Oak Creek									
521	168 #6 Oak Creek	-	U1	4/23/1995	0:08	4/23/1995	1:30	1.36	9900	Operator Error
521	168 #6	*	SF	4/23/1995	1:30	4/23/1995	5:45	4.25	2424	Air Figetor Bining & Mys
521	Oak Creek		- or	4/23/1995	1.30	4/23/1995	5,45	4.25	3131	Air Ejector Piping & VIvs
521	168 #6	*	U1	9/8/1995	9:59	9/8/1995	10:29	0.5	3230	Circulating Water VIvs
- 521	Oak Creek		-	37071995	3.03	51011335	10.23	0.5	JZ 30	Chodialing vedici vivo
521	168 #6	*	U1	9/8/1995	14:48	9/8/1995	15:29	0.68	3412	Feedwater Pump Drive Turbine

TOTAL AND A STATE						Start of		Endrof		Duration in		
#	#	Unit Name	GAC	NAC	Type	Event*		Event		hours	Code	Description
521	168		*		U1	10/11/1995	23:24	10/11/1995	23:52	0.46	4302	Turbine Trip Devices
521	168		*		U1	10/18/1995	7:15	10/20/1995	23:00	63.75	1005	Steam Generating Tube
521	168		*		РО	10/20/1995	23:00	11/4/1995	16:48	353.8	1800	Boiler Overhaul
521	168		*		МО	11/23/1995	6:03	11/26/1995	11:45	77.69	1590	Stack Outage
521	168		*		U1	12/29/1995	21:00	12/31/1995	23:59	50.98	1050	Second Superheater
521	168		*		U1	1/1/1996	0:00	1/1/1996	5:08	5.13	1050	
521	168		*		U1	1/10/1996	5:45	1/29/1996	0:01	450.26	4520	
521	168		*		PO	1/29/1996	0:01	2/26/1996	23:59	695.96	4520	nil
521	168		*		МО	2/27/1996	0:01	4/17/1996	19:53	1195.86	4520	nil
521	168		*		U1	4/20/1996	12:21	4/20/1996	17:39	5.3	3521	
521	168		*		U1	4/20/1996	20:42	4/22/1996	5:06	32.4	3521	
521	168		*		U1	5/11/1996	2:38	5/11/1996	9:40	7.03	4309	nil
521	168		*		U1	5/22/1996	4:54	5/22/1996	5:32	0.63	9910	Normal
521	168		*		U1	6/5/1996	5:51	6/5/1996	6:24	0.55	3412	
521	168		*		U1	6/11/1996	10:11	6/13/1996	0:36	38.41	1080	nil
521			*		U1	7/24/1996	18:29	7/24/1996	21:49	3.33	1471	
521			*		U1	9/14/1996	22:55	9/15/1996	16:45	. 17.83	3112	
521	168		*		U1	9/17/1996	5:53	9/17/1996	7:43	1.83	3412	
521	168	Oak Creek #6	*		U1	9/25/1996	15:58	9/26/1996	4:02	12.06	280	

JUIITY**	Unit .			*Event	Start of		End of		Duration in	Cause	
#	# Unit Name					100000000000000000000000000000000000000	Event		hours	Code	
	Oak Creek			1							
521	168 #6	*		U2	10/1/1996	13:30	10/1/1996	20:30	7	360	
	Oak Creek								_		
521		*	_	U1	10/1/1996	20:30	10/2/1996	4:10	7.66	410	
521	Oak Creek 168 #6				40/05/4000	0.00	40/05/4000	0.00		4700	
521	Oak Creek	-		U1	10/25/1996	2:36	10/25/1996	8:36	6	1799	
521		*		U1	10/25/1996	9.26	11/17/1996	22:50	566.23	1060	
321	Oak Creek			01	10/25/1990	- 0.30	11/1//1990	22.50	300.23	1000	
521	168 #6	*		U1	11/27/1996	13:58	11/27/1996	18:00	4.03	9900	
	Oak Creek			-	1112111000	10.00	11,27,1000	10.00	7.00	0000	
521	168 #6	*		U1	12/12/1996	4:59	12/16/1996	1:23	92.4	1060	
	Oak Creek			_						-	
521	168 #6	*		U1	12/23/1996	22:31	12/25/1996	2:34	28.05	1060	
	Oak Creek										
521	168 #6	*		U1	1/24/1997	13:09	1/31/1997	23:59	178.83	4520	Stator Windings
	Oak Creek										
521	168 #6	*		PO	2/1/1997	0:01	5/31/1997	22:40	2878.65	4520	Rebuild 74 Mill Rollers
504	Oak Creek 168 #6	*		MO	7/7/4007	40.44	7/7/4007	40.00	4 44	4400	Trucking Organisa and Total Truck
521	Oak Creek			IVIO	7/7/1997	16:41	7/7/1997	18:06	1.41	4460	Turbine Overspeed Trip Test
521		*		мо	7/8/1997	0:13	7/12/1997	2:22	98.15	4610	 Hydrogen Cooling System Piping & Valves
521	Oak Creek			IVIO	77071997	0.15	111211991	2.22	90.13	4010	Trydrogen Cooling System Fibring & Valves
521		*		U1	9/27/1997	23:34	9/28/1997	1:06	1.53	410	Burner Problems
	Oak Creek			· · · · · ·	0,2,,,,00,		0.20, 1001	1.00			Darner Frederic
521		*		U1	10/13/1997	0:21	10/13/1997	1:03	0.7	410	Burner Problems
	Oak Creek										
521	168 #6	*		U1	10/27/1997	8:17	10/31/1997	22:00	109.71	1060	Boiler Tube Leak
	Oak Creek					·					
521	168 #6	*		МО	11/8/1997	2:44	11/23/1997	6:54	364.16	540	Reheat Steam Piping Up to Turbine Stop Valves
E 0.4	Oak Creek			114	40/2/4007	0.00	40/0/4007	2.54	0.54	440	Daniel Daniel Daniel
521	168 #6 Oak Creek	<u> </u>		U1	12/3/1997	3:20	12/3/1997	3:51	0.51	410	Burner Problems
521	168 #6	*		U1	12/5/1997	4:48	12/5/1997	5:11	0.38	410	Burner Problems
JZ 1	Oak Creek	-		01	12/3/199/	4.40	12/3/199/	3.11	0.36	410	Duffici Floblettis
521	168 #6	*		U1	12/20/1997	17:28	12/30/1997	16:40	239.2	1040	First Superheater
	Oak Creek				.2.20, 1007	17.20	12/00/100/	10.10	200,2	1040	Automatic Turbine Control System Mechanical

1 mg to 2 d 5 d 4 d 5 t 1 t 1 t 1	Unit		Event	Start of		End of		Duration in	Cause	
#	# Unit Name	GAC N	NAC Type	Event		Event		hours	Code	Description
521	Oak Creek 168 #6	*	U1	2/10/1998	9:17	2/18/1998	9:04	191.78		Boiler Tube Leak
521	Oak Creek 168 #6	*	U1	3/20/1998	18:17	3/20/1998	21:13	2.93	4302	Other Turbine Control Problems
521	Oak Creek 168 #6	*	U1	3/31/1998	8:13	3/31/1998	9:28	1.25	1799	Boiler Tripped on Fan Excursion Suspect Control Problem for Fans
521	Oak Creek 168 #6	*	U1	4/3/1998	0:49	4/3/1998	1:13	0.4	410	Burner Problems
521	Oak Creek 168 #6	*	МО	4/29/1998	22:58	5/3/1998	10:58	84	8551	Repair Precipitator
521	Oak Creek 168 #6	*	U1	5/27/1998	0:35	5/27/1998	1:29	0.9	410	Other Burner Problems
521	Oak Creek 168 #6	*	МО	9/4/1998	22:12	9/8/1998	11:58	85.76	1000	Repair Tube Leak
521	Oak Creek 168 #6	*	Ų1	9/14/1998	8:04	9/14/1998	11:56	3.86	3261	Travelling Screen Fouling
521	Oak Creek 168 #6	*	U1	9/15/1998	15:45	9/15/1998	18:00	2.25	3261	Travelling Screen Fouling
521	Oak Creek 168 #6	*	U1	9/17/1998	18:40	9/17/1998	20:31	1.85	410	Burner Problems
521		*	U3	10/10/1998	1:05	10/10/1998	8:05	7	8550	Precip Fouling
521	Oak Creek 168 #6	*	МО	10/23/1998	22:09	10/26/1998	21:21	71.05	8590	Install Trailling Edge Rappers in Precips
521	Oak Creek 168 #6	*	U3	10/28/1998	23:35	11/2/1998	12:38	109.05	4613	Low Speed Generator-Inboard Hydrogen Seal Has Excessive Leakage
521	Oak Creek 168 #6	*	U2	11/20/1998	20:48	11/22/1998	23:34	50.76	400	Burner Windbox Fire at IBI Burner
521	Oak Creek 168 #6	*	U1	1/8/1999	17:53	1/11/1999	2:35	56.7	1080	Economizer
521	Oak Creek 168 #6	*	МО	1/15/1999	1:42	1/18/1999	15:50	86.13	1140	Superheater Leak
521	Oak Creek 168 #6	*	U1_	2/5/1999	4:00	2/5/1999	4:34	0.56	4302	Turbine Trip Devices
521	Oak Creek 168 #6	*	U1	2/26/1999	0:03	2/26/1999	0:21	0.3	4302	Turbine Trip Devices
521	Oak Creek 168 #6	*	U1.	3/4/1999	23:50	3/5/1999	0:28	0.63	3299	Unit Trip - Loss of Aux Cond Vacuum

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Jtility	Unit		Event	Start of		End of		Duration in	Cause	The second of the second of
#	# Unit Name	GAC NAC				Event		hours	Code	Description
521	Oak Creek 168 #6	*	PO	3/13/1999	0:25	4/24/1999	15:49	1023.4	1800	Planned Maintenance Outage
	Oak Creek		. •	0, 10, 100	<u> </u>		10.10			- Namioa mamoriano oatago
521	168 #6	*	PO _	4/24/1999	17:22	4/24/1999	19:02	1.66	1750	Loss of 62 Mill Due to Flame Scanner
521	Oak Creek 168 #6	*	мо	4/27/1999	0:40	5/2/1999	13:04	132.39	3431	Repair Feedwater Tie Valves (U5 to U6)
521		*	U1	5/19/1999	5:41	5/19/1999	6:28	0.78	3299	Unit Trip - Loss of Aux Cond Vacuum
521		*	U1	5/26/1999	12:00	5/26/1999	14:00	2	3261	Travelling Water Screen Fouling
⁻ 521	Oak Creek 168 #6	*	U1 .	6/5/1999	3:28	6/5/1999	4:27	0.98	3653	UPS Power to Service Building
521	Oak Creek 168 #6	*	U1	6/5/1999	4:34	6/5/1999	4:46	0.2		2A Exhauster - Flame Failure
521	Oak Creek 168 #6	*	МО	6/9/1999	0:23		5:33	5.16		Other Main Steam Valves
521	Oak Creek 168 #6	*	PO	6/19/1999	22:00	6/20/1999	15:00	17		Condenser Tube Leak
521	Oak Creek 168 #6	*	U1	7/9/1999	14:45	7/10/1999	18:30	27.75	8590	Other Precipitator Problems
521	Oak Creek 168 #6	*	U1	7/20/1999	3:39	7/20/1999	4:17	0.63	4302	Turbine Trip Devices
521	Oak Creek 168 #6	*	МО	8/14/1999	1:48	8/16/1999	6:55	53.11	3529	Estraction Steam Valves
521	Oak Creek 168 #6	*	U1	10/3/1999	4:55	10/3/1999	5:30	0.58	4460	Turbine Trip During Oil Trip Test
521	Oak Creek 168 #6	*	МО	10/16/1999	21:36	10/17/1999	22:57	25.35	3521	Extraction Steam Valves
521	Oak Creek 168 #6	*	U1	11/6/1999	3:05	11/6/1999	3:48	0.71	360	Burners
521	Oak Creek 168 #6	*	U1_	12/5/1999	3:32	12/5/1999	3:55	0.38	4302	Turbine Trip - Oil Trip Test
521	Oak Creek 168 #6	*	U1	12/21/1999	1:23	12/21/1999	5:59	4.6	3659	Coil Failure on DCS Uninterruptable Power Supply
521	Oak Creek 168 #6	*	U3	12/24/1999	23:14	12/26/1999	23:52	48.63	4279	Miscellaneous Turbine Piping
521	Oak Creek 168 #6	*	U1	12/27/1999	12:09	12/30/1999	23:00	82.85	1030	Water Tube Leak on Division Wall Between 3&4 Cell

	Unit			Event	Start of		End of		Duration in	Cause	
#	#	Unit Name	GACNAC	Type	Event		Event		hours	Code	Description
				<u> </u>							
		Oak Creek									
521	178			U1	1/4/1977	19:32	1/6/1977	6:03	34.51	1000	
		Oak Creek									
521	178	#7 Oak Creek		МО	1/22/1977	0:11	1/24/1977	3:05	50.9	1999	
521	178			U1	2/18/1977	23:35	2/19/1977	23:35	24	1000	
		Oak Creek									
521	178			U1	3/19/1977	22:07	3/20/1977	22:23	24.26	1000	
504	470	Oak Creek		1.14	2/00/4077	4.40	0/00/4077	40.44	50.44	4000	
521	178	#/ Oak Creek		U1	3/26/1977	4:49	3/28/1977	13:14	56.41	1000	
521	178			мо	4/9/1977	21:00	4/17/1977	15:27	186.45	840	
1		Oak Creek	 						-		
521	178			U1	4/22/1977	23:36	4/25/1977	22:16	70.66	1000	
521	178	Oak Creek		U1	5/15/1977	1:48	5/16/1977	6:32	28.73	1040	
321	170	Oak Creek		01	3/13/19//	1.40	3/10/13//	0.32	20.73	1040	
521	178	# 7		U1	6/5/1977	15:52	6/8/1977	4:37	60.75	1040	
		Oak Creek									
521	178	#7 Oak Creek		U1	6/14/1977	0:04	6/15/1977	5:56	29.86	1040	
521	178			U1	6/17/1977	0:22	6/17/1977	22:41	22.31	1040	
02.1	-170	Oak Creek				0.22				70.10	
521	178			МО	7/16/1977	18:33	7/18/1977	2:45	32.2	1060	
	470	Oak Creek			7/00/4077	4.04	7/04/4077	40.00	20.51	40.40	
521	178	#7 Oak Creek		U1	7/23/1977	1:01	7/24/1977	16:32	39.51	1040	
521	178			U1	8/2/1977	19:11	8/4/1977	19:11	48	1040	
		Oak Creek		·	-						
521	178			U1	8/12/1977	17:58	8/15/1977	1:37	55.65	1000	
504	178	Oak Creek		U1	9/18/1977	7:58	9/20/1977	7:57	47.98	1000	
521	1/0	#/ Oak Creek		01	3/10/13//	1.56	312011311	1.57	47.98	1000	
521	178			U1	10/21/1977	23:18	10/24/1977	4:44	53.43	1000	·
·		Oak Creek									
521	178	#7		PO	11/12/1977	3:32	12/19/1977	18:23	926.85	1999	

	Unit	i.		Event	Start of		End∗of	- WE	Duration in		
#			GACNAC	Type	Event		Event		hours	Code	Description
521	178			U1	12/23/1977	22:36	12/24/1977	16:14	17.63	3130	
521	178			U1	1/4/1978	23:45	1/6/1978	1:00	25.25	1000	
521	178			U1	1/7/1978	16:43	1/8/1978	14:37	21.9	1000	
521	178	Oak Creek #7		U1	1/10/1978	5:06	1/11/1978	6:18	25.2	1000	
521	178	Oak Creek #7		U1	2/17/1978	22:30	2/20/1978	6:17	55.78	1305	
521	178	Oak Creek #7		МО	2/21/1978	13:53	2/21/1978	15:49	1.93	9320	
521	178	Oak Creek #7		U1	3/11/1978	21:35	3/12/1978	16:13	18.63	3999	
521	178	Oak Creek #7		U1	3/26/1978	0:02	3/26/1978	23:13	23.18	1000	
521	178	Oak Creek #7		U1	4/8/1978	23:51	4/9/1978	7:47	7.93		
521	178	Oak Creek #7		U1	4/15/1978	3:09		6:45	51.6		
521	178	Oak Creek #7		U1	4/28/1978	6:17		3:53	21.6		
		Oak Creek		U1	5/4/1978	0:03		1:02	72.98		
521		Oak Creek		U1	5/13/1978	21:43		1:21	27.63		
521		Oak Creek		U1	5/15/1978	16:55		17:05	0.16		4
521		Oak Creek		U1	5/20/1978	22:50		3:47	28.95		
	178	Oak Creek		U1	5/31/1978	13:39		14:05	0.43		
	178	Oak Creek		U1	6/6/1978	17:14	6/8/1978	4:42	35.46		
	178	Oak Creek		U1	6/9/1978	3:17	6/10/1978	5:46	26.48		
		Oak Creek		U1	6/16/1978			4:17			

88.86 13.23.33.3 T					Start of *					5000 00 to 00 00 to 00 00 to 00 00 00 00 00 00 00 00 00 00 00 00 00	
#	#	Unit Name Oak Creek	GAC NAC	Type	Event		Event		hours	Code	Description
521	178			U1	6/24/1978	0:35	6/26/1978	22:48	70.21	1455	
		Oak Creek									
521	178	#7 Oak Creek		U1	6/27/1978	22:47	6/28/1978	6:47	8	1455	
521	178			U1	6/28/1978	23:06	6/29/1978	2:45	3.65	1455	
		Oak Creek					7.5/4.070	2.2.		. .	
521	178	#7 Oak Creek		U1	7/3/1978	14:05	7/5/1978	0:34	34.48	1455	
521	178	#7		U1	7/5/1978	3:38	7/5/1978	4:04	0.43	1455	
504	470	Oak Creek		114	7/5/4070	4.40	7/5/4070	4.0.4	0.00	4455	
521	178	#/ Oak Creek		U1	7/5/1978	4:12	7/5/1978	4:34	0.36	1455	·
521	178			U1	7/5/1978	6:30	7/5/1978	6:43	0.21	1455	
	4=0	Oak Creek			7,47,4070	24.42	7/10/1070		.=		
521	178	#/ Oak Creek		U1	7/17/1978	21:46	7/19/1978	21:02	47.26	1000	
521	178	#7		U1	7/24/1978	16:45	7/26/1978	4:23	35.63	1005	
521	178	Oak Creek		U1	7/27/1978	15:33	7/30/1978	23:26	79.88	1040	
321	170	Oak Creek		01	112111310	10.55	1/30/19/0	23.20	7 3.00	1040	ı
521	178			U1	8/4/1978	23:09	8/6/1978	17:03	41.9	1000	
521	178	Oak Creek #7		U1	8/7/1978	20:06	8/8/1978	0:49	4.71	4269	
021		Oak Creek		<u> </u>	0///10/0	20.00	0,0,10,0	0.40	7,7 1	7200	
521	178			U1	8/8/1978	1:00	8/8/1978	1:31	0.51	9900	
521	178	Oak Creek #7		U1	8/12/1978	1:25	8/13/1978	10:06	32.68	1000	
<u> </u>		Oak Creek									
521	178			U1	8/26/1978	0:34	8/28/1978	6:11	53.61	920	
521	178	Oak Creek #7		U1	9/30/1978	7:34	9/30/1978	22:16	14.7	4014	
-		Oak Creek					, ,	-			
521	178	#7 Oak Creek		U1	10/8/1978	1:28	10/10/1978	10:35	57.11	8560	· · · · · · · · · · · · · · · · · · ·
521	178	·		МО	10/16/1978	0:07	10/16/1978	0:44	0.61	9320	
-0.	4=-	Oak Creek			444440=5		1.10110-				
521	178	#7		U1	11/4/1978	23:12	11/6/1978	8:15	33.05	8560	

Utility					Start of		End of		Duration in		
#		Unit Name	GAC 1	NAC _, Туре	Event		Event		hours	Code	Description
521	178	Oak Creek		U1	11/6/1978	12:47	11/7/1978	6:13	17.43	8560	
321		Oak Creek		- 0 	11/0/13/0	12.71	11/1/13/0	0.13	17,43	- 8300	
521	178			U1	11/23/1978	1:16	11/26/1978	21:03	91.78	895	
		Oak Creek									
521	178			U1	12/10/1978	10:09	12/13/1978	11:15	73.1	1040	
521	178	Oak Creek #7		U1	12/14/1978	15:36	12/15/1978	21:54	30.3	1000	
		Oak Creek									
521	178			U1	12/23/1978	0:15	12/24/1978	0:14	23.98	1000	
521	178	Oak Creek #7		U1	12/24/1978	21.27	12/26/1978	17:38	44.18	1040	
021		Oak Creek			12/24/10/0		12/20/10/0	17.00	77.10	10 10	1
521	178	#7		PO	12/30/1978	3:31	12/31/1978	24:00:00	44.48	1999	
50.1		Oak Creek		20	4/4/4070	0.01	0/04/4070	47.40	4044.75	1000	
521	178	#/ Oak Creek		PO	1/1/1979	0:01	2/21/1979	17:46	1241.75	1999	
521				U1	2/24/1979	22:02	2/26/1979	8:57	34.91	8325	
		Oak Creek									
521				U1	3/8/1979	21:50	3/9/1979	5:59	8.14	8560	
521	178	Oak Creek #7		U1	4/14/1979	22:30	4/15/1979	11:12	12.7	8560	
		Oak Creek									-
521	178			U1	5/4/1979	0:07	5/7/1979	8:29	80.36	8560	
521	178	Oak Creek		U1	5/8/1979	14:08	5/10/1979	4:49	38.68	1000	
521		Oak Creek		01	5/6/19/9	14.00	3/10/19/9	4.49	30.00	1000	
521	178	, ,		U1	5/14/1979	16:22	5/16/1979	5:43	37.34	1060	
		Oak Creek									
521				MO	5/22/1979	22:49	5/23/1979	4:14	5.41	3999	
521	178	Oak Creek #7		U1	5/23/1979	19:35	5/24/1979	3:06	7.51	8560	
· -		Oak Creek									
521				MO	5/31/1979	22:32	6/1/1979	2:55	4.38	8560	
504		Oak Creek		114	6/4/4070	22.50	6/2/4070	23:59	48	1000	
521	178	#/ Oak Creek		U1	6/1/1979	23:59	6/3/1979	23:59	48	1000	
521	178			U1	6/6/1979	22:06	6/7/1979	6:38	8.53	3999	

Utility	Unit			Event	Start of		End of		Duration in	Cause	
#			GAC NAC	Type	Event		Event		hours	Code	Description
521	178	Oak Creek #7		U1	6/20/1979	0:22	6/23/1979	6:21	77.98	1060	
521	178	Oak Creek #7		U1	6/23/1979	7:54	6/23/1979	8:04	0.16	4309	
521	178	Oak Creek #7		МО	6/24/1979	22:25	6/25/1979	4:48	6.38	8580	,
		Oak Creek		U1	6/25/1979	4:58	6/25/1979	6:19	1.35	740	
521	178	Oak Creek #7		U1	6/28/1979	0:02	6/29/1979	17:00	40.96	1000	
521	178			U1	7/3/1979	22:36	7/6/1979	3:08	52.53	1000	
521				U1	7/16/1979	20:56	7/18/1979	22:13	49.28	1100	
521	178			U1	7/25/1979	23:38	7/30/1979	6:40	103.03	1100	
521	178			U1	8/11/1979	23:55	8/13/1979	6:00	30.08	8560	
521	178			U1	8/13/1979	21:21	8/15/1979	19:37	46.26	1000	
521	178			U1	8/24/1979	23:23	8/26/1979	5:15	29.86	1000	
521	178			MO	9/2/1979	1:02	9/2/1979	18:30	17.46	4619	
521	178			U1	11/1/1979	1:38	11/5/1979	6:15	100.61	1100	
521	178			U1	1/8/1980	2:11	1/11/1980	4:52	74.68	1080	
521	178			U1	2/1/1980	0:37	2/3/1980	5:47	53.16	1000	
521	178			U1	2/3/1980	9:02	2/3/1980	16:13	7.18	3149	
521	178			U1	3/2/1980	7:53	3/2/1980	9:28	1.58	1799	
521	178			U1	3/22/1980	2:47	3/24/1980	5:27	50.66	1000	
521	178	Oak Creek #7		U1	4/24/1980	13:27	4/24/1980	18:44	5.28	3149	

Jtility #	Unit # Unit Name (Start of Event		End of Event		Duration in hours	Cause Code	Description
<i>"</i>	Oak Creek		iype			-veilt		nours	-0 W.M. 2 (11) 0 10 June	
521	178 #7		U1	4/26/1980	0:30	4/27/1980	13:48	37.3	3130	
521	Oak Creek 178 #7		мо	5/9/1980	8:59	6/30/1980	34.00.00	1263.01	4400	
- OZ I	Oak Creek		1010	3/3/1300		0/30/1300	24.00.00	1200.01	- 44001	
521	178 #7		мо	7/1/1980	0:01	7/10/1980	15:19	231.3	4400	· · · · · · · · · · · · · · · · · · ·
	Oak Creek									
521	178 #7 Oak Creek		U1	7/10/1980	15:49	8/5/1980	17:55	626.09	4400	
521	178 #7		мо	8/6/1980	6:03	8/6/1980	6:35	0.53	4309	
	Oak Creek									
521	178 #7		U1	8/8/1980	21:07	8/10/1980	1:17	28.16	8560	
521	Oak Creek 178 #7		U1	8/16/1980	2:27	8/17/1980	6:20	27.88	8560	
021	Oak Creek		01	0/10/1300	2.21	0/1//1300	0.20	27.00	0000	
521	178 #7		U1	8/22/1980	23:48	8/23/1980	14:30	14.7	8560	
504	Oak Creek			0/4/4000	0.50	0/0/4000	4.07	45.00	0500	
521	178 #7 Oak Creek		U1	9/1/1980	9:59	9/2/1980	1:37	15.63	8560	
521	178 #7		U1	9/5/1980	20:48	9/6/1980	7:41	10.88	8560	
	Oak Creek									
521	178 #7		U1	9/12/1980	23:40	9/13/1980	4:11	4.51	8560	
521	Oak Creek 178 #7		U1	9/13/1980	6:30	9/13/1980	7:44	1.23	3190	
	Oak Creek		<u> </u>	3, 13, 1300	0.00	3, 13, 1330	7.33	1.20	3,00	
521			U1	9/26/1980	23:30	9/28/1980	23:25	47.91	1000	
521	Oak Creek 178 #7	.	U1	9/29/1980	21:53	9/30/1980	9:54	12.01	4609	
521	Oak Creek		U I	3123/1900	∠1.53	9/30/1980	9.54	12.01	4009	
521	178 #7		U1	10/2/1980	20:40	10/4/1980	10:42	38.03	1400	
F0.4	Oak Creek		DO	40/44/4000	4.00	40/04/4000	04.00.00	4000.0	4000	
521	178 #7 Oak Creek		PO	10/11/1980	1:06	12/31/1980	24:00:00	1990.9	1999	
521	178 #7		PO	1/1/1981	0:01	3/29/1981	5:05	2093.06	4400	
F0.4	Oak Creek		1.14	2/20/1122	45.04	0/00/1001	40.44	0.00	4001	
521	178 #7 Oak Creek		U1	3/29/1981	15: <u>3</u> 1	3/29/1981	18:11	2.66	4301	
521	178 #7		U1	3/29/1981	22:20	3/29/1981	23:30	1.16	740	·

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1									Duration in		
#			GAC N	AC Ty	pe Event		Event		hours	Code	Description
521	178			U1	3/29/1981	23:47	3/30/1981	1:35	1.8	740	
521	178	Oak Creek #7		мс	4/16/1981	23:19	4/20/1981	3:57	76.63	4269	
521	178	Oak Creek #7		U1	5/1/1981	19:08	5/4/1981	4:16	57.13	1000	
521	178	Oak Creek #7		U1	5/12/1981	18:06	5/15/1981	9:25	63.31	1000	
521	178	Oak Creek #7		U1	5/17/1981	4:30	5/18/1981	1:03	20.55	1000	
521	178	Oak Creek #7		U1	5/26/1981	13:53	5/29/1981	10:26	68.55	1000	·
521	178	Oak Creek #7		U1	5/30/1981	23:43	5/31/1981	8:15	8.53	8560	
	178	Oak Creek		U1	6/7/1981				38.91	1000	
	178	Oak Creek		U1	6/14/1981				28.58		
	178	Oak Creek		U1	6/25/1981			21:51	39.3		
521	178	Oak Creek #7		U1	7/17/1981			10:51	34.86		
521	178	Oak Creek #7		U1	8/14/1981	23:30	8/17/1981	2:50	51.33	1040	
521	178	Oak Creek #7		мс	8/26/1981	17:16	8/29/1981	8:21	63.08	1000	
	178	Oak Creek		U1	8/31/1981		10/13/1981	14:17	1042.01	1999	
	178	Oak Creek		U1	10/13/1981		10/13/1981	23:24	6.43	380	
	178	Oak Creek		U1	10/17/1981		10/20/1981	19:58	75.56	1040	
	178	Oak Creek		U1	10/22/1981		10/24/1981	11:49	36.71	1040	
	178	Oak Creek		U1	10/29/1981		10/31/1981	8:32	33.93		M-4-
	178	Oak Creek		U1	11/7/1981		11/8/1981		8.08	340	

Utility						Start of		End of		Duration in	Cause	
#	#		GAC	NAC	Туре	Event		Event		hours	Code	Description
521	178				U1	11/14/1981	21:28	11/15/1981	6:52	9.39	8560	
521	178	Oak Creek #7			U1	11/19/1981	12:38	11/21/1981	13:24	48.76	1000	
521	178	Oak Creek #7			U1	11/27/1981	19:30	11/29/1981	18:08	46.63	1060	
521	178	Oak Creek #7			U1	12/3/1981	22:03		9:37	35.56		
	178	Oak Creek			U1	12/6/1981	8:57		9:43	0.76		
	178	Oak Creek			U1	12/7/1981	13:42		16:22			
521		Oak Creek			U1	12/13/1981		12/14/1981	1:56			
521		Oak Creek			U1	12/16/1981		12/19/1981	7:19			
	178	Oak Creek			U1			12/19/1981				
		Oak Creek				12/24/1981						
521		Oak Creek			U3	1/7/1982	23:23			157.73		Boiler, Furnace Water Tube Leak
521		Oak Creek			U1	1/26/1982	23:17					Clear Precip Grounds Precipitator Field Grnd, Out to Clear Precip Grounds
521	178	#7 Oak Creek			U3	2/6/1982	22:17	2/7/1982	17:33	19.26	8550	and Empty Hoppers
521	178	#7 Oak Creek			U2	2/17/1982	9:59	2/18/1982	22:32	36.55	890	Remove Bottom Ash from Ash Pit and Incline
521	178	1			U2	2/21/1982	20:51	2/23/1982	21:55	49.06	1060	Out to Repair Reheat Pendent Leak Elev 121
521	178	# 7.			U1	3/7/1982	1:55	3/7/1982	23:50	21.91	1060	Reheat Pendant Tube Rupture
521	178				РО	3/13/1982	1:33	4/16/1982	13:32	827.98	1800	Boiler and Turbine, Annual Outage
521	178				U1	4/22/1982	11:51	4/23/1982	19:00	31.15	1000	Boiler, Lower East Wall Water Tube Rupture
521	178				U1	4/23/1982	19:01	5/1/1982	10:52	183.85	740	71/72 BBP Motor Bearings Damaged
521	178	Oak Creek #7			U1	5/4/1982	0:44	5/4/1982	7:14	6.5	8560	Remove Wire Ground from Precips Inlet and Center

Utility	Unit				Event	Start of	entransis in a survey of 1852 186	End of		Duration in		
#	#	Unit Name	GAC	NAC	Type	Event		Event	t to ke to the second second	hours	Code	Description
521	178				U1	5/8/1982	22:46	5/10/1982	8:06	33.33	1005	Repair Ruptured Water Wall Tube
521	178				U1	5/21/1982	19:18	5/23/1982	8:06	36.8	1005	Boiler, Water Tube Rupture in Area of Drip Screen at Ash Pit Water Seal
521	178				U1	5/30/1982	21:10	6/1/1982	3:47	30.61	1030	Furnace Bottom (Remove Precip Wires)
521	178				U1	6/4/1982	18:14	6/6/1982	3:24	33.16	1005	Boiler, Water Wall Tube Rupture
521	178	1			U1	6/19/1982	12:17	6/19/1982	17:36	5.31	8560	Remove Grounds from Two Fields of the Precipitator
521	178	1			U1	6/20/1982	11:45	6/22/1982	20:30	56.75	1005	Boiler, Water Tube Leak Under Nose West Side on North Hopper
521	178				PO	6/25/1982	23:26	6/27/1982	12:52	37.43	8560	Remove Broken Wire in Precipitator
521	178	Oak Creek #7			U2 ·	7/5/1982	0:02	7/6/1982	0:52	24.83	1030	Boiler, Water Tube Leak
521	178				U1	7/13/1982	13:11	7/18/1982	17:50	124.65	1005	Boiler, Water Tube Failure
521	178				U1	7/22/1982	0:04	7/26/1982	2:51	98.78	1030	Boiler, Repair Water Wall Leak
521	178	1			U1	7/26/1982	8:18	7/27/1982	6:19	22.01	1005	Repair Water Wall Tube
521	178				U1	8/8/1982	1:33	8/8/1982	7:23	5.83	8560	Clear Precip Grounds
521	178				U1	8/11/1982	20:32	8/11/1982	21:10	0.63	1999	BBP Diff Press Trip, Water Entered Encolsure and Activated Trip - Resetarted UNI
521	178				U1	8/25/1982	23:14	8/27/1982	11:00	35.76	1070	Boiler, Reheat Pendant Leak South Side EL 121
521	178				U1	9/27/1982	17:12	10/1/1982	14:02	92.83	1000	Boiler, Water Wall Top of Burners SE Corner
521	178				U1	10/5/1982	13:39	10/7/1982	14:55	49.26	1060	Boiler, Reheater Pendant Leak on 4 Cell
521	178				U1	10/20/1982	9:59	10/23/1982	1:20	63.35	1005	Boiler, Repair Water Wall Leak 87 SE Corner
521	178				U2	11/3/1982	21:53	11/8/1982	19:53	118	1000	Repair Boiler Water Wall and Reheat Tube Leaks
521	178	Oak Creek #7			U1	11/25/1982	6:24	11/28/1982	10:34	76.16	1005	Boiler, Repair Water Wall Leak

Utility	Unit			Event	Start of		End of		Duration in	Cause	
#		Unit Name	GAC NAC	Туре	Event		Event		hours	Code	Description
		Oak Creek					i				
521	178			U1	11/30/1982	21:56	12/3/1982	10:29	84.55	1100	Boiler, Repair Reheat and Water Wall Leaks
504		Oak Creek			40/00/4000	00.50	40/04/4000	0.00	77.04	4000	Danaia E. AMAA MARAAA AA OO Oo A Dhaana
521		#/ Oak Creek		U2	12/20/1982	20:50	12/24/1982	2:03	77.21		Repair Front Water Wall Leak at 83 Soot Blower Repai Water Wall Leaks, & Repair Gen Oil Circuit,
521	178			U1	1/5/1983	21:46	1/9/1983	21:46	96		Breaker C Phase
321		Oak Creek		01	1/3/1903	21.40	1/9/1903	21.40		1003	bleaker C Fliase
521				U1	1/10/1983	1:42	1/10/1983	2:16	0.56	9900	Unit Tripped, Operator Error
		Oak Creek									
521				U1	1/28/1983	7:41	1/31/1983	8:00	72.31	1005	Repair Boiler Water Wall Leaks
		Oak Creek									
521	178			U1	2/27/1983	19:46	2/10/1983	3:34	55.8	1000	Repair Water Wall Leak
504		Oak Creek			0/0/400			10.00		400=	
521	178			U1	3/8/1983	23:32	3/11/1983	12:26	60.9	1005	Repair Water Wall Leak
521		Oak Creek		U1	3/15/1983	22:44	3/18/1983	1:50	51.1	1020	Water Tube Leak Lower Incline South Side
521		#/ Oak Creek		01	3/13/1903	22.44	3/10/1903	1.50	51.1	1030	Water Tube Leak Lower Incline South Side
521				U1	3/22/1983	14:49	3/25/1983	17:50	75.01	1000	Repair Water Tube Leak
<u> </u>	,	Oak Creek			0.22,7000		0,20,7000	17.00	, 0, 0 1	,,,,	Tropali Viator rabo Louix
521	178			PO	4/9/1983	6:05	5/9/1983	2:12	716.11	1800	Planned Annual Outage
		Oak Creek									Control Valves Closed Unit Tripped on Reverse Power
521				U1	5/21/1983	22:39	5/22/1983	0:46	2.11	4261	Play
		Oak Creek								-	
521	178			U1	5/22/1983	17:26	6/1/1983	16:19	238.88	540	Repair Reheat Leaks
504		Oak Creek		U1	E /00 /4 000	0.55	5/20/4002	4.00	0.63	770	Dellas Basadas Divisa Tria divada a Lavi Divisa Lavi I
521	178	#/ Oak Creek		101	5/22/1983	0:55	5/22/1983	1:33	0.63	770	Boiler Booster Pump Trip due to a Low Drum Level 76 and 77 HP Feedwater Heaters out to Repair Internal
521	178			U1	6/15/1983	21:50	6/19/1983	5:00	79.16	3440	Leaks
521		Oak Creek			0, 10, 1303	21.00	0/10/1000	5.00	7 3.10	 0	Louis
521	178			U1	6/19/1983	5:00	6/20/1983	11:53	30.88	1510	Repair 72 ID Fan Ductwork
		Oak Creek									
521	178			U1	6/22/1983	20:16	6/24/1983	7:02	34.76	1060	Took Unit Out to Repair Reheat Leak
		Oak Creek									·
521	178		*	U3	7/9/1983	0:10	7/10/1983	5:02	28.86	1050	Superheat Platen Assembly Leak Elevation 121
		Oak Creek	_				0.10.10-	400-			
521	178		*	U1	8/5/1983	21:20	8/6/1983	13:38	16.29	1030	Repair Water Tube Leak EL 19
504		Oak Creek	*	114	8/0/4 000	22.47	0/40/4000	22:25	71.63	1000	Unit Out to Bonoir Water Wall Look
521	178	#/		U1	8/9/1983	22:47	8/12/1983	22:25	71.63	1000	Unit Out to Repair Water Wall Leak

Utility	Unit	and the second			Event	Start of		End of	Commence of the Commence of th	Duration in	Cause	
# .	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
521	178		*		U1	9/3/1983	0:08	9/8/1983	13:55	133.78	1000	Water Wall Leak
521	178		*		U1	9/12/1983	1:44	9/12/1983	2:12	0.46	380	Low Coal Flow Trip on Start by Oil Pump - FSSS Problem
521	178		*		U1	9/19/1983	18:47	9/26/1983	3:20	152.55	1140	Superheat Pendant Tube Rupture
. 521	178		*		U1	9/30/1983	15:42	10/2/1983	6:43	39.01	1060	Reheat Tube Rupture
521	178		*		U2	10/28/1983	23:19	10/30/1983	4:37	29.3	1005	Repair Water Wall Leak South - East Corner of EL 48
521	178		*		U1	12/8/1983	9:02	12/11/1983	18:47	81.75	1005	Water Tube Leak
521	178		*		U3	12/30/1983	23:14	12/31/1983	24:00:00	24.76	1000	Repair Water Wall Leak
521	178				U3	1/1/1984	0:00	1/2/1984	1:56	25.93	1000	Repair Water Wall Leak, Started in '83
521	178				U1	1/2/1984	3:42	1/2/1984	4:10	0.46	9900	Push Button Trip, Hi Drum Press
521	178				U2	1/3/1984	22:17	1/4/1984	1:45	3.46	1060	Reheat Leak
521	178				U1	1/27/1984	22:13	1/28/1984	20:35	22.36	760	Boiler Recirculation Valve
521	178				U1	1/30/1984	13:41	2/3/1984	3:25	85.73	1005	Generating Tubes
521	178				U3	3/5/1984	13:50	3/15/1984	11:25	237.58	4261	Control Valves
521	178				U1	3/23/1984	10:50	3/26/1984	2:50	64	1005	Generating Tubes
521	178				U1	3/30/1984	7:19	4/2/1984	14:00	78.68	1005	Generating Tubes
521	178				U1	4/21/1984	21:22	4/24/1984	0:01	50.65	1005	Generating Tubes
521	178				U2	4/24/1984	0:02	4/24/1984	3:00	2.96	690	Other Feedwater Problems
521	178				U1	4/24/1984	3:00	4/24/1984	11:44	8.73	1005	Generating Tubes
521	178	Oak Creek #7			U1	5/10/1984	4:18	5/13/1984	1:36	69.3	1005	Generating Tube Leak

	Unit					End of		Duration in		
#	# Unit Name	GAC	NAC Type	Event		Event		hours	Code	Description
521	Oak Creek 178 #7		U1	5/15/1984	11:14	5/20/1984	5:32	114.3	1050	Second Superheater
521	Oak Creek 178 #7		U1	5/31/1984	16:30	6/3/1984	11:05	66.58	1080	Economizer Leak
521	Oak Creek 178 #7		U1	6/3/1984	11:05	6/3/1984	15:50	4.75	4301	Loss of Voltage to Main Stop VV
521	Oak Creek 178 #7	*	U1	7/3/1984	11:26	7/8/1984	2:38	111.2	1070	Second Reheater
521	Oak Creek	*	U1	7/9/1984	13:10		11:40	46.5		Generating Tube
	Oak Creek 178 #7	*	U1	7/14/1984	10:41		11:21	0.66		Operator Error
521	Oak Creek 178 #7	*	U1	8/23/1984	17:11	8/27/1984	20:15	99.06		First Reheater
521	Oak Creek 178 #7	*	U1	8/27/1984	20:15		22:15	2		Maintenance Error
521	Oak Creek 178 #7	*	U1	8/27/1984	22:25		5:57	7.7		First Reheater
521	Oak Creek 178 #7	*	MO	8/31/1984	20:14		21:36	1.36		Test
	Oak Creek	*	PO	9/1/1984		10/26/1984	22:05	1338.3		Boiler Overhaul
	Oak Creek 178 #7	*	U1	10/27/1984		10/28/1984	3:53	25.21		Other Control Problems
521	Oak Creek 178 #7	*	U1	10/27/1984		10/28/1984	5:50	8.76		Electrostatic Precip Problems
	Oak Creek									·
521	178 #7 Oak Creek	*	U1	10/30/1984		10/30/1984	12:26	6.6		Air Supply Dampers
521	178 #7 Oak Creek		U1	11/3/1984	15:04		23:15	8.18		Boiler Controls
521	178 #7 Oak Creek		U2	11/3/1984		_	10:56	11.66		Other Feedwater Valves
	Oak Creek		U1	11/13/1984	_	11/14/1984	3:58			Combustion Controls FSSS
521	178 #7 Oak Creek	*	U1	11/21/1984	4:38	11/21/1984	6:12	1.56	3149	Loss of Vacuum
521	178 #7	*	МО	11/21/1984	17:35	11/25/1984	17:58	96.38	1440	Air Supply Dampers

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Utility	Unit	, the section 1.	1	Event	Start of		End of	iv.	Duration in		
#			GAC NAC	Type	Event		Event		hours	Code	Description
521	178		*	U1	12/11/1984	19:49	12/14/1984	3:44	55.91	1050	Second Superheater
521	178		*	U1	12/20/1984	12:58	12/24/1984	2:49	85.85	1005	Generating Tube
521	178	Oak Creek #7 Oak Creek		U1	1/14/1985	9:07	1/15/1985	10:00	24.88	1005	Generating Tube
521	178			SF	1/15/1985	10:00	1/15/1985	11:32	1.53	380	Light-Off Systems
521	178	#7		U1	2/3/1985	19:24	2/3/1985	20:08	0.73	1710	FSSS Power Supply
521	178			U1	3/7/1985	0:02	3/7/1985	0:51	0.81	1710	Combustion Controls
521	178			U1	3/8/1985	13:02	3/10/1985	22:53	57.85	1005	Generating Tube
521	178			U1	3/24/1985	13:08	3/25/1985	7:51	18.71	1005	Generating Tube
521	178			мо	4/11/1985	20:25	4/12/1985	8:00	11.58	9620	Precipitator Grounds
521	178			SF	4/12/1985	8:00	4/12/1985	9:26	1.43	1710	Combustion Controls
521	178			U1	4/19/1985	23:09	4/21/1985	9:50	34.68	1005	Generating Tube
521	178			U1	4/22/1985	21:42	4/24/1985	8:50	35.13	1005	Generating Tube
521	178			SF	4/24/1985	8:50	4/24/1985	16:22	7.53	1710	Combustion Controls
521	178			мо	5/25/1985	0:22	5/25/1985	8:23	8.01	9620	Precipitator Grounds
521	178			МО	5/31/1985	19:09	6/3/1985	5:05	57.93	1060	First Reheater - Repair Tube Leak
521	178			SF	6/3/1985	5:05	6/3/1985	9:30	4.41	4609	Exciter Problems
521	178			МО	6/13/1985	22:59	6/18/1985	4:16	101.28	1050	Second Superheater
521	178			U1	8/7/1985	11:11	8/10/1985	14:50	75.65	1070	Second Reheater
521	178	Oak Creek #7		U1	9/3/1985	3:08	9/3/1985	11:02	7.9	3149	Loss of Vacuum

Utility		>-		Event	Start of	**	End of	4	Duration in	Cause	
#	#	Unit Name Oak Creek	GAC N	AC Type	Event		Event		hours	Code	Description
521	178	#7		U1	9/5/1985	22:03	9/8/1985	17:29	67.43	1005	Generating Tube
		Oak Creek									
521	178	#7 Oak Creek	-	MO	9/12/1985	21:30	9/15/1985	1:22	51.86	1070	Second Reheater
521	178	#7		мо	10/3/1985	15:34	10/7/1985	3:37	84.05	1060	First Reheater
		Oak Creek									
521	178	#7		U1	10/16/1985	19:35	10/20/1985	4:00	80.41	1070	Second Reheater
521	178	Oak Creek #7		U1	10/20/1985	4.00	10/20/1985	8:00	4	360	Burner Tilts Inoperative
		Oak Creek			10:20, 1000		10.20,1000	0.00			
521	178			U1	10/20/1985	8:00	10/20/1985	16:46	8.76	380	Igniter Problems
		Oak Creek									
521	178	#/ Oak Creek		MO	10/26/1985	4:35	10/27/1985	1:45	21.16	4014	Bucket & Blade Fouling
521	178			U1	11/1/1985	2:42	11/1/1985	3:22	0.66	9270	Unit Trip Wet Coal
		Oak Creek			11,1,11,1000			0.22	0.00		
521	178			U1	11/1/1985	5:20	11/1/1985	5:50	0.5	9270	Unit Trip Wet Coal
504	470	Oak Creek			44/4/4005	45.05	40/0/4005	40.44	0404	4000	A served Outside
521	178	#/ Oak Creek		РО	11/1/1985	15:35	12/9/1985	19:41	940.1	1800	Annual Outage
521	178			U1	12/10/1985	3:05	12/10/1985	3:32	0.45	9900	ID Fan Tripped
		Oak Creek									
521	178			U1	12/10/1985	20:03	12/12/1985	10:06	38.05	880	Flyash Handling Equipment
504	470	Oak Creek			40/44/4005	4.00	40/45/4005	4.57	07.40	4005	Constitution Table
521	178	#/ Oak Creek	-	MO	12/14/1985	1:28	12/15/1985	4:57	27.48	1005	Generating Tube
521	178			U1	12/29/1985	1:19	12/30/1985	17:38	40.31	1005	Generating Tube
		Oak Creek								-	
521	178			U1	1/3/1986	21:58	1/6/1986	4:48	54.83	1050	Second Superheater
521	178	Oak Creek		МО	1/11/1986	8:14	1/11/1986	9:13	0.98	4303	Turbine Trip Devices
521	170	Oak Creek		IVIO	1/11/1900	0.14	1/11/1900	3, 13	0.30	4302	Turbine Trip Devices
521	178			U3	1/16/1986	20:13	1/19/1986	2:06	53.88	1005	Generating Tube
		Oak Creek		٧					-		
521	178			U2	2/5/1986	20:15	2/9/1986	3:17	79.03	1060	First Reheater
504	470	Oak Creek		140	2/24/4022	20.02	0/07/4000	0.50	50.45	1050	Constant Company
521	178	#/		MO	2/24/1986	22:23	2/27/1986	6:50	56.45	1050	Second Superheater

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Utility	Unit			Even	Start of		End of		Duration in	Cause	
#	#	Unit Name	C2.50 Responses 100 100 100 100 100 100 100 100 100 10	The second of the second second second			Event		hours	Code	Description
		Oak Creek					212=1120			4000	
521	178			SF_	2/27/1986	6:50	2/27/1986	16:10	9.33	4300	Turbine Supervisory System
521	178			U1	3/8/1986	21:04	3/11/1986	9:59	60.91	1005	Generating Tube
521	178		,	U1	3/12/1986	22:21	3/16/1986	1:12	74.85	1080	Economizer Tube Leak
521	178			U1	3/19/1986	21:10	3/20/1986	17:11	20.01	1105	Generating Tube Leak
521	178			U1	3/27/1986	9:27	3/30/1986	5:46	68.31	1005	Generating Tube Leak
521	178			SF	3/30/1986	5:46	3/30/1986	12:08	6.36	9900	Operator Error
521	178		*	МО	4/4/1986	21:40	4/7/1986	1:18	51.63	1070	Second Reheater Tube Leak
521	178		*	U1	4/24/1986	18:54	4/25/1986	18:08	23.23	4840	Inspection - Generator Ground
521	178		*	U1	5/2/1986	9:01	5/4/1986	21:35	60.56	1070	Second Reheater
521	178		*	U1	5/9/1986	23:49	5/12/1986	4:25	52.6	1050	Second Superheater
521	178		*	U1	6/20/1986	10:25	6/22/1986	22:25	60	1070	Reheat Leak
521	178		*	МО	6/22/1986	22:25	6/25/1986	7:45	57.33	600	Desuperheater Spray Nozzles
521	178		*	U2	6/25/1986	7:46	6/29/1986	16:00	. 104.23	1005	Generating Tube
521	178		*	U2	7/10/1986	20:02	7/12/1986	12:51	40.81	1005	Generating Tube
521	178		*	U1	7/15/1986	14:15	7/15/1986	14:57	0.7	9910	Maint Error - Elect Switching
521	178		*	U2	7/23/1986	16:54	7/25/1986	21:58	53.06	1070	Second Reheat Leak
521	178		*	U1	7/29/1986	4:35	8/2/1986	13:40	114.36	1050	Second Superheater
521	178		*	MO	8/7/1986	18:34	8/12/1986	2:57	104.38	4261	Repair Control Valve
521	178	Oak Creek #7	*	МО	8/18/1986	18:18	8/19/1986	1:54	7.6	3110	Condenser Tube Leaks

	Unit			. Ever	it Start of					Cause	
#	#	Unit Name	GAC	NAC Type	e Event		Event		hours	Code	Description
521	178		*	МО	8/20/1986	16:26	8/22/1986	4:53	36.45	3110	0 Condenser Tube Leaks
521	178		*	МО	8/28/1986	22:47	9/1/1986	22:10	95.38	1005	5 Generating Tube Leak
521	178			РО	10/3/1986	21:26	12/31/1986	24:00:00	2162.56	1800	0 Annual Outage
521	178			РО	1/1/1987	0:01	1/5/1987	20:00	115.98	1800	0 Annual Outage, Started 10-3-86
521	178			U1	1/6/1987	0:55	1/6/1987	3:08	2.21	4099	9 Other HI Press Turb Problems
521	178			МО	1/6/1987	21:00	1/7/1987	7 14:54	17.9	8560	0 Electrostatic Precip Problems
521	178			МО	1/11/1987	5:57	1/11/1987	7 19:01	13.06	1480	0 Other ID Fan Problems
521	178			U1	1/27/1987	5:53	1/27/1987	7 16:00	10.11	8560	0 Electrostatic Precip Problems
521	178			U1	1/27/1987	16:00	1/27/1987	7 20:41	4.68		9 BLR Controls
521	178			МО	2/3/1987	21:59	2/4/1987	7 16:17	18.29	1005	5 Generating Tube
521	178			U1	2/9/1987						0 Combustion - Steam Control
521	178			МО	2/13/1987			7 0:10	25.45	1005	5 Generating Tube
521	178			МО	3/2/1987	23:44	3/5/1987	7 1:00	49.26	1005	5 Generating Tube
521	178			SF	3/5/1987	1:00	3/5/1987				0 Boiler Control
521	178			U1	3/9/1987	7:05	3/9/1987	7 8:22	1.28	1799	9 Blr Controls - FSSS
521	178			МО	3/26/1987	4:04	3/31/1987	7 2:00	117.93	4264	4 Cmbined Intercept VIvs
521	178		*	SE	3/31/1987	2:00	4/2/1987	7 1:48	47.8	1420	0 Other FD Fan Problems
521	178		*	U1	4/2/1987	13:21	4/4/1987	7 9:03	43.7	1050	0 Second Superheater
521		Oak Creek #7	*	U2	5/18/1987	4:55	5/20/1987	7 22:27	65.53	3 100/	5 Generating Tube

Utility	Unit			Event	Start of		End of	- compared to the control of the con	Duration in	Cause	
#		Unit Name	GAC NAC	Type	Event		Event		hours	Code	Description
521			*	мо	6/23/1987	21:43	6/24/1987	8:16	10.55	8560	Precip Problem Field Grounds
521	178		*	U2	8/20/1987	20:29	8/21/1987	5:58	9.48	8560	Precip Fields Out
521	178			МО	10/12/1987	12:19	10/13/1987	7:30	19.18	540	Rpl Reheat Hdr Flange Gasket
521	178	Oak Creek #7 Oak Creek		РО	11/6/1987	21:19	11/27/1987	18:32	1245.21	1800	Annual Outage
521	178			U2	12/28/1987	13:34	12/29/1987	2:00	12.43	3149	Loss of Vacuum
521	178			U2	12/29/1987	2:01	12/29/1987	18:50	16.81	8560	Precipitator Ground
521	178			мо	12/30/1987	12:56	12/30/1987	14:05	1.15	4460	Turb Overspeed Trip Tests
521	178			МО	1/20/1988	0:19	1/24/1988	14:02	109.71	4260	Remove Steam Strainers
521	178		*	U1	4/23/1988	2:38	4/23/1988	3:15	0.61	770	Other Blr Recirc Problems
521	178		*	МО	5/21/1988	1:28	5/21/1988	21:30	20.03	540	Reheat Steam Piping
521	178		*	SF	5/21/1988	21:30	5/22/1988	11:00	13.5	8560	Electrostatic Precip Problems
521	178		*	МО	6/17/1988	19:20	6/18/1988	10:00	14.66	8560	Electrostatic Precip Problems
521			*	U1	6/19/1988	23:13	6/20/1988	8:27	9.23	4430	Gland Seal Sys Regular
521	178			МО	7/5/1988	4:20	7/5/1988	11:32	7.2	8560	Electrostatic Precip Problems
521	_			МО	7/22/1988	22:28	7/23/1988	16:35	18.11	880	Flyash Grounded Precip
521	178			МО	7/24/1988	11:36	7/24/1988	21:25	9.81	8560	Precip Wire Problem
521	178			МО	8/13/1988	3:16	8/13/1988	10:19	7.05	3431	Fdwtr Htr Safety VIvs
521	178			МО	9/14/1988	23:48	9/15/1988	6:06	6.3	8560	Electrostatic Precip Problems
521	178			U1	9/15/1988	11:25	9/17/1988	11:30	48.08	1005	Generating Tube

Utility	Unit	•		Event	Start of * Event		End of		Duration in	Cause	
#	#	Unit Name	GAC	NAC Type	Event	9 4	Event		hours	Code	
521	178	Oak Creek #7		SF	9/17/1988	11:30		3:12	15.7	895	Ash Pit Trouble
521	178	Oak Creek #7 Oak Creek	*	PO	10/31/1988	7:30	12/17/1988	14:30	. 1159	4400	Annual Outage
521	178	#7	*	MO	12/21/1988	21:21	12/22/1988	5:45	8.39	1430	FD Fan Suction Ductwork
521	178		*	SF _	12/22/1988	5:45	12/22/1988	10:21	4.6	1799	Boiler Controls
521	178	Oak Creek #7 Oak Creek	*	U2	12/22/1988	13:14	12/22/1988	20:44	7.5	1799	Boiler Controls
521	178	#7	*	мо	12/24/1988	4:07	12/25/1988	10:33	30.43	4250	Balance Low Speed Turb Rotor
521	178		*	МО	12/29/1988	20:01	12/29/1988	22:09	2.13	4460	Turb Overspeed Trip Tests
521	178		*	МО	12/29/1988	22:38	12/31/1988	24:00:00	49.36	4260	Remove Steam Strainers
521	178		*	МО	1/1/1989	0:01	1/3/1989	9:27	57.43	4260	Remove Steam Strainers, Started 12-29-88
521	178	1	*	мо	1/6/1989	21:06	1/8/1989	11:07	38.01	740	Blr Booster Pump Replacement
521	178		*	U2	1/1/1989	8:00	1/12/1989	9:38	25.63	1005	Generating Tube
521	178		*	U1	1/20/1989	22:50	1/21/1989	1:59	3.15	1799	Boiler Controls
521	178		*	U1	2/7/1989	6:46	2/7/1989	9:08	2.36	4700	Generator Voltage Control
521	178		*	U1	2/9/1989	4:36	2/9/1989	5:18	0.7	1710	Blr Combustion Controls
521	178		*	U2	4/12/1989	9:19	4/15/1989	1:54	64.58	1050	Second Superheater
521	178		*	МО	5/12/1989	21:45	5/14/1989	13:27	39.7	· 760	73 BBP Mtr Failure
521	178		*	МО	8/21/1989	7:00	8/22/1989	1:46	18.76	500	Main Steam Piping
521	178		*	U1	10/21/1989	19:13	10/21/1989	22:00	2.78	9900	Operator Error
521	178	Oak Creek #7	*	PO	5/8/1990	1:17	6/8/1990	20:55	753.53	1800	Planned Maintenance Outage

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l Itility:	Unit			Event	Start of		End of		Duration in	*Cairea	
#		Unit Name					Event		hours	Code	
521	178	Oak Creek	*	U1	7/1/1990	23:13	7/2/1990	0:04	0.85	9900	Operator Error
521	178		*	U1	12/4/1990	18:36	12/4/1990	20:06	1.5	3112	Condenser Tube Fouling Tube Side
521	178		*	SF	12/13/1990	7:00	12/13/1990	10:44	3.73	1799	Other Control Problems
521	178		*	U1	12/18/1990	13:16	12/18/1990	14:09	0.88	1799	Other Control Problems
521	178		*	МО	1/11/1991	22:33	1/12/1991	5:30	6.95	3110	Condenser Tube Leak
521	178		*	SF	1/12/1991	5:30	1/13/1991	4:38	23.13	4261	Control Valves
521	178		*	МО	3/1/1991	23:35	3/4/1991	1:52	50.28	1510	Flue Gas Duct
521	178		*	МО	3/26/1991	22:16	3/27/1991	5:48	7.53	8560	Electrostatic Precip Problems
521	178		*	МО	5/2/1991	23:58	5/5/1991	21:54	69.93	1510	Flue Gas Duct
521	178		*	МО	5/17/1991	21:42	5/20/1991	4:06	54.4	1005	Generating Tube Leak
521	178		*	U1	6/8/1991	11:17	6/10/1991	22:46	59.48	1080	Economizer Leak
521	178		*	U1	7/31/1991	5:24	7/31/1991	7:35	2.18	1750	Burner Management System
521	178		*	U1	7/31/1991	22:17	7/31/1991	22:43	0.43	1750	Burner Management System
521	178		*	U1	8/19/1991	7:41	8/19/1991	8:23	0.7	1750	Burner Management System
521	178	1	*	U1	8/19/1991	21:45	8/19/1991	22:26	0.68	9900	Operator Error
521	178		*	мо	10/7/1991	14:02	10/12/1991	23:31	129.48	1040	First Superheater Leak
521	178	Oak Creek #7 Oak Creek	*	мо	10/18/1991	23:04	10/20/1991	17:31	42.45	1040	Superheater Leak
521	178	#7	*	PO	2/10/1992	0:01	5/23/1992	14:36	2462.58	1800	Planned Outage
521	178	Oak Creek #7	*	РО	5/23/1992	16:45	5/23/1992	17:29	0.73	1800	Planned Outage

	Unit			Ev	ent Sta	rt of		End of		The second distriction of the second second second second		
#	#	Unit Name Oak Creek	GAC	NAC Ty	/pe □=V	ent		Event		hours	Code	Description
521	178	#7	*	PC	5	/23/1992	22:02	5/26/1992	8:37	58.88	1800	Planned Outage
521	178	Oak Creek	*	PC		6/26/1992	12.00	E 100 14 000	40.00	0.40	4000	Diament Outers
521	1/0	Oak Creek	 	PC) 3	126/1992	12:00	5/26/1992	12:28	0.48	1800	Planned Outage
521	178	#7	*	PC) 5	/26/1992	12:47	5/26/1992	13:02	0.25	1800	Planned Outage
521	178	Oak Creek #7	*	PC) 5	/26/1992	13:32	5/26/1992	13:41	0.15	1800	Planned Outage
		Oak Creek										·
521	178		*	PC) 5	/26/1992	13:57	5/26/1992	14:05	0.13	1800	Planned Outage
521	178	Oak Creek #7	*	PC) 5	/26/1992	14:49	5/26/1992	15:26	0.61	1800	Planned Outage
		Oak Creek										
521	178	#7 Oak Creek	*	PC	5	/27/1992	9:42	5/27/1992	10:15	0.55	1800	Planned Outage
521	178		*	PC) 5	/29/1992	8:10	5/29/1992	9:40	1.5	1800	Planned Outage
504	470	Oak Creek	_	200		10.4.4.000	0.04	5/04/4000	1.0.1		4740	
521	178	#/ Oak Creek	-	PC) 5	5/31/1992	3:34	5/31/1992	4:34	1	1/10	Combustion Controls
521	178	#7	*	PC)	6/2/1992	20:50	6/3/1992	3:26	6.6	4309	Other Turb Inst & Ctrl Problems
521	178	Oak Creek	*	U2	6	3/10/1992	12:00	6/22/1992	11:23	287.38	1050	Second Superheater Leak
021	170	Oak Creek		02		710/1332	12.00	0/22/1002	11.20	207.50	1000	Occord Superneater Leak
521	178		*	U1	6	/26/1992	19:06	6/26/1992	20:18	1.2	1700	Feedwater Controls
521	178	Oak Creek #7	*	U1	7	7/13/1992	16:06	7/13/1992	16:57	0.85	1710	Combustion Controls
		Oak Creek										
521	178	#7 Oak Creek	*	U1	7	/13/1992	18:37	7/13/1992	19:19	0.7	1710	Combustion Controls
521	178		*	U1	7	/17/1992	18:35	7/18/1992	3:15	8.66	3414	Feedwater Pump Controls
504	470	Oak Creek	*	1.14		V22 /4 000	0.00	7/00/4000	40.00		0040	M-:
521	178	#/ Oak Creek	-	U1	/	//22/1992	9:26	7/22/1992	10:08	0.7	9910	Maintenance Error
521	178	#7	*	U1	8	/25/1992	14:55	8/25/1992	16:03	1.13	3415	Fdwtr Pmp/Drive Lube Oil Sys
521	170	Oak Creek	*	МС		116/1000	12.10	0/22/4002	22,26	150 40	440	Other Burner Problems
521	1/8	#/ Oak Creek	-	IVIC	ع ر	/16/1992	13:10	9/22/1992	22:36	153.43	410	Other Burner Problems
521	178		*	U1	9	/23/1992	3:55	9/23/1992	4:40	0.75	1750	Burner Management Problems

	Unit				Event	Start of				Duration in	Cause	
# ,	#	Unit Name	GAC	NAC	Туре	Event		Event		hours	Code	Description
521	178	Oak Creek #7	*	l	U1	10/16/1992	19:28	10/16/1992	23:23	3.91	1710	Combustion Controls
	_	Oak Creek										
521	178	1	*	Į	U1	10/18/1992	2:00	10/18/1992	3:11	1.18	1799	Other Boiler Control Problems
521	178		*	l	U1	11/1/1992	6:39	11/1/1992	7:31	0.86	1710	Combustion Controls
521	178		*	l	U1	11/10/1992	17:41	11/10/1992	22:00	4.32	1450	Forced Draft Fan Controls
521	178	Oak Creek #7	*		U1	11/19/1992	14:23	11/19/1992	15:40	1.28	1710	Combustion Controls
		Oak Creek										
521	178	#7 Oak Creek	*	- 1	U1	12/14/1992	13:03	12/14/1992	14:03	1	1710	Combustion Controls
521	178	#7	*	ι	U1	12/22/1992	17:40	12/22/1992	19:32	1.86	1480	ID Fan Motors - Variable Speed
521	178	Oak Creek #7	*		U1	2/23/1993	3:13	2/23/1993	3:47	0.56	1710	Combustion Controls
521	178	Oak Creek	*		U1	3/18/1993	19:00		21:40	2.66		Combustion Controls
521		Oak Creek	*		U1	3/21/1993	8:30		9:30	2.00		Combustion Controls
321	170	Oak Creek			01	3/2//1993	0.50	3/2 // 1993	5.50	1	17 10	Combustion Controls
521	178	#7	*	(SF	3/21/1993	9:44	3/21/1993	10:31	0.78	385	Igniters
521	178	Oak Creek #7	*	ļ	U1	4/3/1993	9:09	4/3/1993	10:35	1.43	1710	Combustion Controls
521	178	Oak Creek #7	*		U1	4/3/1993	20:38	4/3/1993	21:26	0.8	3499	Other Fdwtr Sys Problems
	178	Oak Creek	*		U1	4/12/1993	15:18		16:02	0.73		Other Fdwtr Sys Problems
	-	Oak Creek	_	-								
521	178	#/ Oak Creek	-		U2	4/24/1993	22:01	4/26/1993	6:24	32.38	400	Burner Windbox Fires
521	178	#7	*	\	U2	4/26/1993	11:51	4/26/1993	14:59	3.13	4265	Turbine Drain & Vent Valves
521	178		*	1	МО	4/30/1993	21:27	5/3/1993	5:36	56.15	360	Burner
521	178	Oak Creek #7	*	1	мо	5/3/1993	8:04	5/8/1993	5:15	117.18	360	Burner
521	178	Oak Creek #7	*	ı	U1	5/8/1993	9:24		10:17	0.88	1750	Burner Management System

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#	# Unit Name	GAC	NAC	Type	Event		Event		hours	Code	**************************************
521	178 #7	*		U1	5/15/1993	9:47	5/15/1993	16:30	6.71	4430	Gland Seal System
	Oak Creek								= 00	2442	
521	178 #7 Oak Creek	 *		U2	7/7/1993	5:46	7/7/1993	13:38	7.86	3149	Other Loss of Vacuum
521	178 #7	*		U2	7/7/1993	15:01	7/8/1993	17:27	26.43	3121	Expansion Joint
504	Oak Creek				7/0/4000	00.05	7/44/4000	45.54	40.04	0404	
521	178 #7 Oak Creek	ļ*		МО	7/9/1993	23:35	7/11/1993	15:54	40.31	3121	Expansion Joint
521	178 #7	*		мо	7/15/1993	0:04	7/18/1993	13:25	85.35	3121	Expansion Joint
504	Oak Creek	+		U1	8/17/1993	04.40	0/47/4000	22.57	1.00	4.475	ID For Control
521	178 #7 Oak Creek		-	01	0/1//1993	21:16	8/17/1993	22:57	1.68	14/5	ID Fan Control
521	178 #7	*		U1	9/5/1993	2:39	9/5/1993	4:13	1.56	9270	Wet Coal
501	Oak Creek 178 #7	*		U1	9/5/1993	4:54	9/5/1993	5:41	0.78	2404	Edute Ruma Driva Controla
521	Oak Creek			01	9/5/1995	4.54	9/3/1993	5.41	0.70	3401	Fdwtr Pump Drive Controls
521	178 #7	*		МО	9/5/1993	8:31	9/5/1993	12:36	4.08	4265	Turb Drain & Vent Valves
521	Oak Creek 178 #7	*		U1	9/5/1993	15:59	9/5/1993	18:00	2.01	3/100	Other Fdwtr Problems
321	Oak Creek	+		01	3/3/1333	10.00	3/3/1333	10.00	2.01	0433	Other Fdwti Floblettis
521	178 #7	*		РО	11/25/1993	4:43	12/31/1993	23:59	907.26	4400	Major Turbine Overhaul
521	Oak Creek 178 #7	*		PO	1/1/1994	0:02	3/7/1994	21:39	1581.61	4400	Major Turbine Overhaul Started 11-25-93
021	Oak Creek	 		10	17 17 13 34	0.02	3/1/1334	21.55	1301.01	7-100	Wajor Furbine Overnaul Statted 11-23-33
521		*		PO	3/8/1994	10:41	3/8/1994	11:31	0.83	9910	Maintenance Error - DC Switching
521	Oak Creek 178 #7	*		PO	3/8/1994	22:08	3/9/1994	4:32	6.4	4700	Generator Voltage Control
	Oak Creek	1									
521	178 #7	*	-	PO	3/11/1994	21:23	3/11/1994	23:57	2.56	4460	Turbine Overspeed Trip Test
521	Oak Creek 178 #7	*		U2	3/14/1994	10:51	3/16/1994	5:26	42.58	1080	 Economizer Leak
	Oak Creek						3				
521	178 #7 Oak Creek	*		U1	3/22/1994	15:41	3/22/1994	19:38	3.95	3950	Process Computer
521	178 #7	*		мо	3/28/1994	6:00	3/31/1994	7:58	73.96	4260	Main Stop Valves
	Oak Creek						-:				
521	178 #7	*		U3	4/5/1994	23:13	4/7/1994	3:58	28.75	1070	Second Reheater

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Utility					Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC NAC	Type	Event		Event		hours	Code	Description
F24	170	Oak Creek	*	МО	5/2/1004	24.26	E/G/1004	21.20	95.86	4220	I.D. Turbino Shoft Socia
521	178	#/ Oak Creek		IVIO	5/2/1994	21:36	5/6/1994	21:28	95.00	4220	LP Turbine Shaft Seals
521	178		*	U1	6/13/1994	22:27	6/14/1994	3:27	5	3950	Process Computer
		Oak Creek					-				
521	178		*	U1	10/10/1994	23:22	10/11/1994	0:10	.8	1710	Combustion Controls
521	170	Oak Creek	*	U1	10/29/1994	2.42	10/29/1994	5:03	1 22	0000	Operator Error
521		Oak Creek		01	10/29/1994	3.43	10/29/1994	5.03	1.33	9900	Operator Error
521	178		*	U1	11/3/1994	10:42	11/3/1994	11:51	1.15	1710	Combustion Controls
		Oak Creek				-					
521	178		*	U1	11/6/1994	17:06	11/6/1994	17:57	0.85	1710	Combustion Controls
504	470	Oak Creek		U1	11/7/1004	7.40	14/7/4004	8:44	4.04	4740	Comphysation Combrels
521	178	#7 Oak Creek		01	11/7/1994	7:43	11/7/1994	8:44	1.01	1710	Combustion Controls
521	178		*	МО	11/24/1994	0:20	11/27/1994	13:49	85.48	360	Burners
		Oak Creek									
521	178		*	MO	2/4/1995	5:04	2/5/1995	6:09	25.08	4301	Turbine Governor Sys
	470	Oak Creek	_		0/5/4005	40.00	0/5/4005	00.00	40.70	4000	
521	178	#/ Oak Creek	*	U1	2/5/1995	12:36	2/5/1995	23:23	10.78	4309	Other Turb Control Problems
521	178	1	*	U2	2/6/1995	20:48	2/7/1995	8:40	11.86	3220	Circulating Water VIvs
		Oak Creek									
521	178		*	U1	2/8/1995	2:03	2/8/1995	3:04	1.01	741	Boiler Recirculation Pmp Mtr
		Oak Creek									
521	178	#7 Oak Creek	*	U1	3/1/1995	3:40	3/1/1995	6:05	2.41	3271	Intake Grating Fouling
521	178		*	МО	3/31/1995	23:00	4/8/1995	18:42	187.7	4301	Turbine Governor Sys
521	170	Oak Creek		IVIO	0/01/1000	25.00	4/0/1000	10.42	107.7	4001	Turbine Governor Gys
521	178	#7	*	U1	8/21/1995	10:46	8/21/1995	13:48	3.03	1470	Induced Drft Fan Motor & Drives
		Oak Creek									
521	178		*	MO	9/3/1995	17:00	9/3/1995	22:00	5	3110	Condenser Tube Leaks
521	178	Oak Creek	*	РО	9/13/1995	9:00	9/13/1995	10:15	1.25	3501	Heater Drain Pump
341	170	Oak Creek		1.0	3/13/13/33	9.00	311311333	10,13	1.20	3301	Treater Drain Fullip
521	178		*	U2	10/6/1995	23:17	10/8/1995	19:43	44.43	1000	Boiler Tube Leaks
		Oak Creek								•	
521	178	#7	*	PO	1/1/1996	0:00	1/28/1996	15:31	663.51	1310	Waterside Boiler tube cleaning

Utility #	Unit	~ ~ ~	Event	Start of		End of		Duration in .		
#	# Unit Name	GAC	NAC Type	Event		Event		hours	Code	Description
521	Oak Creek 178 #7	*	U1	3/2/1996	5:06	3/2/1996	7:59	2.88	9910	
524	Oak Creek		114	2/24/4000	0.50	0/04/4000	7.00	0.00	4740	
521	178 #7 Oak Creek	-	U1	3/21/1996	6:52	3/21/1996	7:30	0.63	1710	
521	178 #7	*	U1	3/26/1996	15:22	3/26/1996	16:20	0.96	1710	
521	Oak Creek 178 #7	*	U1	5/21/1996	7:12	5/21/1996	8:04	0.86	1480	
521	Oak Creek 178 #7	*	U1	6/11/1996	11:27	6/11/1996	12:42	1.25	1799	
521	Oak Creek 178 #7	*	U1	7/5/1996	9:00	7/9/1996	21:58	108.96	1000	nil
521	Oak Creek 178 #7	*	U1	8/4/1996	1:00	8/5/1996		24.06	1000	
521	Oak Creek 178 #7	*	U1	8/30/1996	10:48		13:34	2.76	4261	
521	Oak Creek 178 #7	*	U1	9/9/1996	12:45	-		180.66	1000	nil
521	Oak Creek 178 #7	*	U1	1/14/1997	1:10	1/16/1997	21:03	67.88	1000	Furnance Wall
521	Oak Creek 178 #7	*	MO	4/25/1997	18:40	5/1/1997	12:08	137.46	1488	Maintenance Outage to Wash Air Heaters
521	Oak Creek 178 #7	*	U1	9/24/1997	20:20	9/25/1997	2:55	6.58		Unit Tripped When Boiler Master Went Into Auto
521	Oak Creek 178 #7	*	MO	4/10/1998	4:15	4/27/1998	6:03	409.8		Maintenance Outage
521	Oak Creek 178 #7	*	U1	9/14/1998	7:52		14:17	6.41		Travelling Screen Fouling
521	Oak Creek 178 #7	*	U1	9/15/1998	15:45		18:00	2.25		Travelling Screen Fouling
521	Oak Creek 178 #7	*	МО	11/12/1998	0:28	11/16/1998	16:11	111.71		Changing Out Main Transformer Oil Pump
521	Oak Creek 178 #7	*	U1	11/30/1998	7:37	11/30/1998	8:20	0.71	340	Other Pulverizer Problems
521	Oak Creek 178 #7	*	MO	1/29/1999	22:40	2/1/1999	14:53	64.21	1420	Forced Draft Damper Repairs
521	Oak Creek 178 #7	*	U1	2/5/1999	9:47	2/5/1999		1.78		Burner Management System

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# #		Unit Name					Event			Code	Description
521		Oak Creek		МО	2/27/1999	0:03	3/10/1999	11:30	275.45	900	Rottom Ash System
5∠1	178	#/ Oak Creek		IVIO	2/2//1999	0.03	3/10/1999	11.30	2/5.45	090	Bottom Ash System
521	178	#7	*	U1	3/18/1999	9:26	3/18/1999	10:09	0.71	9900	Operator Error
521	178		*	U1	4/13/1999	6:39	4/13/1999	7:51	1.2	1799	Boiler Control Problems
521	178	Oak Creek #7	*	U1	5/24/1999	2:34	5/24/1999	5:19	2.75	1799	Boiler Air Control Problems
521		Oak Creek	*	U1	6/12/1999	11:30		23:00	11.5		Feedwater Level Controls
021		Oak Creek		01	0/12/1000	11.00	0/12/1000	20.00	11.0	0400	1 cedwater zever controls
521	178	#7	*	МО	6/12/1999	23:00	6/13/1999	10:32	11.53	3110	Condenser Tube Leak
521	178		*	U1	8/17/1999	9:07	8/17/1999	17:18	8.18	3261	Travelling Water Screen Fouling
521	178		*	U1	8/27/1999	3:43	8/27/1999	5:21	1.63	4262	#2 Intercept Valve Limit Switch
521	178		*	U1	10/4/1999	6:10	10/4/1999	8:15	2.08	1710	Combustion Control
521			*	U1	10/7/1999	8:05	10/11/1999	7:28	95.38	1000	Furnance Wall
521	178		*	РО	10/30/1999	0:28	11/22/1999	13:32	565.06	1800	Planned Maintenance Outage
521	178		*	U1	11/23/1999	16:44	11/23/1999	17:51	1.11	1710	Combustion Control
521	178	Oak Creek #7	*	U1	12/21/1999	17:40	12/21/1999	19:24	1.73	1710	Combustion Control
521	188	Oak Creek #8		U1	1/23/1977	0:20	1/23/1977	15:14	14.9	8560	
	188	Oak Creek #8		U1	2/9/1977	1:30		2:21	24.85	530	
521				U1	3/5/1977	23:46	3/6/1977	7:01	7.25	1999	
521	188			МО	3/10/1977	22:26	3/11/1977	2:33	4.11	8560	
521	188	Oak Creek #8		U1	3/26/1977	22:55	3/27/1977	19:22	20.45	1000	

Utility										Cause	
#	and the second of the second o	GAC	NAC	Type	Event		Event		hours	Code	Description
504	Oak Creek				44044077	2.24			40.00		
521	188 #8			МО	4/3/1977	0:01	4/3/1977	11:00	10.98	4830	
E21	Oak Creek 188 #8	1		РО	4/16/1977	21:55	7/4/1977	21:30	4005 50	1999	
321	Oak Creek			PO	4/16/19//	21.55	7/4/19/7	21:30	1895.58	1999	
521	188 #8			U1	7/6/1977	5:52	7/6/1977	6:15	0.38	1400	
- 021	Oak Creek	-		0.	770/1077	0.02	77071377	0.10		1400	
521	188 #8	1		U1	7/10/1977	0:18	7/11/1977	0:48	24.5	4550	
	Oak Creek								<u>-</u>	-	
521	188 #8			U1	7/31/1977	14:43	8/2/1977	12:21	45.63	1000	
	Oak Creek			·							
521	188 #8			U1_	8/4/1977	7:26	8/4/1977	8:00	0.56	1999	
	Oak Creek			1.14	2440440==	00.55	0/00/46==		10.51	4000	
521	188 #8 Oak Creek	-		U1	8/19/1977	23:33	8/22/1977	0:28	48.91	1060	· ·
521	188 #8			U1	8/31/1977	14:51	9/3/1977	11:41	68.83	1040	
321	Oak Creek			UI	0/3 // 19/ /	14.51	9/3/19//	11.41	00.03	1040	
521	188 #8	1 1		U1	9/5/1977	1:18	9/5/1977	20:35	19.28	1060	
	Oak Creek			<u> </u>	0.0.10	1.10	0,0,10,1	20.00	10.20	1000	
521	188 #8			U1	9/6/1977	3:03	9/7/1977	0:51	21.8	1060	
	Oak Creek										
521	188 #8			U1	9/27/1977	3:50	9/27/1977	4:27	0.61	1455	
	Oak Creek										
521	188 #8			U1	10/15/1977	1:17	10/17/1977	12:58	59.68	895	
504	Oak Creek			114	40/00/4077	0.50	10/00/1077	0.40		7.10	
521	188 #8 Oak Creek			U1	10/20/1977	8:50	10/20/1977	9:13	0.38	740	
521	188 #8			U1	10/28/1977	23.50	10/30/1977	21:13	45.38	1100	
321	Oak Creek			J 1	10/20/19//	23.30	1010011011	21.13	40.00	1100	
521	188 #8			U1	12/25/1977	21:12	12/27/1977	5:51	32.65	1305	
	Oak Creek										
521	188 #8			U1	12/29/1977	1:24	12/31/1977	24:00:00	70.6	1000	
	Oak Creek										
521	188 #8			U1	1/1/1978	0:01	1/3/1978	11:08	59.11	1000	
	Oak Creek										
521	188 #8			U1	1/21/1978	0:58	1/22/1978	1:42	24.73	1000	
E04	Oak Creek 188 #8			U1	2/7/4070	22.00	2/0/4070	5:45	7.04	200	
521	100 #0			UΙ	2/7/1978	22:08	2/8/1978	5.45	7.61	380	
										•	
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									Duration in	Cause	
#		Unit Name Oak Creek	GAC NAC	Type	Event		Event		hours	Code	Description
521	188	!		U1	2/28/1978	20:34	3/2/1978	16:42	44.13	1000	
		Oak Creek						-			
521	188	#8 Oak Creek		U1	3/2/1978	19:17	3/2/1978	19:36	0.31	4309	
521	188	#8		U1	4/1/1978	0:18	4/2/1978	11:02	34.73	1000	
521	188			U1	4/24/1978	14:30	4/25/1978	13:09	22.65	1060	
521	188			РО	4/29/1978	5:17	5/29/1978	6:22	721.08	1999	
521				U1	5/29/1978	11:57	5/29/1978	14:39	2.7	1799	
521	188			U1	7/29/1978	23:22	7/30/1978	19:24	20.03	8560	
521	188			U1	8/1/1978	7:40	8/1/1978	9:38	1.96	860	
521				U1	8/1/1978	23:16	8/1/1978	23:50	0.56	4700	į
521				U1	8/5/1978	0:50	8/6/1978	0:55	24.08	4700	
521				U1	8/19/1978	23:18	8/20/1978	5:50	6.53	4700	
521	188			МО	8/20/1978	7:45	8/20/1978	16:58	9.21	4830	
521	188			U1	9/4/1978	14:13	9/4/1978	22:54	8.68	8550	
521	188			U1	9/20/1978	0:51	9/21/1978	7:38	30.78	1060	
521	188			U1	9/25/1978	23:37	9/26/1978	9:51	10.23	1080	
521	188			U1	10/7/1978	1:50	10/8/1978	11:56	34.09	8560	
521	188			PO	10/20/1978	1:15	10/30/1978	0:50	239.58	1999	
521	188			U1	10/30/1978	2:39	10/30/1978	7:36	4.94	1486	
521	188	Oak Creek #8		U1	10/30/1978	9:36	11/3/1978	22:40	109.06	1486	

	Unit	- T		Event	Start of		End of		Duration in	Cause	
#		Unit Name Oak Creek	GAC NAC	Type	Event		Event		hours	Code	Description
521		#8		U1	11/12/1978	2:48	11/13/1978	9:03	30.25	1486	
521	188			U1	11/18/1978	0:59	11/18/1978	22:04	21.08	1486	
521	188	Oak Creek #8		U1	11/21/1978	23:15	11/24/1978	2:45	51.5	1486	
521	188	Oak Creek #8		U1	11/29/1978	22:35	11/30/1978	6:04	7.48	8550	
521	188	Oak Creek #8		U1	12/17/1978	6:53	12/18/1978	1:56	19.04	1080	
521	188	Oak Creek #8		U1	1/12/1979	16:45	1/14/1979	9:07	40.36	1000	
521	188	Oak Creek #8		U1	1/22/1979	18:30	1/25/1979	9:05	62.58	1060	
521	188	Oak Creek #8		U1	1/30/1979	18:05	2/1/1979	10:22	40.28	1000	
521	188	Oak Creek #8		U1	2/2/1979	10:22	2/3/1979	5:04	18.7	1080	
521	188	Oak Creek #8		U1	2/5/1979	17:25	2/7/1979	1:31	32.09	1060	
	188	Oak Creek		U1	2/8/1979	14:37	2/12/1979	9:00	90.38	1000	
521	188	Oak Creek #8		U1	3/10/1979	0:42	3/11/1979	19:08	42.43	4269	
521	188	Oak Creek		U1	3/18/1979	13:28	3/18/1979	22:28	9	895	
521	188			U1	4/7/1979	5:03	4/10/1979	14:44	81.68	1040	
521	188			РО	4/21/1979	5:15	6/14/1979	10:10	1300.91	1999	
521	188			U1	6/21/1979	23:10	6/21/1979	23:32	0.36	9900	
521	188			U1	7/18/1979	5:16	7/19/1979	15:28	34.2	1799	
521	188			U1	7/31/1979	17:37	8/1/1979	5:37	12	1100	
521	188	Oak Creek #8		U1	8/16/1979	15:35	8/17/1979	8:17	16.7	8325	

Utility								and the second s		Duration in		
#	#		GAC	NAC	Type	Event	ASPERTATION OF THE	Event		hours	Code	Description
521	188	Oak Creek			U1	8/27/1979	15:38	8/30/1979	8:48	65.16	920	
521		Oak Creek			01	0/2//13/3	15.50	0/30/13/3	0.40	03.10	320	
521	188	#8			U1	9/4/1979	18:10	9/6/1979	8:00	37.83	1060	·
		Oak Creek										
521	188	#8 Oak Creek			U1	9/6/1979	8:00	9/10/1979	15:59	103.98	1455	
521	188				U1	9/21/1979	23:48	9/24/1979	4:25	52.61	1000	
		Oak Creek										
521	188				U1	9/28/1979	22:44	10/1/1979	4:03	53.31	1000	
521	188	Oak Creek			U1	11/22/1979	5:08	11/26/1979	2:20	93.2	1060	
021	100	Oak Creek			<u> </u>	1 1/22/10/0	- 0.00	11/20/10/0	2.20	30.2	1000	
521	188	#8			U1	12/1/1979	21:23	12/1/1979	21:43	0.33	1799	
504	400	Oak Creek			1.14		0.05	40/05/4070	40.00	070 70	4040	
521	188	#8 Oak Creek			U1	12/14/1979	0:25	12/25/1979	13:09	276.73	1040	
521	188				U1	1/5/1980	22:53	1/7/1980	6:26	31.55	1000	•
		Oak Creek										
521	188	#8 Oak Creek			U1	1/19/1980	22:52	1/21/1980	0:38	25.76	1000	
521	188				U1	1/29/1980	22:19	1/31/1980	7:27	33.13	1000	
		Oak Creek										
521	188				U1	2/2/1980	23:40	2/3/1980	17:56	18.26	1799	
521	188	Oak Creek			U1	2/9/1980	0:48	2/11/1980	7:25	54.61	1000	
021		Oak Creek				2/3/1300	0.40	2/11/1300	7.20	34.01	1000	
521	188	#8			U1	2/22/1980	22:17	2/25/1980	9:48	59.51	1000	
504	400	Oak Creek			114	2/4/4000	24.40	2/2/4000	7.40	0.40	0500	
521	188	#8 Oak Creek			U1	3/1/1980	21:42	3/2/1980	7:10	9.46	8560	
521	188	#8			U1	3/5/1980	1:47	3/6/1980	8:57	31.16	1060	
		Oak Creek										
521	188	#8 Oak Creek			МО	4/3/1980	23:44	4/13/1980	12:47	229.05	1486	
521	188				U1	4/19/1980	0:49	4/19/1980	7:22	6.55	3110	
		Oak Creek			<u>.</u>		2	, , , , , , , ,				
521	188	#8			U1	4/28/1980	16:06	4/30/1980	3:53	35.78	1060	

	Unit			Event	Start of				Duration in	Cause	
#	#	Unit Name	GAC NAC	Type	Event		Event		hours	Code	Description
521	188			<u>U</u> 1	4/30/1980	6:23	4/30/1980	6:45	0.36	9900	
521	188			U1	5/5/1980	0:42	5/7/1980	10:35	57.88	1040	
521	188			U1	5/7/1980	13:36	5/8/1980	23:42	34.09	1060	
521	188			U1	5/25/1980	3:00	5/26/1980	17:41	38.68	3440	
521	188			U1	6/7/1980	23:46	6/8/1980	6:17	6.51	8325	
521	188			U1	6/30/1980	14:11	7/2/1980	3:43	37.53	1060	
521	188			U1	7/2/1980	3:47	7/2/1980	6:01	2.23	4750	
521	188			U1	7/13/1980	0:46	7/14/1980	5:16	28.5	1060	· ·
521	188			U1	7/15/1980	15:16	7/17/1980	23:41	56.41	1040	
521	188			U1	7/19/1980	8:28	7/21/1980	0:14	39.76	1060	·
521	188			U1	7/22/1980	18:35	7/25/1980	1:23	54.8	1060	
521	188	Oak Creek #8 Oak Creek		U1	8/1/1980	16:50	8/4/1980	7:05	62.25	1060	
521	188	#8 - Oak Creek		U1	8/10/1980	23:49	8/13/1980	4:29	52.66	1060	
521	188	1		U1	8/25/1980	23:40	8/28/1980	4:15	52.58	1000	
521	188	ľ		PO	8/30/1980	4:19	10/18/1980	0:53	1172.56	1999	
521	188	#8		U1	10/21/1980	17:41	10/23/1980	5:54	36.21	1000	
521	188			U1	12/3/1980	10:48	12/4/1980	4:48	18	1850	
521	188			U1	12/11/1980	0:14	12/12/1980	6:12	29.96	1400	
521	188	Oak Creek #8		MO	12/14/1980	2:10	12/14/1980	2:36	0.43	4309	

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44 11 14 14				CONTRACTOR OF THE WINDS	End of		Duration	vause	
	GAC NAC	Type	Event		Event		hours	Code	Description
Oak Creek 188 #8		U1	12/15/1990	20:17	12/17/1980	0:28	28.18	1040	a.e.
Oak Creek			12,10,1000		, ., ., .,				
188 #8		<u>U1</u>	1/9/1981	23:20	1/11/1981	12:38	37.3	1000	
Oak Creek 188¦#8		U1	1/13/1981	18:39	1/16/1981	3:08	56.48	1040	
Oak Creek		U1	1/18/1981	22:16	1/21/1981	20:38	70.36	1040	
Oak Creek									
		U1	1/27/1981	16:26	1/31/1981	5:10	84.73	1400	
188 #8		U1	3/7/1981	2:41	3/8/1981	6:00	27.31	8560	
		U1	3/8/1981	6:00	3/10/1981	1:25	43.41	1455	
Oak Creek	-								-
		UI	3/12/1901	8.00	3/12/1901	16.37	10.01	3999	
188 #8		U1	3/14/1981	23:26	3/15/1981	21:38	22.2	1000	
188 #8		U1	3/30/1981	22:38	4/1/1981	12:57	38.31	1040	
Oak Creek 188 #8		U1	5/18/1981	9:47	5/21/1981	4:01	66.23	1040	
Oak Creek	· ·								
		IVIO	0/0/1901	23.49	0///1901	9.43	9.93	0300	
188 #8		U1	6/19/1981	22:34	6/21/1981	2:31	27.95	1040	
Oak Creek 188 #8		U1	6/21/1981	3:31	6/21/1981	7:31	4	380	
Oak Creek		U1	6/29/1981	23:15	7/1/1981	7:00	31.75	1060	,
Oak Creek				-					
		U I	1121/1981	10:15	112111981	13.09	140.89	1040	
188 #8		U1	8/7/1981	5:57	8/9/1981	7:03	49.1	1040	
Oak Creek 188 #8		U1	8/24/1981	0:44	8/26/1981	13:50	61.1	1060	
Oak Creek		L 1	9/9/1981	1.30	9/11/1981	20:17	66.75	1000	
	188 #8	188 #8	188 #8	188 #8	188 #8	188 #8	188 #8	188 #8	188 #8

3,7000 9,296, 🕶 🗀	Unit + 11		CONTRACTOR OF THE PROPERTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE	Start of		End of		Duration in .	Cause	
# , ,		GAC	NAC Type	Event		Event		hours	Code	Description
521	Oak Creek 188 #8		U1	9/14/1981	0:34	9/15/1981	2:37	26.05	1060	
	Oak Creek		***							
521	188 #8		U1	9/19/1981	0:18	9/19/1981	6:32	6.23	3110	
521	Oak Creek 188 #8		РО	9/26/1981	2:57	11/10/1981	11:44	1088.78	1999	
504	Oak Creek		114	11/10/1001	14.50	11/10/1001	22.54	0.00	2.40	
521	188 #8 Oak Creek		U1	11/10/1981	14:52	11/10/1981	22:54	8.03	340	
521	188 #8		U1	11/21/1981	13:12	11/23/1981	4:05	38.88	1000)
521	Oak Creek 188 #8		U1	12/2/1981	22:46	12/7/1981	9:56	107.16	1000	
- 521	Oak Creek			12/2/1301	22.40	12///1301	3.50	107.10	1000	
521	188 #8		U1	12/11/1981	20:52	12/11/1981	22:10	1.3	1455	
521	Oak Creek 188 #8		U1	12/11/1981	22:42	12/12/1981	1:22	2.66	740	
021	Oak Creek			12,11,1001		12/12/1001		2.00	, ,,,	
521	188 #8		U1	1/4/1982	10:19	1/6/1982	8:03	45.73	4261	2-Control Valve, Repair Crosshead
521	Oak Creek 188 #8		U1	1/10/1982	6:16	1/10/1982	20:15	13.98	3414	BBP Diff Pres Instr, Instrument Froze Up
	Oak Creek								11.11	
521	188 #8 Oak Creek		U2	1/31/1982	21:29	2/4/1982	5:01	79.53	1060	Elev 121 So. Fractured Weld on Reheat Pendant Tube
521	188 #8		U1	2/9/1982	0:33	2/10/1982	2:27	25.9	1050	Boiler Superheater, Leak Superheat Outlet Tube in Attic
504	Oak Creek		MO	2/20/4002	22.57	2/20/4002	4.00	25.54	4506	Malan Nanananan Bararina ta Charle Cara
521	188 #8 Oak Creek		MO	3/26/1982	23:57	3/28/1982	1:28	25.51	1590	Make Necessary Repairs to Stack Cap
521	188 #8		U1	4/27/1982	23:50	4/30/1982	18:54	67.06	1040	Boiler, Repair Superheat Leak
504	Oak Creek		114	F 10 14 0 00	44.54	5/44/4000	4.40	24.05	4006	D
521	188 #8 Oak Creek		U1	5/9/1982	14:51	5/11/1982	1:48	34.95	1080	Repair Leaking Economizer Tubes
521	188 #8		U1	5/12/1982	9:46	5/16/1982	16:08	102.36	1050	Superheat Tube Rupture
521	Oak Creek 188 #8		U1	5/19/1982	18:49	5/20/1982	4:33	9.73	8560	Precipitator, Remove Downed Wire
	Oak Creek						-			
521	188 #8		U1	6/16/1982	7:39	6/16/1982	14:20	6.68	380	Unit Tripped, Oil Torch Failure
521	Oak Creek 188 #8		U1	7/2/1982	23:00	7/5/1982	6:32	55.53	1080	 Boiler, Leak in Economizer

Utility	Unit			Event	Start of		End of		Duration in	Cause	
#		Unit Name Oak Creek	GAC NAC	Type	Event		Event		hours	Code	Description
521	188			U1	7/9/1982	11:22	7/10/1982	22:41	35.31	1040	Repair Ruptured Superheat Pendant Tube
521	188			U1	7/16/1982	1:04	7/16/1982	3:12	2.13	310	Boiler, Unit Tripped because of Mills Plugged with Wet Coal
521	188			U2	7/16/1982	18:01	7/17/1982	5:09	11.13	8560	Electrostatic Precip, Remove Broken Wire to Clear Grounded North Center
521	188			U1	9/4/1982	16:22	9/27/1982	2:09	537.78	1040	Ruptured Superheater Pendant
521	188			U3	9/27/1982	21:15	9/28/1982	11:54	14.65	1470	Balance ID Fan
521	188			U1	10/15/1982	23:25	10/17/1982	1:14	25.81	1060	Repair Reheater Tube Leak
521	188			U2	10/17/1982	1:22	10/17/1982	2:45	1.38	4281	Turbine Oil Cooler Trouble
521	188			U1	11/9/1982	22:43	11/10/1982	23:21	24.63	1000	Boiler, Repair Water Wall Leak
521	188			U2	12/8/1982	12:59	12/9/1982	3:00	14.01	1040	Convection Superheat Leak in Attic.
521	188			PO	1/1/1983	1:02	3/14/1983	7:00	1733.96	4400	Annual Outage for Turbine and Boiler
521	188			SE	3/14/1983	7:00	3/17/1983	8:25	73.41	380	Startup Check out of Computer for Boiler Flame Guard System
521	188	ľ		мо	3/18/1983	7:45	3/18/1983	8:34	0.81	4460	Ran Overspeed Test - Reset Gov Hi Speed Stop
521	188			U2	3/19/1983	5:18	3/19/1983	10:40	5.36	380	Repairs to Ignition System Controls
521	188	L		U2	3/31/1983	20:31	4/3/1983	6:05	57.56	1060	Repair Reheat Leak on Front Wall
521				U1	4/3/1983	18:24	4/3/1983	18:54	0.5	740	Unit Trip on Boiler Booster Pump Differential Pressure
521	188			U1	4/3/1983	16:34	4/3/1983	18:08	1.56	380	Repairs to FSSS Control System
521	188			U1	4/17/1983	3:44	4/23/1983	20:52	161,13	4261	Repair #2 Inlet Control Valve on Turbine
521				мо	4/29/1983	22:05	5/3/1983	5:09	79.06	1510	Repair #4 Stack Breeching Seals
521		Oak Creek #8		U3	5/14/1983	23:06	5/15/1983	6:56	7.83	8560	Remove Ground from 8B3 Precipitator Field

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Utility						Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
521	188			ļ	U1	5/17/1983	22:21	5/18/1983	4:38	6.28	8560	Precipitator Field Ground
521	188	Oak Creek #8			U1	6/4/1983	12:31	6/6/1983	17:28	52.95	1005	Ruptured Steam Generating Tube Elev 121
521	188	Oak Creek #8			U2	6/12/1983	14:57	6/15/1983	8:25	65.46	1050	Boiler Forced Outage Superheat Platen Assembly Leak
521	•	Oak Creek	*		U1	7/14/1983	7:32		3:54	68.36		Ruptured Superheat Tube
521		Oak Creek	*		U1	7/18/1983	19:28	7/20/1983	11:40	40.2		Boiler Superheat Platen Assembly Tube Leak
521		Oak Creek	*		<u>U1</u>	7/28/1983	4:55		4:49	71.9		Repair Front Water Wall Tube Leak
521		Oak Creek	*		U1	8/1/1983	22:50	8/7/1983	6:24	127.56		Repair Superheat Leak Elev 121 South
		Oak Creek										· · · · · ·
521	188	Oak Creek			U1	8/19/1983	11:05	8/22/1983	1:37	62.53		Superheat Pendant Tore Apart
521		Oak Creek	*		U1	8/28/1983	16:55	9/2/1983	8:27	111.53		Water Wall Leak
521	188	#8 Oak Creek	*		U1	9/8/1983	14:53	9/11/1983	21:09	78.26	1040	Leak in #2 Superheat Division Wall
521	188	#8 Oak Creek	*		U1	9/18/1983	13:00	9/20/1983	9:44	44.73	1140	Superheat Pendant Tube Rupture
521	188		*		U1	9/21/1983	13:04	9/26/1983	1:20	108.26	1005	Water Tube Leak
521	188		*		U1	10/7/1983	16:13	10/11/1983	7:00	86.78	1090	Repair Water and Steam Tube Leaks
521	188		*	. !	U1	10/11/1983	7:00	10/12/1983	5:30	22.5	4720	Generator Locked Out before Synchronizing
521	188	#8	*		U1	10/12/1983	5:31	10/12/1983	14:34	9.05	4810	Low Oil on B Phase Bushing on Oil Circuit Breaker
521	188		*	ı	U2_	10/20/1983	21:35	10/26/1983	12:30	134.91	1005	Water Tube Leak Boiler Out for Repair
521	188		*		U1	11/5/1983	21:40	11/6/1983	18:18	20.63	1040	Repair Superheat Leak
521	188		*		U1	11/7/1983	8:44	11/10/1983	8:41	71.94	1040	Repair Superheat Leak
521	188	Oak Creek #8	*	ı	U1	11/11/1983	5:35	11/13/1983	18:24	60.81		Repair Superheat Leak

1 14:114.7	l lwie				- ,	Start of		End of				
#		Unit Name		NAC	Event	Fvent	Albert of the second of the second	Event		Duration in hours	Cause	
521	188	Oak Creek	*		iype∈ U1	11/15/1983		11/24/1983	22:00			Repair Superheat Leak
321	100	Oak Creek			<u> </u>	11/10/1303	10.42	11/24/1303		219.5	1040	Trepair Ouperneat Leak
521	188	#8	*		МО	11/24/1983	22:00	12/1/1983	1:00	171	1310	Water Side Fouling Cleaning
521	188		*		U1	12/1/1983	1:01	12/11/1983	17:01	256	1005	Repair Water Tube Leaks
521	188		*		U1	12/12/1983	3:31	12/12/1983	4:29	0.96	740	BBP Differential Trip During Testing
521	188		*		U1	12/22/1983	1:53	12/23/1983	6:45	28.86	1040	Superheat Leak
521	188		*		U1	12/23/1983	6:46	12/23/1983	11:48	5.03	4250	High VB on B Low Press Turb
521	188	Oak Creek #8	*		U1	12/27/1983	3:00	12/28/1983	3:09	24.15	1040	Superheat Leak
521	188	Oak Creek #8			U2	2/3/1984	22:28	2/4/1984	19:31	21.05	1160	First Reheater Deslagging
521	188	Oak Creek #8			PO	3/2/1984	21:49	3/2/1984	22:27	0.63	4460	Turbine Overspeed Trip Test
521	188	Oak Creek #8			PO	3/2/1984	23:32	4/12/1984	19:52	980.33	1800	Annual Outage
521	188	Oak Creek #8			U1	4/14/1984	14:54	4/14/1984	17:26	2.53	1710	Control Problems - FSSS Sys
521	188	Oak Creek #8		1	МО	4/19/1984	21:02	4/20/1984	0:30	3.46	4261	Control Valves
521	188	Oak Creek #8		1	МО	4/20/1984	0:30	4/21/1984	1:18	24.8	800	Drum Relief Safety Valves
521	188				U1	4/21/1984	10:51	4/21/1984	10:59	0.13	1710	Combustion Controls
521	188			ļ	J1	5/8/1984	0:19	5/10/1984	18:30	66.18	1000	Furnace Water Wall Leak
521	188				J1	5/10/1984	18:30	5/10/1984	20:00	1.5	580	Light Off System
521	188				J1	5/10/1984	20:00	5/11/1984	1:13	5.21	1000	Furnace Water Wall Leak
521	188				J1	5/12/1984	8:06	5/12/1984	23:21	15.25	4570	Generator Casing
521	188	Oak Creek #8		l	J1	5/12/1984	23:24	5/12/1984	23:35	0.18	9900	Operator Error

Utility	Unit				Event	Start of		End of		Duration in	Cause	
#	# Unit	Name	GAC	NÃC	Type	Event		Event			Code	
521	Oak 188 #8	Creek			U1	6/15/1984	16:55	6/17/1984	20:39	51.73	1005	Gen Tube
521	Oak 188 #8	Creek			U1	6/22/1984	23:30	6/23/1984	8:12	8.7	8560	Electrostatic Precip Problems
521	Oak 188 #8	Creek	*		U1	8/29/1984	3:31	9/1/1984	10:45	79.23	1040	First Suphtr Tube Leak
521	Oak 188 #8	Creek	*		МО	9/1/1984	10:45	9/2/1984	16:01	29.26	3680	Other Voltage Transformer
521	188 #8	Creek	*		U1	9/2/1984	16:48	9/2/1984	22:12	5.4	890	Bottom Ash System
521	188 #8	Creek	*		U1	9/7/1984	18:18	9/10/1984	2:53	56.58	1050	Second Superheater
521	188 #8	Creek	*		U2	9/20/1984	17:10	9/23/1984	10:51	65.68	1005	Generating Tubes
521	188 #8	Creek	*		U1	9/28/1984	21:12	9/30/1984	6:55	33.71	1005	Generating Tube
521	188 #8	Creek	*		U1	9/30/1984	6:55	9/30/1984	8:05	1.16	3414	Fdwtr Pump Local Controls
521	188 #8	Creek	*		U1	9/30/1984	8:05	9/30/1984	10:32	2.45	3414	Generating Tube
521	188 #8	Creek	*		U1	10/12/1984	16:40	10/17/1984	6:46	110.1	3413	Generating Tube Leak
521	188 #8	Creek	*		U1	10/26/1984	14:16	10/29/1984	1:39	59.38	3414	Generating Tube
521	188 #8	Creek	*		U1	11/10/1984	18:59	11/18/1984	0:25	173.43	3414	Generating Tube
521	188 #8	Creek	*		SF	11/18/1984	0:25	11/18/1984	5:00	4.58	8560	Electrostatic Precip Problem
521	188 #8	Creek	*		U1	11/18/1984	5:00	11/18/1984	16:12	11.2	3414	Generating Tube
521	188 #8	Creek	*		U1	11/18/1984	17:56	11/18/1984	18:39	0.71	9900	Operator Error
521	188 #8	Creek	*		U1	12/21/1984	9:57	12/23/1984	9:17	47.33	1150	Second Superheater
521	188 #8	Creek	*		U1	12/23/1984	9:17	12/23/1984	12:12	2.91	1150	Second Superheater
521	Oak 188 #8	Creek			U1	1/9/1985	5:38	1/12/1985	2:18	68.66	1050	Second Superheater

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Utility	Unit		-	Event	Start of		End of		Duration in	Causa	
#		Unit Name	GAC NAC				Event		hours	Code	Description
521		Oak Creek #8	da ia u Villa di Naggeria in Lada in n	U1	1/19/1985	20:44	1/19/1985	21:29	0.75		Froz Sensing Blr Cir Pmp
521	188			U1	1/19/1985	21:42	1/20/1985	0:38	2.93	9900	Operator Error - Lost Excitation
521	188			U1	1/20/1985	3:45	1/20/1985	4:07	0.36	770	Froz Sensing Blr Cir Pmp
521	188			U1	1/20/1985	4:15	1/20/1985	7:37	3.36	9900	Operator Error - Lo Wtr Level
521	188			U1	1/20/1985	20:24	1/20/1985	22:24	_2	4630	Stator Cooling Sens Line Frozen
521	188			U1	1/25/1985	17:35	1/29/1985	1:37	80.03	1005	Generating Tube
521	188			U1	2/7/1985	23:48	2/10/1985	13:58	62.16	1040	Superheat Pendant
521	188			МО	3/22/1985	16:46	3/24/1985	21:41	52.91	1005	Generating Tube
521	188	1 *** *		РО	4/12/1985	18:06	7/5/1985	20:20	2018.23	1800	Annual Outage
521	188			U1	7/6/1985	0:47	7/6/1985	1:29	0.7	4261	Control Valve Problem
521	188			U1	7/6/1985	2:20	7/6/1985	5:18	2.96	740	82 Boiler Booster Pump Trip
521	188			U1	7/7/1985	18:05	7/10/1985	3:20	57.25	1005	Generating Tube
521	188			U1	7/13/1985	21:32	7/15/1985	9:15	35.71	1080	Economizer
521	188			U1	7/15/1985	9:16	7/17/1985	1:42	40.43	3644	Protection Devices
521	188			МО	8/10/1985	22:26	8/19/1985	23:18	216.86	4261	Control Valves
521	188			МО	8/30/1985	23:27	8/31/1985	23:00	23.55	4240	Bearings
521	188			U1	9/9/1985	18:57	9/13/1985	7:30	84.55	1005	Generating Tube Leak
521	188			U1	9/13/1985	7:31	9/13/1985	13:49	6.3	4302	Turbine Trip Devices
521	188	Oak Creek #8		U1	9/27/1985	18:03	9/29/1985	19:40	49.61	1070	Second Reheater

						Start of		End of		Duration in.	real and the second	
#		Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
521	- 1	Oak Creek #8			U1	9/29/1985	19:41	9/30/1985	6:59	· 11.3	1799	Boiler Controls
		Oak Creek										
521		#8 Oak Creek			MO	10/2/1985	14:04	10/2/1985	21:00	6.93	8560	Electrostatic Precip Problems
521	- 1				U1	10/11/1985	22:07	10/12/1985	3:39	5.53	1710	Combustion Controls FSSS
504	400	Oak Creek				44/0/4005	00.40	4.4544005	10.00	20.44	4070	
521		#8 Oak Creek			U1	11/3/1985	22:13	11/5/1985	10:20	36.11	10/0	Second Reheater
521	188	#8			МО	1/7/1986	21:02	1/9/1986	12:00	38.96	1070	Reheat Leak
504		Oak Creek			MO	4/0/4000	42.00	1/10/1000	0.00	24	000	Delta a Ash Cashara
521		#8 Oak Creek			МО	1/9/1986	12:00	1/10/1986	9:00	21	890	Bottom Ash System
521	188	#8			МО	1/10/1986	9:00	1/10/1986	19:26	10.43	1440	Air Supply Dampers
504		Oak Creek			114	4/44/4000	40.24	4/40/4000	45.04	20.5	4740	Combusting Controls 5000
521		#8 Oak Creek			U1	1/11/1986	10:31	1/12/1986	15:01	28.5	1710	Combustion Controls FSSS
521		#8			U1	2/13/1986	8:42	2/13/1986	11:30	2.8	770	Other Blr Recirculation Problem
521	188	Oak Creek			SF	2/13/1986	11:30	2/16/1986	14:58	75.46	2440	Hi Press Feedwater Heater
321		#0 Oak Creek			OF	2/13/1900	11.30	2/10/1900	14,30	75,46	3440	ni Fiess Feedwalei nealei
521	188	#8			U1	3/7/1986	5:56	3/9/1986	10:40	52.73	1005	Generating Tube
521		Oak Creek			U1	2/22/1096	0:12	2/22/4096	1.25	1 20	0000	Operator France
321		#0 Oak Creek			U, I	3/22/1986	0.12	3/22/1986	1:35	1.38	9900	Operator Error
521	188	#8	*		РО	3/22/1986	5:17	5/3/1986	12:51	1015.56	1800	Annual Outage
521		Oak Creek #8	*		MO	5/3/1986	19:17	5/4/1986	15:30	20.21	4261	Set Control Valves
321	100	Oak Creek		-	IVIO	3/3/1300	13.17	3/4/1300	13.30	20.21	4201	Get Control valves
521	188	#8	*		МО	5/9/1986	23:58	5/10/1986	23:56	23.96	4030	Balance Turbine
521	188	Oak Creek #8	*		U1	6/4/1986	13:15	6/7/1986	18:41	77.43	1005	Generating Tube
- -		Oak Creek								·.		
521			*		U1	6/19/1986	14:28	6/19/1986	15:27	0.98	1799	BBP Diff Press Low Trip
521		Oak Creek #8	*		U2	6/20/1986	19:21 ¹	6/23/1986	0:50	53.48	1040	Superheat Leak
		Oak Creek			_		-					
521	188	#8	*		U2	6/23/1986	22:16	6/25/1986	22:13	47.95	1040	Superheat Leak

tility	Unit					Start of		End of			Cause	
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
		Oak Creek			U1	7/15/1986	12:15	7/18/1986	9:39	69.4	1005	Generating Tube
521	188	#8 Oak Creek	ļ <u></u>	-	UI	7713/1900	12.13	771071300	9.09	05.4	1000	Octionaling Tube
521	188		*		U1	7/30/1986	3:46	7/31/1986	4:37	24.85	1005	Generating Tube
521	188	Oak Creek #8	*		U1	8/3/1986	4:21	8/4/1986	10:39	30.3	1005	Generating Tube
521	188		*		U2	8/15/1986	20:13	8/21/1986	8:01	131.8	1005	Generating Tube Leak
521	188		*		мо_	9/5/1986	23:38	9/6/1986	18:42	19.06	4281	#81 Lube Oil Cooler
521	188		*		U1	9/18/1986	1:55	9/20/1986	9:25	55.5	1070	Second Reheater
521	188		*		U1	9/25/1986	14:44	9/25/1986	16:34	1.83	250	Pulverizer Feeder Problems
521	188				U1	10/17/1986	10:07	10/20/1986	4:06	65.98	1005	Generating Tube
521	188				МО	10/30/1986	21:38	10/31/1986	11:31	13.88	8560	Precipitator Wire Ground
521	188				U1	12/15/1986	11:21	12/15/1986	12:01	0.66	9910	Maintenance Error
521	188				U3	1/16/1987	21:17	1/17/1987	18:44	21.45	1005	Generating Tube
521	188				PO	2/7/1987	2:53	3/20/1987	24:00:00	1005.11	1800	Annual Outage
521	188				U1	3/20/1987	24:00:00	3/21/1987	12:45	12.75	4520	Stator Cooling System
521	188				U1	3/22/1987	5:02	3/22/1987	11:53	6.85	4302	Hydraulic Oil Problem
521	188				U1	3/23/1987	19:34	3/23/1987	20:05	0.51	410	Burner Problems
521	188				МО	3/23/1987	21:53	3/25/1987	7:41	33.8	8560	Electrostatic Precip Problems
521	188	Oak Creek #8			РО	3/29/1987	2:36	3/29/1987	4:43	2.11	4460	Turb Overspeed Trip Test
521	188		*		МО	4/3/1987	21:59	4/5/1987	22:01	48.03	8560	Electrostatic Precip Problems
521	188	Oak Creek #8	*		МО	4/21/1987	0:41	4/24/1987	6:00	77.31	4264	Combined Intercept VIvs

Utility	Unit		172	Event	Start of		End of		Duration in	Cause	
# ""	#	Unit Name	GAC	NAC Type	Event		Event		hours	Code	
521	188		*	МО	4/24/1987	6:00			23.73		Repl Slag Wear Strips
521	188		*	U2	6/15/1987	0:29	6/16/1987	17:57	41.46	1040	Superheat Leak
521	188		*	U2	7/2/1987	20:17	7/3/1987	4:17	8	8560	Electrostatic Precip Problems
521	188	Oak Creek #8 Oak Creek	*	U2	7/7/1987	0:09	7/8/1987	12:02	35.88	1050	Second Superheater
521			*	U2_	8/2/1987	5:38	8/3/1987	4:14	22.6	1005	Generating Tube
521			*	МО	8/8/1987	2:25	8/10/1987	3:35	49.16	8550	Electrostatic Precip Fouling
521	188		*	U3	9/2/1987	22:09	9/3/1987	12:00	13.85	8550	Precipitator Fouling
521	188			U2	10/6/1987	22:09	10/8/1987	. 10:05	35.93	1050	Second Superheater Tube Leak
521	188			SF	10/8/1987	10:05	10/8/1987	14:48	4.71	4420	Hi Vibration 2 Brg
521	188			МО	10/10/1987	19:58	10/11/1987	17:57	21.98	8550	Electrostatic Precip Fouling
521	188	#8		U1	10/14/1987	4:24	10/14/1987	4:55	0.51	9910	Maintenance Error
521	188			МО	11/1/1987	7:56	11/4/1987	21:59	86.05	4261	Control Valves
521	188			мо	11/13/1987	21:39	11/15/1987	9:29	35.83	1005	Generating Tube
521	188	Oak Creek #8 Oak Creek		МО	11/25/1987	9:56	11/29/1987	24:00:00	110.06	1005	Generating Tube
521	188			МО	11/30/1987	20:08	12/1/1987	21:26	49.3	8580	Mechanical Precip Problems
521	188	ì		U2	12/3/1987	0:32	12/4/1987	2:42	26.16	1070	Second Reheater Tube
521	188	#8	*	РО	1/3/1988	0:01	5/16/1988	21:52	3213.85	4400	Annual Outage
521	188 #		*	РО	5/16/1988	21:54	5/17/1988	4:37	6.71	4420	High Vibration
521	188 #	Oak Creek #8	*	РО	5/17/1988	4:57	5/17/1988	13:35	8.63	4420	High Vibration

Itility (Jnit		11.00			Start of	880 BO BO BO BO BO BO BO BO BO BO BO BO BO	End of				
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
		Oak Creek				5/40/4000	44.07	E /4 O /4 O O O	0.40	04.05	1000	Railar Food Broklama
521	188		*		PO	5/18/1988	11:27	5/19/1988	8:48	21.35	1999	Boiler Feed Problems
521	- 1	Oak Creek #8	*		PO	5/20/1988	1:22	5/20/1988	3:16	1.9	4400	Annual Outage
321		Oak Creek										<u> </u>
521	188	#8	*		МО	5/21/1988	23:25	5/22/1988	14:21	14.93	8560	Electrostatic Precip Problems
521	188	Oak Creek #8	*		мо	6/8/1988	18:04	6/12/1988	20:35	98.51	4260	Main Stop VIvs Steam Strainers
		Oak Creek			110		20.21	7/24/1088	5:31	9	9560	Propin Mira Cround
521	188				МО	7/23/1988	20:31	7/24/1988	5.51	9	6360	Precip Wire Ground
521	188	Oak Creek #8			РО	8/6/1988	22:09	8/7/1988	6:30	8.35	8560	Precipitator Wire Ground
		Oak Creek				0/10/1000	15:53	8/20/1988	21:35	29.7	740	Blr Recirculation Pumps
521	188		-		МО	8/19/1988	15.53	0/20/1900	21.33	29.1	740	Di Rediculation Fumps
521	188	Oak Creek #8			мо	9/15/1988	9:31	9/16/1988	22:16	36.75	1005	Generating Tube
		Oak Creek			 				_			
521	188		*		МО	11/6/1988	3:15	11/6/1988	20:29	17.23	1510	Flue Gas Ducts
521	188	Oak Creek #8	*		MO	12/1/1988	23:48	12/4/1988	21:05	69.28	1510	Flue Gas Ducts
	188	Oak Creek	*		МО	12/6/1988	19:58	12/7/1988	7:53	11.91	8560	Precipitator Problems
-		Oak Creek	*		U1	1/11/1989	19:40	1/14/1989	23:00	75.33	1050	Superheat Pendant Failure
521	188	Oak Creek	-		01	1/11/1303	13.40	1/14/1000	20.00	70.00	1000	oupernout chadrit andre
521	188	1	*		U1	2/7/1989	8:43	2/7/1989	10:08	1.41	1480	Other ID Fan Problems
		Oak Creek				0/40/4000	45.44	2/42/4090	16:43	0.98	4560	Generator Vibration
521	188		+	ļ	U1	3/13/1989	15:44	3/13/1989	10.43	0.50	4500	Generator Vibration
521	188	Oak Creek #8	*		U1	3/14/1989	14:53	3/14/1989	15:30	0.61	4560	Generator Vibration
		Oak Creek	*		МО	4/16/1989	0:51	4/16/1989	9:24	8.55	8560	Precip Grounds
521	188	Oak Creek	+	-	IVIO	4/10/1909	0.01	4/10/1303	3.24	0.00	- 0000	1 recip Grounds
521	188	#8	*		МО	5/6/1989	23:46	5/7/1989	12:24	12.63	8560	Precipitaor Problem
521	188	Oak Creek #8	*		U2	5/30/1989	11:30	5/31/1989	6:21	18.85	1005	Generating Tube
	188	Oak Creek	*		РО	6/16/1989	18:38	6/29/1989	18:12	311.56	1800	Annual Outage
021		<u> </u>		1		1		· ·				

Utility	Unit			Event	Start of		End∝of		Duration in	Cause	
#	#	Unit Name	GAC	NAC Type	Event		Event		hours	Code	Description
521	188	Oak Cieck	*	SF	7/2/1989	7:59		12:43	4.73		Turbine Brgs
521	188		*	SF	11/5/1989	19:58	11/5/1989	20:18	0.33	1799	Other Control Problems
521	188	#8	*	МО	11/18/1989	20:05	11/20/1989	22:14	50.15	740	 83 Blr Circ Pmp Mtr Fail
521	188		*	РО	4/20/1990	20:49	4/29/1990	9:56	205.11		Planned Maintenance Outage
521	188		*	МО	5/4/1990	23:55	5/7/1990	4:14	52.31	1150	Second Superheater
521	188	Oak Creek #8 Oak Creek	*	МО	5/11/1990	22:15	5/13/1990	17:15	43	1090	Wrapper Tube Leak
521	188	#8	*	U1	5/15/1990	6:18	5/15/1990	10:26	4.13	1799	Other Control Problems
521	188		*	МО	5/22/1990	15:26	5/23/1990	13:16	21.83	1080	Economizer Leak
521	188		*	U1	9/7/1990	23:50	9/9/1990	22:23	46.55	3861	Fire Protection Sys Piping
521	188		*	PO	2/23/1991	2:56	6/12/1991	13:35	2626.65	1800	Planned Maintenance Outage
521	188		*	PO	6/12/1991	13:55	6/12/1991	20:19	6.4	4240	Bearings
521	188#		*	РО	6/12/1991	21:03	6/12/1991	22:30	1.45	4240	Bearings
521	188 #		*	РО	6/13/1991	3:36	6/13/1991	10:17	6.68	480	Other Oil Fuel Supply Problems
521	188 #		*	РО	6/13/1991	17:51	6/13/1991	18:35	0.73	4240	Bearings
521	188 #		*	РО	6/14/1991	1:30	6/16/1991	23:59	70.48	4240	Bearings
521	188 #		*	U1	6/16/1991	23:59	6/17/1991	2:39	2.66	4240	Bearings
521	188 #		*	U1	6/17/1991	4:48	6/17/1991	6:01	1.21	4240	Bearings
521	188 #		*	U1	6/17/1991	10:32	6/17/1991	11:08	0.6	1700	Feedwater Controls
521	188 #	Oak Creek 8	*	U1	6/18/1991	13:32	6/18/1991	16:31	2.98	4600	Other Exciter Problems

30 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -					Start of				Duration in	Cause	
# .			GAC NA	CType	Event		Event		hours	Code	Description
		Oak Creek									
521	188		*	U1	6/18/1991	17:18	6/19/1991	3:11	9.88	4240	Bearings
		Oak Creek									·
521	188		*	U1	6/19/1991	3:23	6/19/1991	5:41	2.3	1475	Induced Draft Fan Cont
		Oak Creek									
521	188		*	U1	6/19/1991	13:18	6/19/1991	18:36	5.3	1470	ID Fan Motors & Drivers
		Oak Creek									
521	188		*	MO	6/21/1991	21:39	6/21/1991	22:30	0.85	4460	Turbine Overspeed Trip Test
		Oak Creek							•		
521	188		*	U1	6/21/1991	23:08	6/22/1991	8:58	9.83	4240	Bearings
		Oak Creek		1							
521	188		*	МО	6/24/1991	16:28	6/24/1991	23:15	6.78	4261	Control Valves
		Oak Creek									
521	188		*	U1	6/25/1991	13:50	6/25/1991	14:32	0.7	1470	ID Fan Motors & Drivers
		Oak Creek									
521	188		*	U1	6/25/1991	15:23	6/25/1991	21:41	6.3	1415	FD Fan Controls
		Oak Creek									
521	188		*	U1	7/9/1991	7:14	7/9/1991	7:56	0.7	4240	Bearings
		Oak Creek									
521	188		*	U1	7/17/1991	8:54	7/17/1991	9:34	0.66	1710	Combustion Control
		Oak Creek									
521	188		*	U1	8/13/1991	10:28	8/13/1991	11:15	0.78	1710	Combustion Control
		Oak Creek									
521	188		*	SF	9/6/1991	6:30	9/6/1991	7:46	1.26	1710	Combustion Controls
		Oak Creek									
521	188		*	U1	9/18/1991	2:50	9/18/1991	3:34	0.73	1710	Combustion Controls
1 T	7	Oak Creek									
521			*	U1	9/20/1991	2:10	9/20/1991	2:48	0.63	4260	Main Stop Valves
		Oak Creek									
521	188		*	U1	10/1/1991	23:59	10/2/1991	0:53	0.9	1710	Combustion Controls
1		Oak Creek							-		
521	188		*	U1	10/2/1991	6:13	10/2/1991	7:05	0.86	1710	Combustion Controls
		Oak Creek									
521	188		*	U1	10/14/1991	8:39	10/14/1991	9:31	0.86	9910	Maintenance Error
		Oak Creek									
521	188		*	U1	10/14/1991	9:42	10/14/1991	10:26	0.73	4240	Bearings
		Oak Creek									
521	188	#8	*	U1	10/14/1991	10:39	10/14/1991	13:56	3.28	4240	Bearings

					ent Start of		End of			Cause	
#	#	Oak Creek	GAC	NAC Tŷ	pe Event		Event		hours	Code	Description
521	188		*	U1	11/1/1991	13:41	11/1/1991	19:33	5.86	3112	Condenser Tube Fouling
521	188	Oak Creek #8	*	U1	11/5/1991	0:05	11/5/1991	1:21	1.26	1710	Combustion Controls
	100	Oak Creek		- 01	11/6/1331	- 0.00	117071001	1.21	1.20		- Compaction Controls
521	188		*	U1	11/21/1991	11:27	11/21/1991	12:46	1.31	1710	Combustion Controls
521	188	Oak Creek #8	*	U2	12/14/1991	10:52	12/14/1991	13:52	3	1710	Combustion Controls
521	188	Oak Creek #8	*	U1	3/2/1992	17:08	3/2/1992	21:07	3.98	3112	Condenser Tube Fouling
521	188	Oak Creek	*	МО		6:00		12:30	6.5		First Superheater Leak
521	188	Oak Creek	*	MC		12:30		0:12	35.7		Primary Air Heater
521	188	Oak Creek	*	U1	3/27/1992	13:30		14:46	1.26		Bearings
321	100	Oak Creek		01	3/2//1992	13.30	3/2//1992	14.40	1.20	4240	beamigs
521	188	#8	*	U1	5/21/1992	5:06	5/21/1992	5:49	0.71	310	Pulverizer Mills
521	188	Oak Creek #8	*	U1	6/20/1992	13:08	6/20/1992	13:55	0.78	9910	Maintenance Error
521	188	Oak Creek #8	*	U1	7/11/1992	5:36	7/11/1992	6:14	0.63	4240	Bearings
		Oak Creek			771171002	0.00	771171002	0.11	0.00	12.10	·
521	188		*	U1	7/19/1992	11:35	7/19/1992	12:00	0.41	3414	Feedwater Pump Controls
521	188		*	U1	8/30/1992	10:52	8/30/1992	12:01	1.15	1710	Combustion Controls
521	188	Oak Creek #8	*	U1	10/15/1992	15:45	10/15/1992	16:45	1	1710	Combustion Controls
521	188	Oak Creek #8	*	U1	11/20/1992		11/20/1992	3:58	1.33		Other Pulverizer Problems
521	188	Oak Creek #8	*	U1	11/20/1992		11/20/1992	6:00	0.8		Other Pulverizer Problems
521	188	Oak Creek	*	MC			11/26/1992	5:15	15.28		Gland Seal System
521		Oak Creek	*	SF	11/27/1992		11/27/1992	10:31	5.51		Turbine Bearing Vibration
521		Oak Creek	*	U1	11/29/1992	•	11/29/1992	4:43	1.43		Other Burner Problems

Utility						Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC	NAC	Type	Event	dagorija troji	Event	and optifike	hours	Code	Description
521	188	Oak Creek #8	000*	*	PO	1/3/1993	0:01	2/13/1993	13:48	997.78	1800	Planned Maintenance Outage
		Oak Creek										
521	188	#8 Oak Creek	000*	*	PO	2/14/1993	1:48	2/14/1993	3:00	1.2	1710	Combustion Controls
521	188	#8	*		U1	2/24/1993	16:34	2/24/1993	17:00	0.43	1710	Combustion Controls
521	188		*		SF	2/24/1993	17:00	2/24/1993	18:45	1.75	380	Light-Off Systems
521	188		*		МО	3/6/1993	0:49	3/8/1993	2:57	50.13	4260	Main Stop Valves
521	188	Oak Creek #8	*		U1	3/13/1993	16:42	3/13/1993	17:46	1.06	1710	Combustion Controls
521	188	Oak Creek #8	*		U2	3/17/1993	12:03		6:25	66.36	1070	Second Reheater
521	188	Oak Creek #8	*		U1	3/24/1993	7:25		8:57	1.53		Combustion Controls
	188	Oak Creek	*		U1	4/9/1993	12:21		13:33	1.2		Wet Coal
521	188	Oak Creek	*		U1	5/26/1993	1:35		2:30	0.91		Combustion Control
	188	Oak Creek	*		МО	6/19/1993	0:42		6:14	5.53		Other Boiler Control Problems
	188	Oak Creek	*	<u> </u>	U1	6/22/1993	1:34		3:18	1.73		Combustion Control
521		Oak Creek	*		U2	6/27/1993	8:58		20:24	11.43		Hydraulic System Pipes & Vlvs
521		Oak Creek	*		U1	6/27/1993	23:30		3:44	4.23		Loss of Vacuum - Other Components
	188	Oak Creek	*		U1	7/2/1993	12:43		13:25	0.7		Operator Error
	188	Oak Creek	*		U1	8/2/1993	0:07	8/2/1993	1:23			Combustion Control
	*	Oak Creek								1.26		
,		Oak Creek			МО	8/13/1993	23:20		1:33	50.21		Generating Tube
521	188	#8 Oak Creek	*		МО	8/20/1993	20:07	8/23/1993	5:00	56.88	1060	First Reheater
521	188		*		U2	9/23/1993	16:29	9/26/1993	2:05	57.6	1070	Second Reheater

1 2 3 3 3 5 5 1 1 m	Unit			•E	Event	Start of		End of	i de la companya de l	Duration in		
#	#	Unit Name Oak Creek	GAC	NAC**	Type	Event		Event		hours	Code	Description
521	1		*	ا ار	J2	10/13/1993	9:49	10/13/1993	11:57	2.13	3620	Main Transformer
		Oak Creek										
521	188		*	<u> </u>	J1	11/9/1993	0:36	11/9/1993	1:10	0.56	9910	Mechanical Switching Error
521	188	Oak Creek #8	*	_{\(\text{\cut}\)}	J1	12/16/1993	2:38	12/16/1993	3:20	0.7	9910	Maintenance Error
521	188	Oak Creek #8	*		J1	2/7/1994	5:45	2/7/1994	6:35	0.83	4260	Main Stop Valves
021		Oak Creek			,	2///1004	0.40	2///1004	0.00	0.00	1200	Than Cop Varves
521	188		*	U	J1	3/8/1994	10:41	3/8/1994	12:31	1.83	9910	Maintenance Error (DC Switching)
521	188	Oak Creek	*		J1	6/12/1994	19:00	6/12/1994	22:04	3.06	1710	Combustion Controls
321		Oak Creek			<i>,</i>	0/12/1004	13.00	0/12/1004	22.04	5.00	- 17 10	Combustion Controls
521	188	#8	*	L	J1	6/17/1994	22:16	6/23/1994	14:44	136.46	1005	Generating Tube
521	Į.	Oak Creek	*		J3	7/1/1994	20:52	7/4/1994	11:58	63.1	1070	Second Reheater
321		#0 Oak Creek		+)3	77171994	20.52	77471994	11.50	03.1	1070	Second Reneater
521	188	#8	*	L	J1	7/11/1994	15:17	7/11/1994	16:45	1.46	1470	ID Fan Motors & Drivers
521	188	Oak Creek #8	*	ا	J2	8/5/1994	6:49	8/5/1994	13:48	6.98	3112	Condenser Tube Pluggage
		Oak Creek							·			
521			*	L	J2	8/19/1994	20:28	8/24/1994	8:51	108.38	1070	Second Reheater
521	188		*		MO	9/9/1994	22:48	9/13/1994	4:29	77.68	1070	Second Reheater
		Oak Creek					·				-	
521	188	#8 Oak Creek	*	N	MO	9/23/1994	23:07	9/25/1994	18:25	43.3	1070	Second Reheater
521			*	F	0	12/31/1994	0:01	12/31/1994	23:59	23.96	4400	Turbine Overhaul
	-	Oak Creek										
521		#8 Oak Creek	*	P	20	1/1/1995	0:02	4/13/1995	14:38	2462.6	4400	Turbine Overhaul
521	188	#8	*	n	MO	4/21/1995	18:52	4/29/1995	7:17	180.41	4260	Main Stop Valves
521		Oak Creek #8	*		MO	5/13/1995	4:02	5/16/1995	1:33	69.51	4260	Main Stop Valves
- "		Oak Creek				3, 10, 1000	7.02	3, 10, 1000	1.50		7200	man cop raires
521	188		*	L	J1	6/6/1995	19:54	6/6/1995	20:38	0.73	1710	Combustion Controls
521	188	Oak Creek #8	*		MO	8/19/1995	0:29	8/20/1995	9:50	33.34	590	Desuperhtr Check Valve

Utility	Unit				Event	Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
521	188		*		U1	9/9/1995	19:45	9/9/1995	21:20	1.58	1710	Combustion Controls
521	188		*	!	U1	10/7/1995	22:06	10/11/1995	22:00	95.9	1000	Boiler Tube Leaks
521	188		*	ļ	U1	10/14/1995	10:46	10/15/1995	16;13	29.45	1000	Boiler Tube Leaks
521	188	Oak Creek #8 Oak Creek	*		U3	11/10/1995	1:04	11/12/1995	16:54	63.83	1000	Boiler Tube Leaks
521	188		*	ļ	U3	1/6/1996	0:31	1/7/1996	16:50	40.31	1000	
521	188		*	!	U1	2/2/1996	4:30	2/2/1996	7:30	3	3110	
521	188		*	.	U1	2/2/1996	7:30	2/3/1996	9:41	26.18	3110	Other Oil and Gas Supply
521	188	#8	*	- 1	U1	2/7/1996	10:17	2/7/1996	11:15	0.96	3416	
521			*		U1	2/11/1996	20:30	2/12/1996	19:52	23.36	1000	nil
521			*		U1	4/17/1996	14:45	4/17/1996	16:10	1.41	1710	-
521	188		*	ı	U1	4/17/1996	16:32	4/17/1996	17:14	0.7	1710	
521	188		*		МО	5/25/1996	1:00	5/25/1996	18:30	17.5	750	
521	188		*		U1	6/15/1996	22:00	6/19/1996	8:18	82.3	1005	nil
521	188		*	(U3	7/10/1996	1:21	7/10/1996	10:58	9.61	3441	nil
521	188		*	ı	U3	8/31/1996	16:07	9/2/1996	14:45	46.63	1005	
521	188		*		SF	9/2/1996	14:45	9/8/1996	22:12	151.45	4260	nil
521	188		*	ţ	U1	9/13/1996	5:08	9/13/1996	22:09	17.01	3112	
521	188		*	l	U1	9/14/1996	0:46	9/15/1996	22:46	46	3112	
521		Oak Creek #8	*	l	U1	9/23/1996	20:20	9/23/1996	21:48	1.46	3411	

1 14:11:4. a	1 122:4					Ctort of		End of				
Othicy #		Unit Name				Start of		Event		hours	Cause. Code	Description
		Oak Creek	JAC		i ype	Lveiit		Lvent		nours	Code	Description
521	188		*		U2	11/18/1996	21:00	11/21/1996	11:51	62.85	1105	
		Oak Creek										
521	_ 188		*		PO	12/28/1996	3:05	12/31/1996	23:59	92.9	1800	
504	400	Oak Creek	_		D O	1/1/1007		4/00/4007	7.00	700.50	4000	0.45
521	188	#8 Oak Creek	<u> </u>		PO	1/1/1997	0:01	1/30/1997	7:36	703.58	1800	Outage started 12-28-96
521	188		*		U1	2/15/1997	16:30	2/16/1997	4:10	11.66	4450	Water Induction to IP Turbine
021	100	Oak Creek			-	271071007	10.00	2,10,100,	1.10		1100	Trace in addition to in Tarbino
521	188		*		U3	6/14/1997	14:40	6/16/1997	3:20	36.66	3110	Repair Condenser Tube Leak
		Oak Creek										
521	188		*		U1	6/20/1997	14:19	6/22/1997	14:38	48.31	1050	Repair Superheat Tube Leak
504	400	Oak Creek			1114	7/2/4007	40.27	7/0/4007	40.40	CF C0	4005	Consenting Table
521	188	#8 Oak Creek	ļ .		U1	7/3/1997	18:37	7/6/1997	12:18	65.68	1005	Generating Tube
521	188		*		U1	9/24/1997	20:21	9/24/1997	21:38	1.28	9900	Unit Tripped due to Personnel Error
		Oak Creek				5.2.1.100.						ome improva duo to i croomine arror
521	188		*		MO	9/27/1997	0:37	10/4/1997	21:28	188.85	1050	Boiler Tube Leak
		Oak Creek										
521	188		00*0	000*	U1	10/5/1997	0:37	10/5/1997	11:39	11.03	3950	Unit Tripped due to Computer Malfunction
521	188	Oak Creek	*		U1	10/6/1997	5:23	10/9/1997	22:26	89.05	976	Sootblower Controls
521	100	Oak Creek	-		O I	10/0/1997	5.23	10/3/1337	22.20	69.03	070	Sootblower Controls
521	188		*		мо	4/11/1998	5:00	4/26/1998	15:43	370.71	1488	Maintenance Outage
		Oak Creek										<u> </u>
521	188		*		U3	5/8/1998	21:30	5/10/1998	22:25	48.91	1000	Repair Tube Leak at Water Wall
		Oak Creek										
521	188		*		U1	5/11/1998	8:36	5/11/1998	22:04	13.46	4265	Misc Turbine Drains & Vent VIvs
521	188	Oak Creek	*		MO	5/21/1998	0:26	5/23/1998	20:10	67.73	1000	Furnace Wall
321	100	Oak Creek	<u> </u>	 	IVIO	3/21/1990	0.20	3/23/1990	20.10	07.73	1000	Loss of Condenser Vacuum While Return 81/82 Heater
521	188		*		U1	6/24/1998	21:46	6/24/1998	23:56	2.16	3190	Drain Pump
		Oak Creek										
521	188		*		U1	6/30/1998	0:20	7/6/1998	14:58	158.63	500	Main Steam Piping to Turbine Stop Vlvs
		Oak Creek				7/0/4000	40.11	7/0/4000	44.00		4766	
521	188	#8 Oak Creek	 _	ļ	U1	7/8/1998	10:14	7/8/1998	11:23	1.15	1/00	Unit Trip - Low Drum Level
521	100		*		MO	8/1/1998	0:44	8/3/1998	5:24	52.66	ממל	Repair Leak on El 144 on Drain Line Off of Roof Inlet Header
521	188	# 0	<u> </u>	<u> </u>	LIVIO	8/1/1998	U:44	6/3/1998	5.24	52.66	799	neader

Utility	Unit			The state of the s		Start of		End of		Duration in	Cause	
#	#	Unit Name	GAC	NAC	Type	Event		Event		hours	Code	Description
		Oak Creek							.			
521	188		*		U1	9/14/1998	8:06	9/14/1998	13:25	5.31	3261	Travelling Screen Fouling
504	400	Oak Creek	.		1.14	0/45/4000	45.45	0/45/4000	40.05	2.02	2004	Tanan Kana Osan sa Farikan
521	188	#8 Oak Creek	ı^		U1	9/15/1998	15:45	9/15/1998	19:35	3.83	3261	Travelling Screen Fouling
521	188	#8	*		МО	9/19/1998	0:48	9/22/1998	11:17	82.48	8590	Other Precipitator Problems
521	188	Oak Creek	*		MO	10/16/1998	22.00	10/18/1998	14:41	40.55	1000	Banair Watanuali Tuba Laak
321	100	Oak Creek			MO	10/10/1990	22.00	10/10/1990	14.41	40.55	1000	Repair Waterwall Tube Leak
521	188	#8	*		MO	12/4/1998	22:52	12/7/1998	4:34	53.7	8590	Precipitator Problem
		Oak Creek										
521	188		*		PO	1/16/1999	1:27	2/8/1999	3:19	553.86	1800	Planned Maintenance Outage
521	188	Oak Creek #8	*		U1	2/11/1999	5:57	2/13/1999	13:55	55.96	1030	Boiler Tube Leak
		Oak Creek							_			
521	188		*		МО	3/20/1999	1:05	3/21/1999	19:08	42.05	4261	Control Valves
521	188	Oak Creek #8	*		U1	5/26/1999	12:30	5/26/1999	14:30	2	3261	Travelling Water Screen Fouling
521	188	Oak Creek	*		MO	6/4/1999	1:26	6/6/1999	2:59	49.55	972	Sootblowers - Water
321	100	Oak Creek		_	IVIO	0/4/1999	1.20	0/0/1999	2.59	49.55	012	Sootbiowers - Water
521	188	#8	*		U2	7/10/1999	8:13	7/10/1999	12:13	4	3261	Travelling Water Screen Fouling
501	100	Oak Creek	*		MO	0./7/4000	20.40	0/0/1000	1.42	20.01	000	Datta and Asia Climbra Cainadan
521	188	Oak Creek			МО	8/7/1999	20:42	8/9/1999	1:43	29.01	892	Bottom Ash Clinker Grinder
521	188	1	*		U1	9/11/1999	23:39	9/12/1999	0:47	1.13	1710	Boiler Air Upset
521	188	Oak Creek #8	*		PO	10/11/1999	0:35	10/18/1999	20:52	188.28	1493	Air Heater Wash
		Oak Creek										
521	188	#8	*		U1	11/15/1999	6:58	11/22/1999	1:00	162.03	3431	87 Feedwater Outlet Valve Leak

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	1						2 121	2 2 2 3 1		· · · · · · · · · · · · · · · · · · ·
521			U1	7/4/1975	1:21	7/5/1975	2:19	24.96	1060	
521		_	U1	7/10/1975	22:32	7/13/1975	8:05	57.55	1040	
521	158 Oak Creek #5	231	D1	7/19/1975	3:00	7/20/1975	22:30	43.5	3999	
521	158 Oak Creek #5	231	D1	7/22/1975	22:00	7/23/1975	6:20	8.33	3999	
521	158 Oak Creek #5	186	D1	7/25/1975	4:45	7/25/1975	19:55	15.16	3440	
521	158 Oak Creek #5	125	D1	8/1/1975	10:20	8/1/1975	12:00	1.66	340	
521	158 Oak Creek #5		U1	8/2/1975	0:09	8/3/1975	22:22	46.21	1040	
521	158 Oak Creek #5	121	D1	8/15/1975	3:30	8/15/1975	15:00	11.5	340	
521		226	D1	8/20/1975	21:20	8/21/1975	1:45	4.41	1400	· · · · · · · · · · · · · · · · · · ·
521		212	D1	9/3/1975	12:45	9/4/1975	2:15	13.5	3440	
521		212	D1	9/4/1975	2:30	9/5/1975	4:10	25.66	3440	
521	158 Oak Creek #5		U1	9/6/1975	0:12	9/7/1975	9:50	33.63	1060	
521	158 Oak Creek #5	122	D1	9/26/1975	22:00	9/27/1975	5:50	7.83	340	
521	† — — — — — — — — — — — — — — — — — — —	 	U1	10/3/1975	23:55	10/6/1975	11:32	59.61	1060	
521			U1	10/11/1975	3:57	10/11/1975	7:41	3.73	9320	
521			U1	10/24/1975	13:14	10/27/1975	5:07	63.88	1040	
521			U1	10/27/1975	6:12	10/28/1975	6:26	24.23	1040	
521	158 Oak Creek #5		U1	10/28/1975	7:26	10/29/1975	10:06	26.66	1040	
521	158 Oak Creek #5		U1	11/1/1975	22:23	11/2/1975	12:28	14.08	360	
521	158 Oak Creek #5	91	D1	11/2/1975	12:28	11/2/1975	19:00	6.53	340	
521	158 Oak Creek #5	231	D1 .	11/5/1975	10:00	11/5/1975	13:45	3.75	3999	
521			U1	11/8/1975	1:36	11/9/1975	23:11	45.58	1040	
521	158 Oak Creek #5		U1	11/14/1975	1:43	11/16/1975	22:10	68.44	1040	
521	158 Oak Creek #5		U1	11/28/1975	23.48	11/30/1975	15:48	40	1060	
521	158 Oak Creek #5	206	D1	12/9/1975	23:20	12/10/1975	13:00	13.66	3440	
521	158 Oak Creek #5		UI	12/13/1975	1:41	12/15/1975	7:16	53.58	1060	
521	158 Oak Creek #5		U1	12/15/1975	9 17	12/16/1975	7:15	21.96	1040	
521		90	D1	12/16/1975	9.00	12/16/1975	12:35	3.58	340	
521		106	D1	12/23/1975	7:30	12/24/1975	20:00	36.5	340	
521		106	U1	12/25/1975	6:23	12/26/1975	0:16	17.88	1080	
521	158 Oak Creek #5		U1	12/31/1975	21:28	12/31/1975		2.53	1040	
	158 Oak Creek #5		U1	1/1/1976	0:01	1/1/1976	23:32	23.51	1040	
521 521	158 Oak Creek #5	106	D1	1/2/1976	8:00	1/2/1976	16:30	8.5	3999	
521	158 Oak Creek #5	100	U1	1/3/1976	1:03	1/3/1976	23:17	22.23	1040	
521	158 Oak Creek #5	120	D1	1/3/1976	23:17	1/5/1976	3:00	27.71	3999	
521	158 Oak Creek #5	106	D1	1/6/1976	17:45	1/6/1976	22:15	4.5	3999	
	158 Oak Creek #5	100	U1	1/17/1976	23:02	1/23/1976	10:35	131.55	1060	
521			D1				2:30	50.48	340	
521		90		1/31/1976	0:01	2/2/1976		66.66	1060	
521	158 Oak Creek #5		U1	2/5/1976	2:00	2/7/1976	20:40			
521	158 Oak Creek #5	166	D1	2/8/1976	1:50	2/8/1976	10:30	8.66	340 340	
521	158 Oak Creek #5 .	86	D1	2/10/1976	0:01	2/10/1976	16:00	15.98		
521	158 Oak Creek #5		U1	2/21/1976	2:08	2/23/1976	2:20	48.2	1060	
521	158 Oak Creek #5		U1	3/6/1976	1:59	3/8/1976	2:49	48.83	1060	
521			MO	3/11/1976	3:11	3/14/1976	23:31	92.33	840	
521	<u> </u>		MO	3/11/1976	3:11	3/14/1976	23:31	92.33	1999	
521	158 Oak Creek #5	191	D1	3/14/1976	23:31	3/15/1976	12:00	12.48	1400	

521	158 Oak Creek #5		U1	3/17/1976	0:59	3/18/1976	8:21	31.36	360	
521	158 Oak Creek #5		MO	3/17/1976	0:59	3/18/1976	8:21	31.36	1999	
521	158 Oak Creek #5	216	D1	3/21/1976	12:30	3/22/1976	0:30	12	3999	
521	158 Oak Creek #5	176	D1	3/22/1976	9:30	3/23/1976	15:30	30	340	
521	158 Oak Creek #5	106	D1	3/22/1976	12:30	3/23/1976	15:30	27	340	
521	158 Oak Creek #5		U1	3/23/1976	23:57	3/25/1976	8:55	32.96	1040	
521	158 Oak Creek #5	106	D1	3/29/1976	3:30	3/29/1976	5:55	2.41	1455	
521	158 Oak Creek #5	100	PO -	4/3/1976	4:20	6/4/1976	14:58	1498.63	1999	
521	158 Oak Creek #5		MO	6/5/1976	0:04	6/5/1976	8:35	8.51	850	
521	158 Oak Creek #5	90	D1	6/5/1976	8:35		0:01		340	
		99	D1			6/7/1976		39.43		
521	158 Oak Creek #5	99		6/8/1976	9:15	6/8/1976	12:15		3999	
521	158 Oak Creek #5		U1	6/12/1976	0:33	6/13/1976	22:28	45.91	1060	
521	158 Oak Creek #5		МО	6/12/1976	0:33	6/13/1976	22:28	45.91	1999	
521	158 Oak Creek #5	90	D1	6/13/1976	22:28	6/15/1976	8:15	33.78	340	
521	158 Oak Creek #5	90	D1	6/19/1976	0:10	6/20/1976	0:30	24.33	340	
521	158 Oak Creek #5		<u>U1</u>	6/26/1976	0:28	6/27/1976	19:18	42.83	1060	
521	158 Oak Creek #5	226	PD	7/9/1976	15:15	7/9/1976	20:15	5	340	·
521	158 Oak Creek #5	200	PD	7/10/1976	21:00	7/12/1976	6:20	33.33	1400	
521	158 Oak Creek #5	200	D1	7/13/1976	15:15	7/13/1976	19:10	3.91	1400	
521	158 Oak Creek #5	121	D1	7/13/1976	19:10	7/14/1976	1:30	6.33	1400	
521	158 Oak Creek #5	200	D1	7/14/1976	10:30	7/15/1976	12:15	25.75	1400	
521	158 Oak Creek #5		U1	7/17/1976	2:03	7/19/1976	0:38	46.58	1060	
521	158 Oak Creek #5		MO	7/17/1976	2:03	7/19/1976	0:38	46.58	1999	
521	158 Oak Creek #5	200	D1	7/19/1976	4:30	7/20/1976	3:30	23	1400	
521	158 Oak Creek #5	210	D1	7/21/1976	9:00	7/22/1976	4:30	19.5	1400	
521	158 Oak Creek #5		U1	8/5/1976	1:09	8/6/1976	12:52	35.71	1040	
521	158 Oak Creek #5		МО	8/5/1976	1:09	8/6/1976	12:52	35.71	1999	
521	158 Oak Creek #5		U1	8/7/1976	11:07	8/8/1976	4:13	17.1	1080	
521	158 Oak Creek #5	150	D1	8/13/1976	23:00	8/14/1976	13:10	14.16	3440	
521	158 Oak Creek #5	211	D1	8/22/1976	8:45	8/23/1976	6:15	21.5	3999	
521	158 Oak Creek #5	216	D1	8/23/1976	14:30	8/24/1976	0:01	9.51	1400	
521	158 Oak Creek #5	205	D1							
				8/24/1976	7:30	8/25/1976	18:45	35.25	1400	
521	158 Oak Creek #5	190	D1	8/26/1976	21:00	8/26/1976	23:00	2	1400	
521	158 Oak Creek #5	211	D1	8/31/1976	21:00	9/2/1976	6:00	33	1400	
521	158 Oak Creek #5		U1	9/17/1976	13:25	9/20/1976	1:48	60.38	1060	
521	158 Oak Creek #5		MO	9/17/1976	13:25	9/20/1976	1:48	60.38	1999	
521	158 Oak Creek #5		U1	9/22/1976	11:22	9/23/1976	7:17	19.91	1080	
521	158 Oak Creek #5		U1	9/25/1976	11:37	9/28/1976	5:13	65.6	1040	
521	158 Oak Creek #5		U1	9/30/1976	21:19	10/3/1976	11:04	61.75	1005	
521	158 Oak Creek #5		U1	10/4/1976	13:06	10/6/1976	3:05	37.98	1040	
521 521 521	158 Oak Creek #5		U1	10/6/1976	7:59	10/7/1976	12:27	28.46	1060	
<u>521</u>	158 Oak Creek #5	114	D1	10/8/1976	0:15	10/9/1976	6:15	30	340	
521	158 Oak Creek #5		<u>U1</u>	10/11/1976	19:00	10/11/1976	20:30	1.5	3999	
521 521	158 Oak Creek #5		U1	10/14/1976	10:15	10/16/1976	3:59	41.73	1040	
521	158 Oak Creek #5	224	D1	10/20/1976	12:10	10/21/1976	1:15	13.08	3440	
521	158 Oak Creek #5	224	D1	10/21/1976	5:30	10/21/1976	14:00	8.5	3999	

	501	150	Only Oreals #5	004	D1	10/01/1076	12.00	40/04/4076	44.45	4 75		
1-	521		Oak Creek #5	204		10/21/1976	13:00	10/21/1976		1.75	3999	
1_	521		Oak Creek #5	229	D1	10/22/1976	13:50	10/22/1976		0.66	250	
	521		Oak Creek #5	224	D1	10/23/1976	23:30	10/24/1976	16:40	17.16	250	
L	521		Oak Creek #5	214	D1	10/26/1976	9:00	10/26/1976		7.83	3999	
	521		Oak Creek #5	214	D1	10/28/1976	6:50	11/11/1976	15:40	344.83	3999	
	521		Oak Creek #5		U1	11/3/1976	1:26	11/10/1976	23:27	190.01	3999	
1	521	158	Oak Creek #5		U1	11/20/1976	1:13	11/22/1976	2:31	49.3	1060	
L.,	521		Oak Creek #5	216	D1	11/28/1976	5:00	11/29/1976	4:00	23	360	
L	521		Oak Creek #5		U1	12/3/1976	0:40	12/8/1976	8:09	127.48	1060	
	521	158	Oak Creek #5		U1	12/12/1976	21:20	12/15/1976	13:24	64.06	1040	
	521		Oak Creek #5	176	D1	12/16/1976	7:25	12/18/1976	5:32	46.11	1040	
	521	158	Oak Creek #5		U1	12/17/1976	0:55	12/18/1976	5:32	28.61	1040	
	521	158	Oak Creek #5		U1	12/21/1976	10:48	12/22/1976	4:17	17.48	1080	
-	521	158	Oak Creek #5		U1	12/23/1976	23:30	12/25/1976	0:23	24.88	1040	
	521	158	Oak Creek #5	216	D1	12/29/1976	15:00	12/30/1976	6:10	15.16	3999	
	521	158	Oak Creek #5		U1	12/31/1976	0:37	12/31/1976	23:04	22.45	1040	
	521	158	Oak Creek #5	126	D1	1/4/1977	4:00	1/4/1977	12:10	8.16	250	
-	521	158	Oak Creek #5		U1	1/8/1977	1:22	1/10/1977	20:15	66.88	1040	
	521	158	Oak Creek #5	201	D1	1/11/1977	1:30	1/11/1977	15:00	13.5	3999	
-	521	158	Oak Creek #5	176	D1	1/12/1977	2:15	1/12/1977	5:00	2.75	1400	
1	521	158	Oak Creek #5	216	D1	1/12/1977	6:30	1/12/1977	24:00:00	17.5	3999	
[521	158	Oak Creek #5		U1	1/15/1977	0:37	1/16/1977	21:36	44.98	1040	
	521		Oak Creek #5		U1	2/3/1977	21:48	2/4/1977	5:50	8.03	1060	
Γ	521	158	Oak Creek #5	216	D1	2/5/1977	8:45	2/6/1977	23:30	38.75	3440	
	521	158	Oak Creek #5	226	D1	2/17/1977	9:15	2/17/1977	16:15	7	3999	
	521	158	Oak Creek #5		U1	2/19/1977	0:07	2/21/1977	8:10	56.05	1060	
	521	158	Oak Creek #5		U1	2/24/1977	12:26	3/1/1977	2:08	109.7	1040	
	521	158	Oak Creek #5	226	D1	3/13/1977	9:45	3/13/1977	14:00	4.25	3999	
	521	158	Oak Creek #5		U1	3/17/1977	18:34	3/19/1977	15:36	45.03	1040	
	521		Oak Creek #5	176	D1	3/23/1977	20:30	3/24/1977	9:00	12.5	3440	
-	521	158	Oak Creek #5	216	D1	4/1/1977	12:00	4/4/1977	6:30	66.5	250	
	521	158	Oak Creek #5	116	D1	4/3/1977	19:00	4/4/1977	7:00	12	8560	
	521	158	Oak Creek #5		U1	4/6/1977	22:15	4/7/1977	5:30	7.25	1060	
	521	158	Oak Creek #5		U1	4/30/1977	0:56	5/3/1977	13:37	84.68	1060	
	521	158	Oak Creek #5	210	D1	5/3/1977	21:25	5/4/1977	13:49	16.4	3440	
	521	158	Oak Creek #5		U1	5/4/1977	13:49	5/5/1977	5:52	16.04	4309	
-	521	158	Oak Creek #5	175	D1	5/5/1977	5:52	5/5/1977	10:55	5.05	3440	
_	521	158	Oak Creek #5	200	D1	5/6/1977	22:00	5/7/1977	5:40	7.66	3440	
` ک	521	158	Oak Creek #5		U1	5/14/1977	1:23	5/16/1977	0:34	47.18	1040	
<u> </u>	521		Oak Creek #5	200	D1	5/16/1977	8:30	5/17/1977	9:45	25.25	3440	
WEPCO	521		Oak Creek #5		U1	5/21/1977	1:56	5/22/1977	14:08	36.2	1040	
	521		Oak Creek #5	215	D1	5/29/1977	13:30	5/30/1977	8:20	18.83	3440	
40004	521		Oak Creek #5	214	D1	6/5/1977	6:10	6/6/1977	6:24	24.23	3440	
Z	521		Oak Creek #5		Ū1 "	6/10/1977	0:14	6/12/1977	4:07	51.88	1060	
	521		Oak Creek #5	199	D1	6/17/1977	21:30	6/19/1977	18:20	44.83	3440	
-	521		Oak Creek #5		U1	6/23/1977	0:23	6/24/1977	22:08	45.75	1040	

		521	158	Oak Creek #5		U1	6/27/1977	1:38	6/28/1977	3:34	25.93	1040	
521 158 Calk Creek #5	1				101								
Feet See Coak Creek #5					131								
Sept 158 Oak Creek #5													
Sept 158 Oak Creek #5 U1 7724/1977 1:05 7725/1977 0:43 31.38 1060													
Sept 158 Oak Creek #5 211 D1 7127/1977 O.01 728/1977 O.43 24.7 1490													
S21 158 Cook Creek #5 U1 7/28/1977 0.43 7/31/1977 17-12 88.48 1160	L.:	521											
S21 158 Oak Creek #5 190 D1 8021977 14:30 8021977 14:40 29:16 3440		521			211						24.7		
S21 158 Oak Creek #5													
S21 158 Oak Creek #5		521			190								i
S21 158 Oak Creek #5	L	521						12:29					
S21 158 Oak Creek #5					211		8/22/1977	10:01				3440	
S21 158 Oak Creek #5	!	521	158	Oak Creek #5			8/25/1977	11:12	8/27/1977	9:20	46.13	1040	
S21 158 Oak Creek #5		521	158	Oak Creek #5		PO	9/3/1977	23:02	10/27/1977	3:12	1276.16	1999	
S21 158 Oak Creek #5		521	158	Oak Creek #5		U1	10/29/1977	0:02	10/30/1977	4:00	27.96	1999	
521 158 Oak Creek #5 151 D1 11/3/1977 11:35 11/4/1977 0:01 12:43 340 521 158 Oak Creek #5 175 D1 11/11/1977 23:55 11/14/1977 2:40 26:68 1060 521 158 Oak Creek #5 175 D1 12/3/1977 0:40 12/6/1977 2:40 26:68 1060 521 158 Oak Creek #5 175 D1 12/3/1977 0:45 12/2/1977 1:710 31:41 3440 521 158 Oak Creek #5 26 D1 12/1/1977 0:21 12/2/1977 1:345 5:63 3999 521 158 Oak Creek #5 206 D1 12/1/1977 8:07 12/27/1977 13:45 5:63 3999 521 158 Oak Creek #5 206 D1 11/1/1978 12:30 11/1/1978 10:10 33:33 340 521 158 Oak Creek #5 206 D1 11/2/1978 15:40 12/3/1978 10:00 33:33 340 521 158 Oak Creek #5 221 D1 12/2/1978 10:45 12/2/1978 2:00 9:25 360 521 158 Oak Creek #5 221 D1 12/2/1978 10:45 12/2/1978 2:00 9:25 360 521 158 Oak Creek #5 106 D1 12/1/1978 12:36 13/0/1978 2:00 65:58 340 521 158 Oak Creek #5 106 D1 12/1/1978 12:35 13/0/1978 2:00 65:58 340 521 158 Oak Creek #5 106 D1 12/1/1978 12:35 13/0/1978 2:00 65:58 340 521 158 Oak Creek #5 186 D1 13/1/1978 19:30 22/1978 9:30 38 3440 521 158 Oak Creek #5 186 D1 12/4/1978 6:00 2/4/1978 1:00 13:5 3999 521 158 Oak Creek #5 246 D1 2/4/1978 1:30 2/1/1978 1:55 40.08 1060 521 158 Oak Creek #5 U1 3/4/1978 0:03 3/2/1978 1:55 40.08 1060 521 158 Oak Creek #5 U1 3/4/1978 1:03 3/2/1978 1:05 3/2/1978 1:35 318:11 1486 521 158 Oak Creek #5 U1 3/4/1978 1:03 3/2/1978 1:35 318:11 1486 521 158 Oak Creek #5 U1 3/4/1978 1:03 3/2/1978 1:35 318:11 1486 521 158 Oak Creek #5 U1 3/4/1978 1:03 3/2/1978 1:35 548		521				U1		4:00		11:00		1040	
S21 158 Oak Creek #5					151						12.43		
S21 158 Oak Creek #5 U1 11/24/1977 23:59 11/26/1977 2:40 26.68 1060													
521 158 Oak Creek #5 175 D1 12/13/1977 9.45 12/14/1977 17:10 31.41 3440 521 158 Oak Creek #5 226 D1 12/27/1977 0:21 12/20/1977 13:45 5.63 3999 521 158 Oak Creek #5 206 D1 11/10/1978 21:30 1/11/1978 10:10 12.66 3440 521 158 Oak Creek #5 161 D1 1/21/1978 15:40 1/23/1978 10:00 33:33 340 521 158 Oak Creek #5 221 D1 1/25/1978 10:44 1/25/1978 20:00 9.25 360 521 158 Oak Creek #5 106 D1 1/27/1978 2:25 1/29/1978 20:00 65:58 340 521 158 Oak Creek #5 U1 1/27/1978 12:35 1/30/1978 2:09 61:56 1060 521 158 Oak Creek #5 U1 1/27/1978 12:35 1/30/1978 2:09 61:56 1060 521 158 Oak Creek #5 101 D1 2/4/1978 6:00 2/4/1978 14:30 8:5 340 521 158 Oak Creek #5 246 D1 2/4/1978 6:00 2/4/1978 14:30 8:5 340 521 158 Oak Creek #5 U1 2/12/1978 23:50 2/14/1978 15:55 40:08 1080 521 158 Oak Creek #5 U1 3/4/1978 0:05 3/6/1978 15:55 40:08 1080 521 158 Oak Creek #5 U1 3/4/1978 0:05 3/6/1978 6:11 53:26 10:00 521 158 Oak Creek #5 U1 3/4/1978 0:05 3/6/1978 6:11 53:26 10:00 521 158 Oak Creek #5 U1 3/4/1978 1:28 3/22/1978 7:35 318.11 1486 521 158 Oak Creek #5 U1 3/24/1978 1:20 3/22/1978 7:35 318.11 1486 521 158 Oak Creek #5 U1 3/24/1978 1:20 3/22/1978 7:35 318.11 1486 521 158 Oak Creek #5 U1 4/4/1978 1:28 4/9/1978 2:307 48:33 1486 521 158 Oak Creek #5 U1 4/4/1978 1:28 4/9/1978 2:307 48:33 1486 521 158 Oak Creek #5 U1 4/4/1978 1:28 4/9/1978 2:307 48:33 1486 521 158 Oak Creek #5 U1 4/26/1978 2:24 4/27/1978 2:30 5/31/1978 2:30 5/31/1978 2:30 5/31/1978 2:30 5/31/1978 2:30 5/31/1978 2:30 5/31/1978 2:30 5/31/1978 2:30 5/31/1978 2:30 5/31/1978 2:30 5/31/1978 2:	—												
S21 158 Oak Creek #5 226 D1 12/17/1977 0.21 12/20/1977 4:00 75.65 1060					175								
S21 158 Oak Creek #5 226 D1 12/27/1977 8:07 12/27/1977 13:45 5:63 3999	₽	$\overline{}$			1								
S21 158 Oak Creek #5 206 D1 1/10/1978 21:30 1/11/1978 10:10 12:66 3440	-	_			226								
521 158 Oak Creek #5 161 D1 1/21/1978 15:40 1/23/1978 1:00 33:33 340 521 158 Oak Creek #5 221 D1 1/25/1978 10:45 1/25/1978 20:00 9:25 360 521 158 Oak Creek #5 106 D1 1/27/1978 12:35 1/29/1978 20:00 65:58 340 521 158 Oak Creek #5 U1 1/27/1978 12:35 1/30/1978 2:09 61:56 1060 521 158 Oak Creek #5 186 D1 1/31/1978 19:30 2/2/1978 9:30 38 3440 521 158 Oak Creek #5 101 D1 2/4/1978 19:30 2/2/1978 9:30 38 3440 521 158 Oak Creek #5 246 D1 2/6/1978 11:30 2/7/1978 1:00 13:5 3999 521 158 Oak Creek #5 U1 2/12/1978 23:50 2/14/1978 15:55 40:08 1080 521 158 Oak Creek #5 U1 3/4/1978 0:55 3/6/1978 6:11 53:26 1000 521 158 Oak Creek #5 U1 3/4/1978 1:28 3/22/1978 7:35 318:11 1486 521 158 Oak Creek #5 U1 3/24/1978 1:03 3/26/1978 0:12 47:15 1490 521 158 Oak Creek #5 161 D1 3/24/1978 1:03 3/26/1978 0:12 47:15 1490 521 158 Oak Creek #5 U1 4/4/1978 1:28 4/2/1978 2:307 48:33 1486 521 158 Oak Creek #5 U1 4/4/1978 1:50 4/4/1978 2:342 46:23 1486 521 158 Oak Creek #5 U1 4/4/1978 1:28 4/9/1978 2:342 46:23 1486 521 158 Oak Creek #5 U1 4/2/1978 0:28 4/17/1978 2:342 46:23 1486 521 158 Oak Creek #5 U1 4/2/1978 0:28 4/17/1978 2:342 46:23 1486 521 158 Oak Creek #5 U1 4/2/1978 0:44 4/2/1978 2:342 46:23 1486 521 158 Oak Creek #5 U1 4/2/1978 0:44 4/2/1978 2:342 46:23 1486 521 158 Oak Creek #5 U1 4/2/1978 0:44 4/2/1978 2:342 46:23 1486 521 158 Oak Creek #5 U1 4/2/1978 0:43 5/2/1978 0:43 5/2/1978 0:44 6/2/1978 0:44 6/2/1978 0:44 6/2/1978 0:44 6/2/1978 0:44 6/2/1978 0:44 6/2/1978 0:44 6/2/1978 0:44 6/2/1978 0:44 6/2/1978 0:44 6/2/1978 0:44 6/2/1978	1												
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S21 158 Oak Creek #5 106 D1 1/27/1978 2:25 1/29/1978 20:00 65:58 340													
521 158 Oak Creek #5 186 D1 1/27/1978 12:35 1/30/1978 2:09 61:56 1060 521 158 Oak Creek #5 186 D1 1/31/1978 19:30 2/2/1978 9:30 38 3440 521 158 Oak Creek #5 101 D1 2/4/1978 6:00 2/4/1978 14:30 8.5 340 521 158 Oak Creek #5 246 D1 2/6/1978 11:30 2/7/1978 1:00 13.5 3999 521 158 Oak Creek #5 U1 2/12/1978 23:50 2/14/1978 15:55 40.08 1080 521 158 Oak Creek #5 U1 3/4/1978 0:55 3/6/1978 6:11 53:26 1000 521 158 Oak Creek #5 U1 3/24/1978 1:03 3/26/1978 0:12 47:15 1490 521 158 Oak Creek #5 U1 3/24/1978 1:03 3/26/1978 0													
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521 158 Oak Creek #5 U1 6/3/1978 1:03 6/14/1978 8:30 271.45 1490		521	158	Oak Creek #5	230	D1						3440	
521 158 Oak Creek #5 U1 6/3/1978 1:03 6/14/1978 8:30 271.45 1490	Ŝ 🗀	521				·		15:30				340	
		521				U1					271.45	1490	
					199	D1	6/15/1978	0:20	6/15/1978	17:00	16.66	340	

521	158 Oak Creek #5	199	D1	6/16/1978	12:00	6/18/1978	2:30	38.5	3440	
521	158 Oak Creek #5	184	D1	6/26/1978	18:30	6/27/1978	9:45	15.25	3440	
521	158 Oak Creek #5	184	D1	6/27/1978	10:30	6/28/1978	12:55	26.41	3440	
		91								
521	158 Oak Creek #5		D1	7/2/1978	12:30	7/3/1978	2:00	13.5	340	
521	158 Oak Creek #5	71	D1	7/3/1978	7:30	7/3/1978	20:20	12.83	340	
521	158 Oak Creek #5	91	D1	7/4/1978	19:15	7/5/1978	2:00	6.75	340	
521	158 Oak Creek #5	111	D1	7/6/1978	6:00	7/7/1978	3:00	21	340	
521	158 Oak Creek #5	221	D1	7/9/1978	22:15	7/10/1978	22:05	23.83	3440	
521	158 Oak Creek #5		U1	7/16/1978	4:17	7/16/1978	20:38	16.35	1060	
521	158 Oak Creek #5		U1	7/22/1978	23:29	7/27/1978	3:35	100.1	8560	
521	158 Oak Creek #5	121	D1	7/27/1978	13:00	7/27/1978	23:45	10.75	1080	
521	158 Oak Creek #5		U1	7/27/1978	23:45	7/28/1978	21:24	21.65	1080	
521	158 Oak Creek #5		U1	7/30/1978	22:16	8/3/1978	7:26	81.16	1000	
521	158 Oak Creek #5	211	D1	8/4/1978	18:15	8/6/1978	4:45	34.5	3440	
521	158 Oak Creek #5		U1	8/19/1978	14:12	8/20/1978	5:42	15.5	1080	
521	158 Oak Creek #5		U1	8/27/1978	23:30	8/28/1978	5:42	6.2	1060	
521	158 Oak Creek #5		U1	8/31/1978	0:06	9/4/1978	10:21	106.25	1060	
521	158 Oak Creek #5		U1	9/9/1978	0:49	9/9/1978	22:28	21.65	1080	
521	158 Oak Creek #5	112	D1	9/12/1978	9:10	9/16/1978	23:12	110.03	1455	
521	158 Oak Creek #5		U1	9/16/1978	23:12	9/17/1978	12:20	13.13	1455	
521	158 Oak Creek #5	112	D1	9/17/1978	12:20	10/5/1978	12:30	432.16	1455	
521	158 Oak Creek #5		U1	10/4/1978	22:48	10/5/1978	13:05	14.28	1455	
521	158 Oak Creek #5	179	D1	10/12/1978	6:10	10/13/1978	5:30	23.33	3440	
521	158 Oak Creek #5		U1	10/15/1978	0:37	10/15/1978	16:59	16.36	1060	
521	158 Oak Creek #5	179	D1	10/15/1978	17:09	10/16/1978	5:20	12.18	3440	
521	158 Oak Creek #5	-	U1	10/17/1978	23:37	10/19/1978	0:25	24.8	1080	
521	158 Oak Creek #5		U1	10/19/1978	16:04	10/20/1978	4:33	12.48	8550	
521	158 Oak Creek #5	- - - 	U1	10/20/1978	16:53	10/23/1978	2:16	57.38	1080	
521	158 Oak Creek #5		U1	10/25/1978	22:13	10/26/1978	3:15	5.03	4499	
521	158 Oak Creek #5		МО	10/28/1978	0:51	10/29/1978	19:48	42.95	1060	
521	158 Oak Creek #5		U1	10/30/1978	15:18	11/1/1978	3:04	35.76	1040	
521	158 Oak Creek #5	181	D1	11/1/1978	0:30	11/1/1978	18:30	18	3440	
521	158 Oak Creek #5	- -!01 	U1	11/4/1978	16:08	11/6/1978	5:29	37.34	1040	
521	158 Oak Creek #5		U1	11/6/1978	17:06	11/7/1978	14:08	21.03	1040	
521	158 Oak Creek #5	136	D1	11/8/1978	22:08	11/9/1978	10:50	12.7	1455	
521	158 Oak Creek #5	130	U1	11/10/1978	22:28	11/13/1978	12:09	61.68	1040	
521	158 Oak Creek #5	011	D1	11/15/1978			9:42	48.45	3440	
		151	D1	11/16/1978	9:15	11/17/1978		3.33	1455	
521	158 Oak Creek #5				3:05	11/16/1978	6:25			
521	158 Oak Creek #5	101	D1	11/19/1978	1:00	11/19/1978	14:00	13	340	
521	158 Oak Creek #5	236	D1	11/23/1978	13:15	11/24/1978	19:50	30.58	250	
521	158 Oak Creek #5	131	D1	11/28/1978	13:45	11/28/1978	16:30	2.75	360	
521	158 Oak Creek #5	221	D1	11/28/1978	16:30	11/29/1978	0:30	8	340	
521	158 Oak Creek #5	206	D1	11/30/1978	8:45	12/2/1978	3:00	66.25	3440	
521	158 Oak Creek #5		U1	12/2/1978	2:13	12/4/1978	3:03	48.83	1060	
521	158 Oak Creek #5		U1_	12/11/1978	0:24	12/13/1978	9:30	57.1	1060	
521	158 Oak Creek #5		U1	12/27/1978	1:38	12/30/1978	11:11	81.55	1060	

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521		Oak Creek #5	71	D1	12/31/1978	15:00	12/31/1978	24:00:00	9	920	
521	158	Oak Creek #5	101	D1	1/5/1979	17:15	1/6/1979	3:30	10.25	1999	
521	158	Oak Creek #5	70	D1	1/6/1979	3:30	1/7/1979	7:00	27.5	3999	
521		Oak Creek #5	65	D1	1/13/1979	11:30	1/15/1979	16:25	52.91	340	
521		Oak Creek #5	140	D1	1/15/1979	16:25	1/15/1979	21:13	4.8	3440	
521		Oak Creek #5	70	D1	1/17/1979	22:15	1/18/1979	10:30	12.25	340	
		Oak Creek #5	···	U1	1/18/1979	· · · · · · · · · · · · · · · · · ·	1/21/1979	8:06	66.38	1040	
521 521		Oak Creek #5		U1		13:43	1/29/1979	9:17	57.36		
					1/26/1979	23:55				1060	
521		Oak Creek #5	201	D1	2/1/1979	16:00	2/1/1979	21:30	5.5	340	```
521		Oak Creek #5		PO	2/8/1979	18:38	2/8/1979	19:27	0.81	1999	
521		Oak Creek #5		PO	2/9/1979	0:01	4/19/1979	5:04	1661.05	1999	
521		Oak Creek #5	221	D1	4/19/1979	18:15	4/20/1979	11:05	16.83	340	
521		Oak Creek #5		U1	4/22/1979	17:26	4/22/1979	19:59	2.55	4099	
521		Oak Creek #5	126	D1	4/23/1979	18:00	4/24/1979		13.75	340	
521	158	Oak Creek #5	116	D1	4/24/1979	10:50	4/25/1979	14:00	27.16	3999	
521	158	Oak Creek #5	70	D1	5/2/1979	3:45	5/2/1979	7:30	3.75	340	
521	158	Oak Creek #5	70	D1	5/7/1979	16:00	5/9/1979	4:00	36	3999	
521		Oak Creek #5		U1	5/11/1979	21:56	5/13/1979	23:28	49.53	1060	
521		Oak Creek #5	195	D1	5/18/1979	14:00	5/19/1979	10:00	20	3440	
521		Oak Creek #5	180	D1	5/24/1979	13:20	5/24/1979	14:35	1.25	1799	
521		Oak Creek #5	110	D1	5/25/1979	5:30	5/25/1979	8:00	2.5	3999	
521		Oak Creek #5	110	D1	5/25/1979	9:00	5/25/1979	9:10	0.16	3999	
521		Oak Creek #5	70	D1	5/25/1979	9:10	5/26/1979	2:15	17.08	3999	
521		Oak Creek #5	- 10	U1	5/27/1979	4:10	5/29/1979	12:43	56.55	1080	
521		Oak Creek #5	234	D1	6/13/1979	0:01	6/13/1979	18:22	18.35	8560	
521		Oak Creek #5	- 204	U1	6/13/1979	18:22	6/25/1979	23:39	293.28	8550	
521		Oak Creek #5		U1	6/30/1979	1:34	7/1/1979	23:11	45.61	1060	
		Oak Creek #5	156	D1	7/8/1979		7/1/1979	21:00	23.5	3440	
521			130			21:30					
521		Oak Creek #5	 -	U1	7/14/1979	1:35	7/16/1979	7:21	53.76	1060	
521		Oak Creek #5	131	D1	7/16/1979	9:30	7/17/1979	0:40	15.16	1455	
521		Oak Creek #5	170	D1	7/28/1979	19:00	7/29/1979	21:30	26.5	3440	
521		Oak Creek #5	170	D1	7/30/1979	13:45	7/31/1979	3:00	13.25	8560	L
521		Oak Creek #5		U1	8/11/1979	1:04	8/13/1979	4:31	51.45	1060	
521		Oak Creek #5		U1	8/15/1979	1:29	8/18/1979	15:03	85.56	1040	1
521		Oak Creek #5	121	D1	8/23/1979	0:30	8/24/1979	5:30	29	3440	
521	158	Oak Creek #5	138	D1	9/10/1979	7:00	9/13/1979	14:00	79	1486	
521	158	Oak Creek #5		U1	10/4/1979	1:17	10/4/1979	10:43	9.43	8580	
521		Oak Creek #5		U1	10/5/1979	7:32	10/6/1979	13:01	29.48	1080	
521		Oak Creek #5	154	D1	10/15/1979	3:45	10/17/1979	2:00	46.25	340	
521 521 521		Oak Creek #5		U1	10/17/1979	21:45	10/18/1979	9:17	11.53	4619	
521		Oak Creek #5	159	D1	10/25/1979	1:00	10/27/1979	19:00	66	3310	
521		Oak Creek #5		บา	10/27/1979	0:25	10/28/1979	18:37	42.2	1060	
521		Oak Creek #5		U1	11/3/1979	2:58	11/5/1979	3:52	48.9	1040	
521		Oak Creek #5	101	D1	11/5/1979	9:35	11/5/1979	17:45	8.16	340	l
521		Oak Creek #5		U1	11/14/1979	7:00	11/15/1979	6:25	23.41	1080	
521		Oak Creek #5		U1	11/23/1979	16:29	11/25/1979	5:55	37.43	1060	the same of the sa
521	1.00	Can Cieek #5		U	11/23/19/9	10.23	11/23/19/9	J.J5	07.43	1000	L

521	158 Oak Creek #5		U1	8/2/1980	15:25	8/3/1980	6:08	14.71	340	
521	158 Oak Creek #5	106	D1	8/3/1980	6:08	8/3/1980		13.76	3999	
521	158 Oak Creek #5		U1	8/3/1980	19:54	8/4/1980	2:17	6.38	340	
521	158 Oak Creek #5	 	U1	8/17/1980	0:30	8/18/1980	14:20	37.83	1080	
521	158 Oak Creek #5	 	U1	8/19/1980	5:13	8/20/1980	2:45	21.53	1080	
521	158 Oak Creek #5	· 	U1	8/20/1980	3:23	8/20/1980	3:39	0.26	1080	
	158 Oak Creek #5		МО							
521	158 Oak Creek #5			8/22/1980	16:19	9/3/1980	13:01	284.7	1080	
521		123	D1	9/4/1980	16:30	9/5/1980	1:00	8.5	340	
521	158 Oak Creek #5	75	D1	9/7/1980	20:30	9/7/1980	22:00	1.5	340	
521	158 Oak Creek #5	225	D1	9/10/1980	1:00	9/11/1980	4:00	27	1999	
521	158 Oak Creek #5	197	D1	9/11/1980	4:00	9/12/1980	8:20	28.33	1999	
521	158 Oak Creek #5		<u>U1</u>	9/13/1980	22:15	9/14/1980	6:39	8.39	3110	
521	158 Oak Creek #5	87	D1	9/21/1980	14:35	9/21/1980	21:15	6.66	340	
521	158 Oak Creek #5	227	D1	9/22/1980	3:00	9/22/1980	20:42	17.7	1080	
521	158 Oak Creek #5		U1	9/22/1980	20:42	9/23/1980	8:28	11.76	1080	
521	158 Oak Creek #5	107	D1	9/28/1980	13:50	9/29/1980	3:30	13.66	340	
521	158 Oak Creek #5	 	Ū1	10/3/1980	4:58	10/5/1980	21:17	64.31	1080	<u> </u>
521	158 Oak Creek #5	99	D1	10/6/1980	19:00	10/7/1980	3:40	8.66	340	l
521	158 Oak Creek #5	89	D1	10/9/1980	10:45	10/9/1980	15:30	4.75	340	
521	158 Oak Creek #5	119	D1	10/10/1980	0:01	10/13/1980	2:30	74.48	620	
521	158 Oak Creek #5	179	D1	10/15/1980	1:00	10/15/1980	9:40	8.66	340	
521	158 Oak Creek #5	119	D1	10/25/1980	7:00	10/25/1980	21:05	14.08	340	
521	158 Oak Creek #5	99	D1				20:38	10.63	620	
		99		10/27/1980	10:00	10/27/1980				
521	158 Oak Creek #5		U1	10/27/1980	20:38	10/31/1980	10:18	85.66	1080	<u> </u>
521	158 Oak Creek #5	99	D1	10/31/1980	10:18	11/3/1980	3:30	65.19	340	
521	158 Oak Creek #5		U1	11/5/1980	9:35	11/7/1980	6:11	44.6	1080	
521	158 Oak Creek #5	231	D1	11/10/1980	7.00	12/23/1980	23:51	1072.85	1040	
521	158 Oak Creek #5	.].	U1	11/10/1980	9.21	11/11/1980	11:12	25.85	1080	
521	158 Oak Creek #5	140	PD	11/16/1980	1:30	11/17/1980	2:30	25	340	
521	158 Oak Creek #5	131	D1	11/22/1980	0:01	11/22/1980	15:10	15.15	340	
521	158 Oak Creek #5	133	D1	12/11/1980	16:10	12/12/1980	8:45	16.58	340	
521	158 Oak Creek #5		МО	12/23/1980	23:51	12/31/1980	24:00:00	192.15	1486	
521	158 Oak Creek #5		МО	1/1/1981	0:01	1/5/1981	3:26	99.41	1486	
521	158 Oak Creek #5	 	U1	1/10/1981	20:40	1/12/1981	1:41	29.01	1080	
521	158 Oak Creek #5	181	D1	1/12/1981	1:41	1/12/1981	16:45	15.06	3440	
521	158 Oak Creek #5	231	D1	1/14/1981	7:00	1/17/1981	4:13	69.21	1080	
521	158 Oak Creek #5	201	U1	1/17/1981	4:13	1/18/1981	15:22	35.15	1080	
521	158 Oak Creek #5	231	D1	1/18/1981		1/27/1981	9:15	209.88	1080	
			D1		15:22				860	
521	158 Oak Creek #5	206		1/19/1981	5:30	1/19/1981	19:30	14		
521	158 Oak Creek #5	206	D1	1/26/1981	8:00	1/26/1981	22:00	14	1486	
521	158 Oak Creek #5	226	D1	1/27/1981	9:15	1/31/1981	0:32	87.28	1060	<u> </u>
521	158 Oak Creek #5		<u>U1</u>	1/31/1981	1:54	2/3/1981	14:17	84.38	1060	
521	158 Oak Creek #5	201	D1	2/4/1981	7:00	2/13/1981	2:00	211	1080	
521	158 Oak Creek #5	71	D1	2/7/1981	0:01	2/8/1981	14:25	38.4	340	
521	158 Oak Creek #5	231	D1	2/13/1981	2:01		24:00:00	21.98	1080	
521	158 Oak Creek #5	221	D1	2/13/1981	24:00:00	2/14/1981	6:15	6.25	3999	

EO4	150	Onle Crante #F	004	D.	0/14/1001	6.15	2/24/4004	24.00.00	1007.75	1000	I and the second
_ 521		Oak Creek #5	231	D1	2/14/1981	6:15	3/31/1981		1097.75	1080	<u></u>
521		Oak Creek #5		U1	2/21/1981	4:47	2/22/1981	3:14	22.45	1080	
521		Oak Creek #5	81	D1	2/23/1981	4:00	2/23/1981	9:00	5	1490	
521		Oak Creek #5	200	D1	2/23/1981	9:00	3/5/1981	10:00	241	1490	
521		Oak Creek #5	165	D1	2/27/1981	13:00	2/27/1981	15:15	2.25	3999	
521		Oak Creek #5	135	D1	2/27/1981	16:15	2/27/1981	20:30	4.25	1486	
521		Oak Creek #5	125	<u>D1</u>	3/5/1981	10:00	3/13/1981	23:59	205.98	1490	
521		Oak Creek #5	<u> </u>	<u>U1</u>	3/7/1981	22:17	3/8/1981	7:56	9.64	8560	
521		Oak Creek #5	125	D1	3/13/1981	23:59	3/14/1981	22:30	22.51	250	
521	158	Oak Creek #5	141	D1	3/16/1981	16:30	3/19/1981	0:01	55.51	340	
521	158	Oak Creek #5	161	D1	3/31/1981	11:25	3/31/1981	17:20	5.91	340	
521	158	Oak Creek #5		U1	4/3/1981	23:43	4/6/1981	5:03	53.33	8580	
521	158	Oak Creek #5		U1	4/6/1981	7:40	4/6/1981	11:06	3.43	4309	
521	158	Oak Creek #5		U1	4/14/1981	0:24	4/14/1981	1:26	1.03	4309	
521		Oak Creek #5		U1	4/28/1981	0:40	5/4/1981	3:57	147.28	1486	
521		Oak Creek #5	165	D1	5/7/1981	6:30	5/8/1981	23:53	41.38	1080	
521		Oak Creek #5		<u>U1</u>	5/8/1981	3:27	5/8/1981	3:39	0.2	4269	
521		Oak Creek #5		U1	5/8/1981	23:33	5/11/1981	8:00	56.45	8325	
521		Oak Creek #5		U1	5/11/1981	8:00	5/12/1981	8:55	24.91	1040	
521		Oak Creek #5	165	D1	5/12/1981	12:00	6/6/1981	0:09	588.15	1080	
521		Oak Creek #5	105	PO	6/6/1981	0:09	6/6/1981	12:10	12.01	1999	
521		Oak Creek #5		PO	6/6/1981	13:20	6/6/1981	17:36	4.26	4400	
			- 	PO	6/6/1981		7/13/1981	2.25	871.53	1999	
521		Oak Creek #5			∤	18:53					
521		Oak Creek #5		<u>U1</u>	7/13/1981	4:20	7/14/1981	13:07	32.78	4309	
521		Oak Creek #5		<u>U1</u>	7/14/1981	14:09	7/14/1981	14:14		4269	
521		Oak Creek #5		U1	7/24/1981	22:34	7/27/1981	11:21	60.78	1060	
521		Oak Creek #5		U1	7/27/1981	14:01	7/27/1981	14:09	0.13	4269	
521		Oak Creek #5		U1	7/31/1981	22:45	8/1/1981	1:57	3.2	1486	
521		Oak Creek #5		U1	8/1/1981	2:44	8/3/1981	8:54	54.16	1486	
521		Oak Creek #5		<u>U1</u>	8/3/1981	9:14	8/3/1981	12:22	3.13	1486	
521		Oak Creek #5		<u>U1</u>	8/13/1981	2:52	8/14/1981	3:03	24.18	1080	
521		Oak Creek #5	175	D1	8/14/1981	3:03	8/23/1981	1:56	214.88	1080	
521		Oak Creek #5		<u>U1</u>	8/23/1981	1:59	8/26/1981	1:34	71.58	8560	
521		Oak Creek #5	175	D1	8/26/1981	1:33	9/1/1981	0:23	142.83	1080	
521		Oak Creek #5		<u>U1</u>	9/1/1981	0:23	9/1/1981	4:49	4.43	4609	
521		Oak Creek #5	176	D1	9/1/1981	4:49	9/2/1981	4:21	23.53	1080	
521	158	Oak Creek #5		U1	9/2/1981	4:21	9/2/1981	18:52	14.51	3621	
521	158	Oak Creek #5		U1	9/2/1981	20:20	9/3/1981	5:45	9.41	4269	
521	158	Oak Creek #5		U1	9/6/1981	15:52	9/8/1981	8:50	40.96	1060	
521		Oak Creek #5	152	D1	9/18/1981	7:20	9/19/1981	3:00	19.66	340	
521	158	Oak Creek #5		U1	9/20/1981	15:53	9/22/1981	3:40	35.78	1080	
		Oak Creek #5		U1	9/29/1981	23:56	10/3/1981	12:04	84.13	1080	
521		Oak Creek #5	179	D1	10/3/1981	12:04	10/6/1981	4:00	63.93	1455	
521		Oak Creek #5	87	D1	10/3/1981	12:04	10/12/1981	3:00	206.93	1080	
521		Oak Creek #5	87	PD	10/11/1981	7:00	10/11/1981	20:10	13.16	1455	
521		Oak Creek #5	122	D1	10/12/1981	3:00	10/21/1981	20:37	233.61	1080	enter i complete de la complete de l
							 				
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L	521		Oak Creek #5			U1	10/21/1981	20:47	10/28/1981	13:28	160.68	1486	
1.	521		Oak Creek #5			U1	11/1/1981	15:08	11/3/1981	6:49	39.68	1080	
	521	158	Oak Creek #5			U1	11/10/1981	3:54	11/10/1981	5:59	2.08	4269	
	521	158	Oak Creek #5			U1	11/10/1981	6:33	i 1/10/1981	8:20	1.78	4269	
- "	521	158	Oak Creek #5	231		D1	11/21/1981	6:30	11/21/1981	13:00	6.5	3999	
-	521	158	Oak Creek #5	196		D1	11/23/1981	17:30	11/27/1981	13:30	92	1400	
- -	521		Oak Creek #5	170		D1	11/30/1981	22:00	12/4/1981	3:00	101	3440	
-	521		Oak Creek #5			D1	12/4/1981	3:00	12/7/1981	20:43	89.71	1080	
	521		Oak Creek #5			U1	12/7/1981	20:43	12/10/1981	16:05	67.36	1060	
-	521		Oak Creek #5	200	 	D1	12/10/1981	16:05	12/17/1981	5:30	157.41	1080	
	521		Oak Creek #5	90		D1	12/17/1981	5:30	12/19/1981	6:36	49.1	1060	
	521		Oak Creek #5		-	U1	12/19/1981	6:36	12/19/1981	21:48	15.2	1060	
- 1 -	521		Oak Creek #5	90	 -	D1	12/19/1981	21:48	12/29/1981	2:31	220.71	1080	
1-	521		Oak Creek #5		4	U1	12/29/1981	2:31	12/31/1981		69.48	1040	
-	521		Oak Creek #5			<u>U1</u>	1/1/1982			15:38	87.61		SUPERHEATER, REPAIR LEAK
-					<u> </u>		L	0:01	1/4/1982				
- 	521	158	Oak Creek #5		ļ	U1	1/4/1982	17:38	1/5/1982	14:35	20.95		ECONOMIZER NORTH, REPAIR LEAK
	}			1							1		ELECTRICAL PROBLEM IN TURBINE
-													TRIP CIRCUIT CAUSING GENERATOR
	521		Oak Creek #5			<u>U1</u>	1/18/1982	6:45	1/18/1982	13:06	6.35		TRIP
L.	521	158	Oak Creek #5			U1	1/18/1982	15:00	1/18/1982	18:49	3.81	4299	CONTROL OIL TROUBLE
				}				'					MILLS, H.P. H.S. WTR LINE RUPTURE
1				į.	i i				•		ŀ		FLOODED GREEN COAL SILO CAUSING
	521		Oak Creek #5	000*		D1	1/19/1982	13:25	1/20/1982	7:00	17.58		MILLS TO PLUG
L	521	158	Oak Creek #5			U1	1/21/1982	1:33	1/21/1982	4:10	2.61	4299	CONTROL OIL TROUBLE
				ł							l		OUT TO REPAIR REHEAT LEAK ELEV 81
- _	521	158	Oak Creek #5			U2	1/30/1982	22:23	2/1/1982	0:45	26.36	1060	NORTHEAST CORNER
ı	l						1				ĺ		LEAK AT SOUTH INLET HEADER TO
l	521	158	Oak Creek #5			U1	2/15/1982	2:39	2/20/1982	15:25	132.76	1080	ECONOMIZER-REPAIR LEAKS
													TURBINE, UNIT TRIP ON FAILURE TO
1				}				}			1		MAINTAIN SUFFICIENT CONTROL OIL
- {	521	158	Oak Creek #5	1.		U1	2/20/1982	19:10	2/20/1982	23:51	4.68	4299	PRESSURE
-													PULVERIZED COAL FEEDER, FEEDERS
ı	521	158	Oak Creek #5	000	70	D1	2/22/1982	4:00	2/22/1982	7:00	3	250	JAMMED UP
	521	158	Oak Creek #5			МО	2/25/1982	0:14	3/1/1982	10:10	105.93	266	WASH AIR HEATER
-	521		Oak Creek #5			U1	3/1/1982	10:35	3/1/1982	11:21	0.76		UNIT TRIP
-						-			<u> </u>				
- 1				İ				}					GREEN COAL SILO, WET COAL IN SILO
	521	158	Oak Creek #5	000*	45	D1	3/1/1982	15:00	3/4/1982	2:00	59	110	CAUSING PULVERIZER PROBLEMS
-	521		Oak Creek #5		180		3/4/1982	2:00	3/19/1982	23:50	381.83		WEAK ECONOMIZER TUBES
€ -	521		Oak Creek #5		100	MO	3/11/1982	23:19	3/14/1982	11:36	60.28		REHEAT TUBE NORTH LONG ELEV 54
된 -	- <u> </u>		Our Olcox #3		 	1410			0/14/130E				BOILER, HAD HIGH TEMPERATURES-
Ž							1				ł		UNIT ONLY ON LINE TWO DAYS-
Ç	501	150	Ook Crook #5	000*	160	D4	2/17/1090	2:00	2/19/1000	2:00	24	1010	NEEDED SLAGGING
WEPCO 40011	521	150	Oak Creek #5	000*	160	7 <u>1.</u>	3/17/1982	2:00	3/18/ <u>19</u> 82	2:00	24	1910	REPAIR ECONOMIZER LEAK REPAIR-
							1	ļ	İ	1]		
		450	0-1.0	-	İ		0/40/4000	00.50	0/00/4000	0.05		4000	LEAK ON INTERMED SUPTH HDR 3
	521	158	Oak Creek #5		<u>L</u>	U2	3/19/1982	23:50	3/22/1982	9:35	57.75	1080	CELL

S21 158 Oak Croek #5 000 180 D1 3281/1982 2:00 4/3/1982 3:35 1:91 4465 TURBINE OVERSPEEDS		521	158	Oak Creek #5	1		U1	3/22/1982	10:15	3/22/1982	12:00	1.75	4200	UNIT TRIP ON RELAY OIL PRESSUR
521 158 Oak Creek #5 000' 180 D1 3/26/1982 2:20 4/3/1982 3:20 198.33 1080 PRESSURE REDUCED	+-		130	Oak Cleek #3			91	0/22/1302		3/22/1302	12.00		4299	WEAK ECONOMIZED DOUGE
521 158 Oak Creek #5 MC 4/3/1982 1:40 4/3/1982 3:35 1.91 4460 TURBINE OVERSPEEDS		E01	150	Oak Crook #5	000*	190	D1	2/26/1082	2:00	4/2/1082	6.20	106 22	1000	
S21 158 Oak Creek #5 PO 4/3/1982 6:20 8/5/1982 7:17 2976.95 1800 OUTGE S1 PRIMARY AIR FAN, REPLACE 521 158 Oak Creek #5 U1 8/7/1982 2:90 8/9/1982 4:45 50.75 2:80 MOTOR BEARING S1 PRIMARY AIR FAN, REPLACE 2:80 MOTOR BEARING S20 MOT	-				000									
521 158 Dak Creek #5 PO 4/3/1982 6:20 8/5/1982 7:17 2976.95 1890 OUTAGE STPIMARY AIR FAN, REPLACE STAIL REPLACED PUMP. STRIMARY AIR FAN, REPLACE STAIL REPLACED PUMP. STAI		521	100	Oak Creek #5			NO	4/3/1902	1.40	4/3/1902	3.35	1.91		
S21 158 Cak Creek #5 000 130 D1 877/1982 2:00 8/9/1982 4:45 50.75 280 MOTOR BEARING		-04	450	0.50 1.65			D O	4/0/4000	0.00	0/5/4000	,	2070 05		
S21 158 Oak Creek #5 000' 130 D1 877/1982 2:00 8/9/1982 4:46 5:075 2:00 MOTOR BEARING		521	158	Oak Creek #5			PO	4/3/1982	6:20	8/5/1982	/:1/	2976.95	1800	
521 158 Oak Creek #5 U1 8/7/1982 23:44 8/9/1982 4:45 29:01 3550 CLEAR PRECIPITATOR GROUNDS												1		
S21 158 Oak Creek #5 000" 115 D1 8/16/1982 10.50 8/16/1982 13.30 2.66 3412 REPAIRED SUCTION PRESS SENSING RUPTURED REHEAT TUBE-REPLACED 158 Oak Creek #5 U1 8/17/1982 0.20 8/19/1982 3.42 51.36 540 SECTION OF TUBE 158 Oak Creek #5 000" 55 D1 8/19/1982 9.05 8/19/1982 9.30 0.41 310 OUT RESTORED CLEANED PUMP OUT 521 158 Oak Creek #5 000" 55 D1 8/23/1982 0.01 8/24/1982 8.15 32.23 1850 BOILER WATER, HIGH SILCA FLYASH SYSTEM, As B SYSTEM NOT OPERATING DUE TO DUMP GATE 521 158 Oak Creek #5 000" 100 D1 8/23/1982 5.30 8/23/1982 7.30 2 880 TO DUMP GATE RAILURES 54 PI FLATER, INTERNAL TUBE 521 158 Oak Creek #5 000" 175 D1 8/23/1982 8.15 8/30/1982 4.33 140.3 3440 LEAKAGE-REPAIR LEAKS 521 158 Oak Creek #5 000" 180 D1 8/30/1982 23.15 9/2/1982 0.01 48.76 1850 SILLOA BOILER, REPAIR REHEAT TUBE LEAK 521 158 Oak Creek #5 000" 180 D1 8/30/1982 23.15 9/2/1982 5.35 6.33 1060 EL 54 SOUTHEAST CORNER 158 Oak Creek #5 000" 150 D1 10/5/1982 15.49 10/6/1982 7.00 15.18 3440 PRESSURE REPAIR REHEAT TUBE LEAK 521 158 Oak Creek #5 000" 150 D1 10/5/1982 7.00 10/6/1982 7.00 15.18 3440 PRESSURE REDWATER HEATERS, INTERNAL TUBE 521 158 Oak Creek #5 000" 150 D1 10/5/1982 7.00 10/8/1982 5.50 46.83 3440 LEAKAGE ON 558, 568 & 56A HEATERS 521 158 Oak Creek #5 000" 150 D1 10/5/1982 15.49 10/6/1982 5.50 46.83 3440 LEAKAGE ON 558, 568 & 56A HEATERS 521 158 Oak Creek #5 000" 150 D1 10/5/1982 15.49 10/6/1982 5.50 46.83 3440 LEAKAGE ON 558, 568 & 56A HEATERS 521 158 Oak Creek #5 000" 150 D1 10/5/1982 15.49 10/6/1982 5.50 46.83 3440 LEAKAGE ON 558, 568 & 56A HEATERS 521 158 Oak Creek #5 000" 150 D1 10/6/1982 7.00 10/8/1982 5.50 46.83 3440 LEAKAGE ON 558, 568 & 56A HEATERS 521 158 Oak Creek #5 000" 154 D1 10/11/1982 15.03 10		4			000*									
S21 158 Oak Creek #5 000° 115 D1 8/18/1982 10:50 8/18/1982 13:30 2.66 3412 REPAIRED SUCTION PRESS SENSING RUPTURED REHEAT TUBE FREPLACED	1	521	158	Oak Creek #5			U1	8/7/1982	23:44	8/9/1982	4:45	29.01	8560	
S21 158 Oak Creek #5 U1 8/17/1982 0.20 8/19/1982 3.42 51.36 540 SECTION OF TUBE		l						1		.	j	l		
S21 158 Oak Creek #5 U1 8/17/1982 0.20 8/19/1982 3.42 51.36 540 SECTION OF TUBE	1	521	158	Oak Creek #5	000*	115	D1	8/16/1982	10:50	8/16/1982	13:30	2.66	3412	
521 158 Oak Creek #5 000* 55 D1 8/19/1982 9:05 8/19/1982 9:30 0.41 310 OUT RESTORED CLEANED PUMP OUT 521 158 Oak Creek #5 000* 200 D1 8/23/1982 0:01 8/24/1982 8:15 32:23 1850 BOILER WATER, HIGH SILICA FLYANGE OF SEA OUT 521 158 Oak Creek #5 000* 100 D1 8/23/1982 5:30 8/23/1982 7:30 2 880 FAILURES 621 158 Oak Creek #5 000* 100 D1 8/23/1982 5:30 8/23/1982 7:30 2 880 FAILURES 621 158 Oak Creek #5 000* 175 D1 8/24/1982 8:15 8/30/1982 4:33 140.3 3440 LEAKAGE-REPAIR LEAKS 621 158 Oak Creek #5 000* 180 D1 8/23/1982 23:15 9/2/1982 0:01 48.76 83 SILICA 80 OLER, REPAIR REHEAT TUBE LEAK 621 158 Oak Creek #5 000* 180 D1 8/39/1982 23:15 10/11/1982 5:35 6.33 1050 EL 54 SOUTHEAST CORNER 621 158 Oak Creek #5 000* 180 D1 9/30/1982 23:15 10/11/1982 5:55 6.33 1050 EL 54 SOUTHEAST CORNER 621 158 Oak Creek #5 000* 150 D1 10/5/1982 7:00 10/8/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATER FLEAK 621 158 Oak Creek #5 000* 150 D1 10/5/1982 7:00 10/8/1982 5:50 46.83 3440 LEAKAGE ON 58 HIGH 621 158 Oak Creek #5 000* 150 D1 10/5/1982 7:00 10/8/1982 5:50 46.83 3440 LEAKAGE ON 58 HIGH 621 158 Oak Creek #5 000* 150 D1 10/5/1982 7:00 10/8/1982 5:50 46.83 3440 LEAKAGE ON 58 HIGH 621 158 Oak Creek #5 000* 150 D1 10/11/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURE OAL FEEDER PROBLEMS 621 158 Oak Creek #5 000* 45 D1 10/11/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURE OAL FEEDER PROBLEMS 621 158 Oak Creek #5 000* 230 D1 10/24/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURE OAL FEEDER PROBLEMS 621 158 Oak Creek #5 000* 230 D1 10/24/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURE OAL FEEDER PROBLEMS 621 158 Oak Creek #5 000* 230 D1 10/24/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURE OAL FEEDER PROBLEMS 621 158 Oak Creek #5 000* 230 D1 10/24/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURE OAL FEEDER PROBLEMS 621 158 Oak Creek #5 000* 230 D1 10/24/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURE OAL FEEDER PROBLEMS 621 158 Oak Creek #5 000* 230 D1 10/24/1982 15:03 10/26/1982 5:30 12.33 1999 SHEARING SHEAR FINS 621 158 OAK Creek #5 000* 230 D1 10/24/1982								1		1		}		
S21 158 Oak Creek #5 000° 200 D1 8/23/1982 9:05 8/19/1982 9:30 0.41 310 OUT RESTORED CLEANED PUMP OUT	L	521	158	Oak Creek #5			U1	8/17/1982	0:20	8/19/1982	3:42	51.36	540	SECTION OF TUBE
S21 158 Oak Creek #5 000° 200 D1 8/23/1982 9:05 8/19/1982 9:30 0.41 310 OUT RESTORED CLEANED PUMP OUT									1					
521 158 Oak Creek #5 000 100 D1 8/23/1982 0.01 8/23/1982 7.30 2 880 FAILURES A & B SYSTEM NOT OPERATING DUE TO DUMP GATE FAILURES A & B SYSTEM NOT												1		53 MILL FUEL PUMP PLUGGED 521 FDR
FLYASH SYSTEM, A & B SYSTEM NOT OPERATING DUE TO DUMP GATE	ı	521	158	Oak Creek #5	000*	55	D1	8/19/1982	9:05	8/19/1982	9:30	0.41	310	OUT RESTORED CLEANED PUMP OUT
FLYASH SYSTEM, & B SYSTEM NOT OPERATING DUE TO DUMP GATE		521	158	Oak Creek #5	000*	200	D1	8/23/1982	0:01	8/24/1982	8:15	32.23	1850	BOILER WATER, HIGH SILICA
521 158 Oak Creek #5 000* 100 D1 8/23/1982 5:30 8/23/1982 7:30 2 880 FAILURES 521 158 Oak Creek #5 000* 100 D1 8/23/1982 5:30 8/23/1982 7:30 2 880 FAILURES 521 158 Oak Creek #5 000* 175 D1 8/24/1982 8:15 8/30/1982 4:33 140.3 3440 LEAKAGE-REPAIR LEAKS 521 158 Oak Creek #5 000* 180 D1 8/30/1982 23:15 9/2/1982 0:01 48.76 1850 SILICA 521 158 Oak Creek #5 000* 180 D1 8/30/1982 23:15 10/1/1982 5:35 6.33 1060 ELS REPAIR REHEAT TUBE LEAK 521 158 Oak Creek #5 000* 150 D1 10/6/1982 15:49 10/6/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATER 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 000* 154 D1 10/11/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER, REPAIR 521 158 Oak Creek #5 000* 154 D1 10/11/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:15 24.75 250 REPAIR NOT OPERATING DUE TO DUMP GATE 8														
521 158 Oak Creek #5 000° 100 D1 8/23/1982 5:30 8/23/1982 7:30 2 880 FAILURES	-									İ				
521 158 Oak Creek #5 000* 100 D1 8/23/1982 5:30 8/23/1982 7:30 2 880 TO DUMP GATE FAILURES 521 158 Oak Creek #5 000* 175 D1 8/24/1982 8:15 8/30/1982 4:33 140.3 3440 LEAKAGE-REPAIR LEAK 521 158 Oak Creek #5 000* 180 D1 8/30/1982 0:30 8/30/1982 4:33 76.05 1060 BOILER, REPAIR LEAK 521 158 Oak Creek #5 000* 180 D1 8/30/1982 23:15 9/2/1982 0:01 48.76 1850 BOILER WATER CHEMISTRY, HIGH 521 158 Oak Creek #5 000* 180 D1 9/30/1982 23:15 10/1/1982 5:35 6.33 1060 EL 54 SOUTHEAST CORNER 521 158 Oak Creek #5 000* 150 D1 10/5/1982 15:49 10/6/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATER 521 158 Oak Creek #5 000* 120 D1 10/6/1982 7:00 10/8/1982 5:50 46.83 3440 LEAKAGE ON 558, 568 & 56A HEATERS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 000* 154 D1 10/12/1982 15:03 10/18/1982 5:38 134.58 1140 HP HEATER, REPAIR 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:15 24.75 250 REPAIR SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:15 24.75 250 REPAIR SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:16 24.75 250 REPAIR SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:16 24.75 250 REPAIR SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:16 24.75 250 REPAIR SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:16 24.75 250 REPAIR SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:16 24.75 250 REPAIR SHEAR PINS 522 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:16 24.75 250 REPAIR SHEAR PINS 523 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:16 24.75 250 REPAIR SHEAR PINS 524 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:16 24.75 250 REPAIR SHEAR PINS		521	158	Oak Creek #5	000*	100	D1	8/23/1982	5:30	8/23/1982	7:30	2	880	
521 158 Oak Creek #5 000* 100 D1 8/23/1982 5:30 8/23/1982 7:30 2 880 TO DUMP GATE FAILURES 521 158 Oak Creek #5 000* 175 D1 8/24/1982 8:15 8/30/1982 4:33 140.3 3440 LEAKAGE-REPAIR LEAKS 521 158 Oak Creek #5 000* 180 D1 8/27/1982 0:30 8/30/1982 4:33 76.05 1060 B0ILER, REHEAT LEAK 521 158 Oak Creek #5 000* 180 D1 8/30/1982 23:15 9/2/1982 0:01 48.76 1850 SILICA 521 158 Oak Creek #5 000* 19/30/1982 23:15 10/1/1982 5:35 6.33 1060 EL 54 SOUTHEAST CORNER 521 158 Oak Creek #5 000* 150 D1 10/5/1982 15:49 10/6/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATER 521 158 Oak Creek #5 000* 120 D1 10/6/1982 7:00 10/8/1982 5:50 46.83 3440 LEAKAGE ON 55B, 568 & 56A HEATERS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 5:50	-													
521 158 Oak Creek #5 000* 175 D1 8/24/1982 8:15 8/30/1982 4:33 140,3 3440 LEAKAGE-REPAIR LEAKS 521 158 Oak Creek #5 000* 180 D1 8/30/1982 23:15 9/2/1982 0:01 48.76 1850 SILICA 521 158 Oak Creek #5 000* 180 D1 8/30/1982 23:15 9/2/1982 0:01 48.76 1850 SILICA 521 158 Oak Creek #5 000* 150 D1 10/5/1982 15:49 10/6/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATER 521 158 Oak Creek #5 000* 150 D1 10/5/1982 15:49 10/6/1982 5:35 6.33 3440 LEAKAGE ON 55B 56B & 56A HEATERS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000* 154 D1 10/11/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE 5B	1	521	158	Oak Creek #5	000*	100	D1	8/23/1982	5:30	8/23/1982	7:30	2		
521 158 Oak Creek #5 000° 175 D1 8/24/1982 8:15 8/30/1982 4:33 140.3 3440 LEAKAGE-REPAIR LEAKS 521 158 Oak Creek #5 U2 8/27/1982 0:30 8/30/1982 4:33 76.05 1060 BOILER, REHEAT LEAK 521 158 Oak Creek #5 000° 180 D1 8/30/1982 23:15 9/2/1982 0:01 48.76 1850 SILICA 521 158 Oak Creek #5 U1 9/30/1982 23:15 10/11/1982 5:35 6.33 1060 EL 54 SOUTHEAST CORNER 521 158 Oak Creek #5 000° 150 D1 10/5/1982 15:49 10/6/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATERS 521 158 Oak Creek #5 000° 120 D1 10/6/1982 7:00 10/8/1982 5:50 46.83 3440 LCAKAGE ON 558, 568 & 56A HEATERS 521 158 Oak Creek #5 000° 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 000° 150 D1 10/11/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000° 150 D1 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER 521 158 Oak Creek #5 000° 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000° 230 D1 10/24/1982 17:10 10/25/1982 5:35 124.75 250 REPAIR SHEAR PINS 521 158 Oak Creek #5 000° 230 D1 10/24/1982 17:10 10/25/1982 5:15 24.75 250 REPAIR GEPEER OUT TO 521 158 Oak Creek #5 000° 230 D1 10/24/1982 17:10 10/25/1982 5:15 24.75 250 REPAIR GEPEER OUT TO 521 158 Oak Creek #5 000° 230 D1 10/24/1982 17:10 10/25/1982 5:15 24.75 250 REPAIR GEPEER OUT TO	ļ				1									
521 158 Oak Creek #5	1	521	158	Oak Creek #5	000*	175	D1	8/24/1982	8:15	8/30/1982	4:33	140.3		
521 158 Oak Creek #5 000* 180 D1 8/30/1982 23:15 9/2/1982 0:01 48.76 1850 SLICA 521 158 Oak Creek #5 U1 9/30/1982 23:15 10/1/1982 5:35 6:33 1060 EL 54 SOUTHEAST CORNER 521 158 Oak Creek #5 000* 150 D1 10/5/1982 15:49 10/6/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATER 521 158 Oak Creek #5 000* 120 D1 10/6/1982 7:00 10/8/1982 5:50 46:83 3440 LAKAGE ON 55B, 56B & 56A HEATERS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000* 154 D1 10/19/1982 21:15 10/20/1982 18:40 21:41 3440 HP HEATER 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12:33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE 5B	-				1000			·						
521 158 Oak Creek #5 000* 180 D1 8/30/1982 23:15 9/2/1982 0:01 48.76 1850 SILICA 521 158 Oak Creek #5 U1 9/30/1982 23:15 10/1/1982 5:35 6.33 1060 EL 54 SOUTHEAST CORNER 521 158 Oak Creek #5 000* 150 D1 10/5/1982 15:49 10/6/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATER 521 158 Oak Creek #5 000* 120 D1 10/6/1982 7:00 10/8/1982 5:50 46.83 3440 L£AKAGE ON 55B, 56B & 56A HEATERS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 U1 10/12/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER, REPAIR 521 158 Oak Creek #5 000* 154 D1 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:35 12.33 1999 SHEARING SHEAT, LEAK IN 5A 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL 622 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL 623 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL 624 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL 625 1 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL 626 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL 627 1 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL	-	-321	130	Oak Oleek #3			02	0/2//1302	0.00	0/00/1302	7.00	70.00		
521 158 Oak Creek #5	-	521	159	Oak Crook #5	000*	180	D1	8/30/1082	23:15	0/2/1082	0.01	48.76		
521 158 Oak Creek #5	-	321	130	Oak Oleek #3	1000	100	<u> </u>	0/00/1902		3/2/1302	0.01	70.70		
521 158 Oak Creek #5 000° 150 D1 10/5/1982 15:49 10/6/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATER 521 158 Oak Creek #5 000° 120 D1 10/6/1982 7:00 10/8/1982 5:50 46.83 3440 L-AKAGE ON 55B, 56B & 56A HEATERS 521 158 Oak Creek #5 000° 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 U1 10/12/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER, REPAIR 521 158 Oak Creek #5 000° 154 D1 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER 521 158 Oak Creek #5 000° 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000° 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE ON 58 HIGH PRESSURE FEEDWATER HEATERS FEEDWATER HEATERS, INTERNAL CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A BY ULV. FUEL FDR #53, FREQUENTLY 53 PULVERIZED FEEDER OUT TO 53 PULVERIZED FEEDER OUT TO FEEDWATER HEATERS FEEDWATER HEATERS 10/6/1982 5:50 46.83 3440 L-AKAGE ON 55B, 56B & 56A HEATERS CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A BY ULV. FUEL FDR #53, FREQUENTLY 53 PULVERIZED FEEDER OUT TO FEEDWATER HEATERS FEEDWATER HEA		501	150	Oak Crook #E			114	0/20/1092	22:15	10/1/1092	E-25	6 22		
521 158 Oak Creek #5 000* 150 D1 10/5/1982 15:49 10/6/1982 7:00 15.18 3440 PRESSURE FEEDWATER HEATER 521 158 Oak Creek #5 000* 120 D1 10/6/1982 7:00 10/8/1982 5:50 46.83 3440 LEAKAGE ON 55B, 56B & 56A HEATERS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 01 10/11/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000* 154 D1 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SPEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE 5B		52	150	Oak Creek #5			01	9/30/1962	23.13	10/1/1902	5.55	0.33		
521 158 Oak Creek #5 000* 120 D1 10/6/1982 7:00 10/8/1982 5:50 46.83 3440 LEAKAGE ON 55B, 56B & 56A HEATERS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 U1 10/12/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000* 154 D1 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE 5B	-	E01	150	Oak Crack #5	000*	150	D1	10/5/1000	15:40	10/6/1092	7:00	15 10		
521 158 Oak Creek #5 000* 120 D1 10/6/1982 7:00 10/8/1982 5:50 46.83 3440 LEAKAGE ON 55B, 56B & 56A HEATERS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS CONV SUPERHEATER, REPAIR CONV SUPERHEATER, REPAIR BY A SET HIGH PRESS HEAT, LEAK IN 5A A SET HIGH PRESS HEAT, LEAK IN 5A CONV SUPERHEATER TUBE A SET HIGH PRESS HEAT, LEAK IN 5A BY A SET HIGH PRESS HEAT, LEAK IN 5A CONV SUPERHEATER TUBE A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER PULV. FUEL FDR #53, FREQUENTLY CONV SUPERHEATER TUBE A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS CONV SUPERHEATER, REPAIR CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 18:40 21.41 3440 HP HEATER PULV. FUEL FDR #53, FREQUENTLY DOI: 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS CONV SUPERHEATER CONV SUPERHEATER CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A BY A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS CONV SUPERHEATER CONV SUP	-	521	100	Oak Creek #5	000	130	<u> </u>	10/3/1902	15.49	10/0/1902	7.00	15.16	3440	FRESSURE FEEDWATER HEATER
521 158 Oak Creek #5 000* 120 D1 10/6/1982 7:00 10/8/1982 5:50 46.83 3440 LEAKAGE ON 55B, 56B & 56A HEATERS 521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS CONV SUPERHEATER, REPAIR CONV SUPERHEATER, REPAIR BY A SET HIGH PRESS HEAT, LEAK IN 5A A SET HIGH PRESS HEAT, LEAK IN 5A CONV SUPERHEATER TUBE A SET HIGH PRESS HEAT, LEAK IN 5A BY A SET HIGH PRESS HEAT, LEAK IN 5A CONV SUPERHEATER TUBE A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER PULV. FUEL FDR #53, FREQUENTLY CONV SUPERHEATER TUBE A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS CONV SUPERHEATER, REPAIR CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 18:40 21.41 3440 HP HEATER PULV. FUEL FDR #53, FREQUENTLY DOI: 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS CONV SUPERHEATER CONV SUPERHEATER CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A BY A SET HIGH PRESS HEAT, LEAK IN 5A DOI: 10/19/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS CONV SUPERHEATER CONV SUP									1		1	ļ		EEEDWATER UEATERS INTERNAL
521 158 Oak Creek #5 000* 45 D1 10/11/1982 16:00 10/12/1982 6:00 14 250 55 PULVER COAL FEEDER PROBLEMS 521 158 Oak Creek #5 U1 10/12/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000* 154 D1 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/24/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE 5B		504	450	Oals Creek #5	000*	100	D1	10/6/1090	7,00	10/0/1000	E.EO	46 90	0440	ALACE ON SER SON SON HEATERS
521 158 Oak Creek #5 U1 10/12/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000* 154 D1 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A PULV. FUEL FDR #53, FREQUENTLY 53 PULVERIZED FEEDER OUT TO 53 PULVERIZED FEEDER OUT TO FEEDER OUT TO 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE 5B	-	521	156	Oak Cleek #5	000	120	<u> </u>	10/6/1962	7.00	10/6/1902	5.50	40.03	3440	LEARAGE ON 55B, 56B & 56A HEATERS
521 158 Oak Creek #5 U1 10/12/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE 521 158 Oak Creek #5 000* 154 D1 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR CONV SUPERHEATER, REPAIR A SET HIGH PRESS HEAT, LEAK IN 5A PULV. FUEL FDR #53, FREQUENTLY 53 PULVERIZED FEEDER OUT TO 53 PULVERIZED FEEDER OUT TO FEEDER OUT TO 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE 5B	1	504	450	O-1: O!: #F	000*	AE	D1	10/11/1000	16,00	10/10/1000	6.00	امه	050	FE DUILVED COAL FEEDED DOOD THE
521 158 Oak Creek #5 U1 10/12/1982 15:03 10/18/1982 5:38 134.58 1140 RUPTURED SUPERHEATER TUBE A SET HIGH PRESS HEAT, LEAK IN 5A A SET HIGH PRESS HEAT, LEAK IN 5A B SET HIGH PRESS HEAT, LEAK IN 5A B SET HIGH PRESS HEAT, LEAK IN 5A C SET HIGH PRESS HEAT, LE	-	521	158	Oak Creek #5	1000	45	<u> </u>	10/11/1962	16.00	10/12/1962	6:00	14		
A SET HIGH PRESS HEAT, LEAK IN 5A 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER PULV. FUEL FDR #53, FREQUENTLY 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE 5B				0.00.1.45				10/10/1000	45.00	10404000	5.00	404.50		
521 158 Oak Creek #5 000* 154 D1 10/19/1982 21:15 10/20/1982 18:40 21.41 3440 HP HEATER PULV. FUEL FDR #53, FREQUENTLY 521 158 Oak Creek #5 000* 230 D1 10/24/1982 17:10 10/25/1982 5:30 12.33 1999 SHEARING SHEAR PINS 521 158 Oak Creek #5 000* 230 D1 10/28/1982 4:30 10/29/1982 5:15 24.75 250 REPLACE SEAL REPAIR INTERNAL LEAKAGE 5B	-	521	158	Oak Creek #5		 -	UI	10/12/1982	15:03	10/18/1982	5:38	134.58		
REPAIR INTERNAL LEAKAGE 5B	≰						1							
REPAIR INTERNAL LEAKAGE 5B	<u> </u>	521	158	Oak Creek #5	000	154	D1	10/19/1982	21:15	10/20/1982	18:40	21.41		
REPAIR INTERNAL LEAKAGE 5B	ဂိ					1								
REPAIR INTERNAL LEAKAGE 5B	0	521	158	Oak Creek #5	000*	230	D1	10/24/1982	17:10	10/25/1982	5:30	12.33		
REPAIR INTERNAL LEAKAGE 5B	2				. }						ł	1		
REPAIR INTERNAL LEAKAGE 5B	22	521	158	Oak Creek #5	000*	230	D1	10/28/1982	4:30	10/29/1982	<u>5:15</u>	24.75		
521 158 Oak Creek #5 000° 140 D1 11/1/1982 4:50 11/2/1982 4:15 23.41 3440 FEEDWATER HEATER						l					1	İ		
		521	158	Oak Creek #5	000	140	D1	11/1/1982	4:50	11/2/1982	4:15	23.41	3440	FEEDWATER HEATER

Г							1						#84 PULVERIZER, REPLACE BROKEN
-	- (
1	504	450	0 - 1. C 1. #5	0001	475	-							PYRITE SCRAPPERS AND ADJUST #1
-	521		Oak Creek #5	000*	175		11/1/1982	14:30	11/2/1982	4:00	13.5		ROLLER JOURNAL
	521	158	Oak Creek #5	000*	151	וטו	11/4/1982	19:00	11/6/1982	3:30	32.5	3440	TUBE LEAK 5B HP HEATER
	1			1 :							J		PULVERIZED FUEL FEEDER, DRIVEN
						}			ı				GEAR HUB KEY BACKED OUT-
- [521	158	Oak Creek #5	000*	200	D1	11/7/1982	16:05	11/7/1982	19:42	3.61		REINSTALLED KEY
											İ	,	FEEDWATER, THERMOCOUPLE WELL
				1 :							Í		LEAKAGE ON SOUTH ECON INLET
_	521	158	Oak Creek #5	000*	200	D1	11/10/1982	11:30	11/11/1982	0:55	13.41	3420	PIPING REDUCED PRESS
													REPAIR THERMOCOUPLING WELL IN
	521	158	Oak Creek #5			U2	11/11/1982	0:55	11/12/1982	7:05	30.16	1080	SOUTH ECON INLET HEADER
1)					Í					Ì		5B FEEDWATER HEATER FEEDWATER
	ł												SIDE RELIEF VALVE FAILED REPAIR OR
_	521	158	Oak Creek #5	000*	150	D1	11/20/1982	9:00	11/20/1982	23:45	14.75		REPL
	Į												BOILER, FLAME IMPINGEMENT ON
1.	521		Oak Creek #5	000*	165		11/22/1982	12:00	11/25/1982	0:30	60.5		SCREEN TUBES
-	521	158	Oak Creek #5			U2	11/25/1982	0:30	12/2/1982	11:25	202.91	1060	BOILER, REPAIR REHEAT LEAKS
												·	PULV. COAL FEEDERS, ADJUST
	521	158	Oak Creek #5	000*	210	D1	12/7/1982	12:30	12/7/1982	13:55	1.41		FEEDER CLEARANCE.
	521	158	Oak Creek #5	000*	170	D1	12/9/1982	15:00	12/10/1982	1:00	10	1850	BOILER WATER, HIGH SILISCA
													PULV FUEL FEEDER, FDR TRIPS WHEN
L.	521	158	Oak Creek #5	000*	210	D1	12/26/1982	16:30	12/27/1982	6:30	14		LOADED WITH COAL
	1												FEED WATER LEAK 6A HIGH
L	521		Oak Creek #5	000*	170		12/29/1982	5:45	12/30/1982	0:08	18.38		PRESSURE HEATER
L.	521		Oak Creek #5			U1	12/30/1982	0:08	12/31/1982		47.86		SUPERHEAT LEAK.
L	521	158	Oak Creek #5			U2	1/1/1983	0:01	1/3/1983	6:00	53.98		REPAIR REHEAT LEAKS
	521	158	Oak Creek #5			U2	1/3/1983	6:01	1/5/1983	2:47	44.76	1040	REPAIR SUPERHEAT LEAK
													BOILER SUPERHEAT TEMPERATURE
1_	521	158	Oak Creek #5	000*	225	D1	1/6/1983	1:00	1/12/1983	1:00	144		PROBLEMS
	521	158	Oak Creek #5			U2	1/13/1983	21:00	1/16/1983	7:30	58.5	1060	REPAIR REHEAT LEAKS
Γ													PULVERIZED COAL FEEDER
	521	158	Oak Creek #5	000*	225	D1	1/20/1983	1:00	1/21/1983	22:50	45.83		PROBLEMS
- ["	521	158	Oak Creek #5			U1	1/21/1983	22:50	1/22/1983	7:46	8.93	1440	REPAIR #3 PRIMARY AIR DAMPER
	521	158	Oak Creek #5	000*	150	D1	1/22/1983	7:46	1/23/1983	0:15	16.48	3440	5B HP HEATER TUBE REPAIR
-													REPLACE #57 PULVERIZER FUEL
	521	158	Oak Creek #5	000*	225	D1	1/23/1983	0:15	1/26/1983	19:00	90.75	250	FEEDER WITH REBUILT ASSEMBLY
													LOW PRECIPITATOR VOLTAGE
٤	521	158	Oak Creek #5	000*	220	D1	1/28/1983	14:20	1/29/1983	5:30	15.16	8550	CAUSING STACK OPACITY
WEACO													INSPECT 51 PRIMARY AIR FAN
Ž	521	158	Oak Creek #5	000*	205	D4	1/29/1983	19:00	1/30/1983	3:00	8	260	INBOARD MOTOR BEARING
ر 4	521		Oak Creek #5			U1	2/3/1983	23:39	2/6/1983		66.35		REPAIR REHEAT LEAKS
40013	- = :-						†						REPAIR HIGH SPEED GENERATOR
7	521	158	Oak Creek #5	[[U2	2/6/1983	18:01	2/9/1983	23:37	77.6	4613	INBOARD HYDROGEN SEAL
													<u></u>

Γ	Π	T			γ							INTERCEPTING VALVES CLOSED
						+	ĺ					CAUSING TURBINE TO ROLL BACK AND
521	150	Oak Creek #5			U1	2/10/1983	15:30	2/10/1983	16:13	0.74	4000	TRIP
				400	1 -					0.71		
521	·	Oak Creek #5	000*	100		2/10/1983	21:00	2/11/1983	2:40	5.66		HIGH SILICA
521		Oak Creek #5	000*	180	 	2/11/1983	2:40	2/14/1983	19:21	88.68		HIGH SILICA IN BOILER WATER
521	158	Oak Creek #5		L	U1	2/14/1983	19:22	2/15/1983	5:59	10.61	3110	REPAIR CONDENSER LEAKS
521	+	Oak Creek #5	000*	150		2/15/1983	17:16	2/16/1983	22:15	28.98		55A FEEDWATER HEATER TUBE LEAKS
521	158	Oak Creek #5			U1	2/16/1983	22:15	2/20/1983	8:16	82.01	1040	REPAIR SUPERHEAT LEAK
		,				1						UNIT TRIP-TESTING LOW SPEED
521	158	Oak Creek #5			U1	2/16/1983	9:32	2/16/1983	9:50	0.3	4302	GOVERNOR TRAP VALVE
					l							CORRECT TURBINE CONTROL OIL
521	158	Oak Creek #5			U1	2/20/1983	8:16	2/21/1983	8:17	24.01	4283	PROBLEM
												HIGH VIBRATION INTERMEDIATE
521	158	Oak Creek #5			U1	2/21/1983	8:20	2/21/1983	11:44	3.4		PRESSURE TURBINE
									}	1	•	HIGH VIBRATION INTERMEDIATE
521		Oak Creek #5			U1	2/21/1983	11:55	2/21/1983	13:25	1.5		PRESSURE TURBINE
521	158	Oak Creek #5	000*	225	D1	2/23/1983	1:30	2/26/1983	14:30	85	1850	HIGH SILICA IN BOILER WATER
												55 PULVERIZED COAL FEEDER
521	158	Oak Creek #5	000*	200	D1	2/27/1983	18:30	2/28/1983	2:15	7.75	250	PROBLEM
												BOILER TUBE LEAK IN CONVECTION
521	158	Oak Creek #5			U1	2/28/1983	20:15	3/7/1983	7:00	154.75	1020	SECTION
		<u> </u>										INTERMEDIATE SUPERHEAT TUBE
521	158	Oak Creek #5			U1	3/7/1983	7:01	3/8/1983	11:34	28.55		LEAK AT HEADER NORTH END
521	+·	Oak Creek #5	000*	150		3/9/1983	12:15	3/10/1983	12:25	24.16		5A HEATER INTERNAL LEAK
521	L	Oak Creek #5	000*	150		3/11/1983	22:15	3/12/1983	9:30	11.25		INTERNAL LEAKAGE 6A FDWTR HTR
521		Oak Creek #5	000*	150		3/19/1983	20:00	3/21/1983	22:30	50.5		REPAIR TUBE LEAKS 5A HP HTR
521		Oak Creek #5	000*	160		3/24/1983	17:30	3/24/1983	22:00	4.5		#56 PULVERIZED FUEL FEEDER TRIP
		Jan Green III			-	0.2 11 1000		0.2 1000				
521	158	Oak Creek #5	000*	215	D1	3/28/1983	6:15	3/28/1983	20:15	14	250	PULVERIZED COAL FEEDER TROUBLES
J 32!	130	Oak Oleek #3	- 000	210	<u> </u>	3/20/1303		3/20/1303	20.13			TOEVERIZED GOALT ELBERT THOOBEED
521	159	Oak Creek #5	000*	220	D1	4/2/1983	5:55	4/2/1983	21:55	16	250	REPAIR 54 PULVERIZED COAL FEEDER
	130	Oak Oleek #3	1000	220	<u> -</u>	4/2/1300	3.33	4/2/1903		10		55 PULV FUEL FDR TRIPPING-CAUSE
521	158	Oak Creek #5	000*	225	D1	4/7/1983	14:00	4/9/1983	4:30	38.5		UNKNOWN
521		Oak Creek #5	000.	150		4/10/1983	1:30	4/11/1983	1:30	24		REPAIR 7A HTR HEAD LEAK
521		Oak Creek #5	000*	225		4/15/1983	11:30	4/18/1983	7:00	67.5		SLAG IN SCREEN TUBES-ELEV 19
- 521	130	Oak Cieek #5	000	223	U 1	4/15/1903	11.30	4/10/1963	7.00	67.5		LACK OF TOTAL AIR FLOW
· E04	150	Oak Creek #5	000*	225	D1	4/18/1983	7:00	4/20/1983	1:50	42.83		LIMITINGLOAD AS SLAG DEVELOPS
521 521		Oak Creek #5	000	150	·	4/10/1983	1:50	4/20/1983	18:20	40.5		INTERNAL LEAKAGE 7B HEATER
	158	Oak Cieek #5	000	150	<u> </u>	4/20/1965	1.50	4/21/1903	10.20	40.5		REDUCED TOTAL AIR FLOW CAUSING
521	450	Oak Creek #5	000*	225	D ₁	4/21/1002	18:20	4/22/1983	3:40	9.33		SLAG TO DEVELOP
5 521	120	Oak Cleek #5	000	223	UI	4/21/1983	16.20	4/22/1963	3.40	9.55	1200	
5		0.1.01.05	2001	440		1/00/1655	0.40	4/00/4000	40.45	00.50	0440	INTERNAL LEAKAGE 5A FEEDWATER
521		Oak Creek #5	000*	140		4/22/1983	3:40	4/23/1983	18:15	38.58		HEATER
521	158	Oak Creek #5	000*	200	וטו	4/23/1983	18:30	4/29/1983	23:38	149.13	1060	REHEAT LEAKS
,			1 1									
521	158	Oak Creek #5			U1	4/29/1983	23:38	5/2/1983	6:11	54.55	1060	REPAIR REHEATER LEAKS 1 & 4 CELLS

S21 158 Cak Creek #5 D00 225 D1 SJ4/1983 1-45 SF/1983 2-30 48.75 1-450 COMBUSTION AIR				1			"						AIR SUPPLY PROBLEMS ON BOILER
S21 158 Oak Creek #5 PO 5/13/1983 19:49 6/12/1983 16:49 719 1800 ANNUAL OUTAGE HIGH SPEED GENERATOR OUTBOARD HIGH SPEED GENERATOR OUTBOARD HIGH SPEED GENERATOR OUTBOARD HIGH SPEED GENERATOR OUTBOARD HIGH SPEED GENERATOR OUTBOARD HIGH SPEED GENERATOR OUTBOARD HIGH SPEED GENERATOR OUTBOARD HIGH SUPPRICES HIGH SUPPRICES 1580 Oak Creek #5 000° 200 D1 6/14/1983 13:00 6/14/1983 13:00 11.5 4610 OUT OF HIGH SUPPRICES HIGH SUPPRICE	E24	150	Ook Crook #E	000*	225	D1	E/4/4000	4.45	5/6/1000	0.20	40.75	1.450	
158 Oak Creek #5 000 175 D1 6/14/1983 13:00 6/15/1983 15:00 26 46:13 OUT OF HYDROGEN SAL LEAKING, PLANT IS PLANT IS PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF HYDROGEN SAL LEAKING, PLANT IS OUT OF LEAK OF SLAG BUILD UP ON THIS OUT OF SLAG BUILD UP ON THE PLANT IS OUT OF SLAG BUILD UP ON TO LACK OF SLAG BUILD UP ON TO LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF REPAIRS LOVE AND SAL THE PLANT IS OUT OF LACK OF SLAG BUILD UP ON SAL THE PLANT IS OUT OF REPAIRS LOVE AND SAL THE PLANT IS OUT OF REPAIRS LOVE AND SAL THE PLANT IS OUT OF THE				1000	225								
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521 158 Oak Creek #5 000° 215 D1 7/2/1983 1:30 7/2/1983 20:30 58.75 1450 - LACK OF AIR 521 158 Oak Creek #5 000° 60 D1 7/4/1983 20:30 7/6/1983 18:30 46 310 REPAIRLEAK IN 51B DRAIN LINE 521 158 Oak Creek #5 000° 60 D1 7/4/1983 20:30 7/6/1983 18:30 46 310 REPAIRS 521 158 Oak Creek #5 000° 215 D1 7/7/1983 15:00 7/8/1983 2:00 11 1450 PROBLEMS-LOW AIR FLOWS 521 158 Oak Creek #5 000° 235 D1 7/8/1983 2:00 7/12/1983 1:00 95 1450 PROBLEMS-LOW AIR FLOW 521 158 Oak Creek #5 000° 235 D1 7/8/1983 19:13 7/20/1983 18:59 23.76 1060 OF BOILER 521 158 Oak Creek #5 000° 165 D1 7/19/1983 6:34 7/19/1983 19:11 12:61 1060 OF BOILER 521 158 Oak Creek #5 000° 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000° 156 D1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000° 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS 521 158 Oak Creek #5 000° 200 D2 7/22/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS						1	ļ						
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521 158 Oak Creek #5 000° 215 D1 7/2/1983 9:45 7/4/1983 20:30 58.75 1450 - LACK OF AIR 521 158 Oak Creek #5 000° 60 D1 7/4/1983 20:30 7/6/1983 18:30 46 310 REPAIRS 521 158 Oak Creek #5 000° 215 D1 7/7/1983 15:00 7/8/1983 2:00 11 1450 PROBLEMS-LOW AIR FLOWS 521 158 Oak Creek #5 000° 235 D1 7/8/1983 2:00 7/12/1983 1:00 95 1450 PROBLEMS-LOW AIR FLOWS 521 158 Oak Creek #5 000° 235 D1 7/8/1983 19:13 7/20/1983 18:59 23.76 1060 OF BOILER 521 158 Oak Creek #5 000° 165 D1 7/19/1983 6:34 7/19/1983 19:11 12:61 10:60 OF BOILER 521 158 Oak Creek #5 000° 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000° 156 D1 7/23/1983 16:58 7/25/1983 9:55 40.95 10:60 SILICA IN BOILER WATER 521 158 Oak Creek #5 000° 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS 522 158 Oak Creek #5 000° 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS	521	158	Oak Creek #5	000*	175	D3	7/2/1983	1:30	7/2/1983	10:45	9.25	3509	
521 158 Oak Creek #5 000* 60 D1 7/4/1983 20:30 7/6/1983 18:30 46 310 REPAIRS 521 158 Oak Creek #5 000* 215 D1 7/7/1983 15:00 7/8/1983 2:00 11 1450 PROBLEMS-LOW AIR FLOWS 521 158 Oak Creek #5 000* 235 D1 7/8/1983 2:00 7/12/1983 1:00 95 1450 PROBLEMS-LOW AIR FLOW 521 158 Oak Creek #5 000* 235 D1 7/8/1983 19:13 7/20/1983 18:59 23.76 1060 OF BOILER 521 158 Oak Creek #5 000* 165 D1 7/19/1983 6:34 7/19/1983 19:11 12.61 1060 OF BOILER 521 158 Oak Creek #5 000* 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000* 156 D1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000* 156 D1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000* 156 D1 7/23/1983 16:58 7/25/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000* 156 D1 7/27/1983 8:45 7/27/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS				1 1			1				[
521 158 Oak Creek #5 000* 60 D1 7/4/1983 20:30 7/6/1983 18:30 46 310 REPAIRS SUPERHEAT TEMP CONTROL SUPERHEAT TEMP CONTROL SUPERHEAT TEMP CONTROL SUPERHEAT TEMP CONTROL SUPERHEAT TEMP CONTROL SUPERHEAT TEMP CONTROL SUPERHEAT TEMP CONTROL PROBLEMS - LOW AIR FLOW REHEAT LEAK ON EL 86 SOUTH SIDE 158 Oak Creek #5 000* 165 D1 7/19/1983 19:13 7/20/1983 19:11 12:61 1060 OF BOILER REHEAT LEAK ON EL 86 SOUTH SIDE 158 Oak Creek #5 000* 200 D2 7/22/1983 1:30 7/23/1983 16:58 39:46 1850 HIGH SILICA IN BOILER WATER BROKEN REHEAT TUBE IN #1 CELL EL 521 158 Oak Creek #5 000* 156 D1 7/19/1983 8:45 7/27/1983 10:40 1:91 1850 HIGH SILICA IN BOILER WATER SUPERHEAT TEMP CONTROL 11 1450 PROBLEMS SUPERHEAT TEMP CONTROL 12 1450 PROBLEMS SUPERHEAT TEMP CONTROL 13 1450 PROBLEMS SUPERHEAT TEMP CONTROL 14 150 PROBLEMS SUPERHEAT TEMP CONTROL 15 158 Oak Creek #5 000* 165 D1 7/19/1983 19:11 12:61 1060 OF BOILER BROKEN REHEAT TUBE IN #1 CELL EL 15 21 158 Oak Creek #5 000* 156 D1 7/23/1983 8:45 7/25/1983 9:55 40.95 1060 54 SUPERHEAT TEMP CONTROL 15 21 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS	521	158	Oak Creek #5	000*	215	D1	7/2/1983	9:45	7/4/1983	20:30	58.75	1450	
521 158 Oak Creek #5 000° 215 D1 7/7/1983 15:00 7/8/1983 2:00 11 1450 PROBLEMS-LOW AIR FLOWS 521 158 Oak Creek #5 000° 235 D1 7/8/1983 2:00 7/12/1983 1:00 95 1450 PROBLEMS-LOW AIR FLOW 521 158 Oak Creek #5 ' U3 7/19/1983 19:13 7/20/1983 18:59 23.76 1060 OF BOILER 521 158 Oak Creek #5 000° 165 D1 7/19/1983 6:34 7/19/1983 19:11 12.61 1060 OF BOILER 521 158 Oak Creek #5 000° 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 ' U1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000° 156 D1 7/27/1983 8:45 7/27/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000° 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS								!	[İ		51 AND 52 MILL SYSTEMS OUT FOR
521 158 Oak Creek #5 000° 215 D1 7/7/1983 15:00 7/8/1983 2:00 11 1450 PROBLEMS-LOW AIR FLOWS SUPERHEAT TEMP CONTROL SUPERHEAT LEAK ON EL 86 SOUTH SIDE REHEAT LEAK ON EL 86 SOUTH SIDE S21 158 Oak Creek #5 000° 165 D1 7/19/1983 1:30 7/20/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER S21 158 Oak Creek #5 000° 156 D1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 S22 158 Oak Creek #5 000° 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS-LOW AIR FLOWS SUPERHEAT TEMP CONTROL SUPERHEAT LEAK ON EL 86 SOUTH SIDE RE	521	158	Oak Creek #5	000*	60	D1	7/4/1983	20:30	7/6/1983	18:30	46	310	
521 158 Oak Creek #5 000° 235 D1 7/8/1983 2:00 7/12/1983 1:00 95 1450 PROBLEMS - LOW AIR FLOW REHEAT LEAK ON EL 86 SOUTH SIDE 521 158 Oak Creek #5 000° 165 D1 7/19/1983 6:34 7/19/1983 19:11 12.61 1060 OF BOILER 521 158 Oak Creek #5 000° 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000° 200 D2 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000° 156 D1 7/27/1983 8:45 7/27/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000° 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS								,					SUPERHEAT TEMP CONTROL
521 158 Oak Creek #5 000° 235 D1 7/8/1983 2:00 7/12/1983 1:00 95 1450 PROBLEMS - LOW AIR FLOW FREHEAT LEAK ON EL 86 SOUTH SIDE 158 Oak Creek #5 000° 165 D1 7/19/1983 6:34 7/19/1983 19:11 12.61 1060 OF BOILER FREHEAT LEAK ON EL 86 SOUTH SIDE REHEAT LEAK ON EL 8	521	158	Oak Creek #5	000*	215	D1	7/7/1983	15:00	7/8/1983	2:00	11	1450	PROBLEMS-LOW AIR FLOWS
521 158 Oak Creek #5 * U3 7/19/1983 19:13 7/20/1983 18:59 23.76 1060 OF BOILER 521 158 Oak Creek #5 000* 165 D1 7/19/1983 6:34 7/19/1983 19:11 12.61 1060 OF BOILER 521 158 Oak Creek #5 000* 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 * U1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000* 156 D1 7/27/1983 8:45 7/27/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS													SUPERHEAT TEMP CONTROL
521 158 Oak Creek #5 * U3 7/19/1983 19:13 7/20/1983 18:59 23.76 1060 OF BOILER 521 158 Oak Creek #5 000* 165 D1 7/19/1983 6:34 7/19/1983 19:11 12.61 1060 OF BOILER 521 158 Oak Creek #5 000* 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 * U1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000* 156 D1 7/27/1983 8:45 7/27/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS	521	158	Oak Creek #5	000*	235	D1	7/8/1983	2:00	7/12/1983	1:00	95	1450	PROBLEMS - LOW AIR FLOW
521 158 Oak Creek #5 000* 165 D1 7/19/1983 6:34 7/19/1983 19:11 12.61 1060 OF BOILER 521 158 Oak Creek #5 000* 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER BROKEN REHEAT TUBE IN #1 CELL EL. 521 158 Oak Creek #5 000* 156 D1 7/27/1983 8:45 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS													REHEAT LEAK ON EL 86 SOUTH SIDE
521 158 Oak Creek #5 000* 165 D1 7/19/1983 6:34 7/19/1983 19:11 12.61 1060 OF BOILER 521 158 Oak Creek #5 000* 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 * U1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000* 156 D1 7/27/1983 8:45 7/27/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS	521	158	Oak Creek #5	•		บร	7/19/1983	19:13	7/20/1983	18:59	23.76	1060	OF BOILER
521 158 Oak Creek #5 000° 200 D2 7/22/1983 1:30 7/23/1983 16:58 39.46 1850 HIGH SILICA IN BOILER WATER BROKEN REHEAT TUBE IN #1 CELL EL. BROKEN REHEAT TUB				T									REHEAT LEAK ON EL 86 SOUTH SIDE
521 158 Oak Creek #5 * U1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000* 156 D1 7/27/1983 8:45 7/27/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS	521	158	Oak Creek #5	000*	165	D1	7/19/1983	6:34	7/19/1983	19:11	12.61	1060	OF BOILER
521 158 Oak Creek #5 * U1 7/23/1983 16:58 7/25/1983 9:55 40.95 1060 54 521 158 Oak Creek #5 000* 156 D1 7/27/1983 8:45 7/27/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER 521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS	521	158	Oak Creek #5	000*			7/22/1983	1:30	7/23/1983		39.46		
521 158 Oak Creek #5 000* 156 D1 7/27/1983 8:45 7/27/1983 10:40 1.91 1850 HIGH SILICA IN BOILER WATER SUPERHEAT TEMPERATURE CONTROL 521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS													BROKEN REHEAT TUBE IN #1 CELL EL.
521 158 Oak Creek #5 000° 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS	521	158	Oak Creek #5	•		U1	7/23/1983	16:58	7/25/1983	9:55	40.95	1060	54
521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS	521	158	Oak Creek #5	000*	156	D1	7/27/1983	8:45	7/27/1983	10:40	1.91		
521 158 Oak Creek #5 000* 225 D2 7/28/1983 1:30 8/1/1983 2:00 96.5 1450 PROBLEMS		·—-		· ·									SUPERHEAT TEMPERATURE CONTROL
	521	158	Oak Creek #5	000*	225	D2	7/28/1983	1:30	8/1/1983	2:00	96.5		
3211 130 OAK CIBEK #3 1000 130 DT 8/1/1983 18:30 8/2/1983 2:00 /.5 1000 REHEAT LEAK NORTH WALL ELEV 45	521	158	Oak Creek #5	000*	150	D1	8/1/1983	18:30	8/2/1983	2:00	7.5	1060	REHEAT LEAK NORTH WALL ELEV 45

						· · · · · · · · · · · · · · · · · · ·						
504	450	0-1-0 1-85	000	000	5 4	0/0/1000	7.56	0/0/4000	0.40			BOILER REHEAT TUBE LEAK ELEV 45
521		Oak Creek #5	000.	200		8/2/1983	7:55	8/2/1983	9:18	1.38		NORTH WALL
521	158	Oak Creek #5			U1	8/2/1983	9:18	8/6/1983	18:03	104.75	1060	REHEAT TUBE RUPTURE
												51 FORCED DRAFT FAN MOTOR
521	158	Oak Creek #5	000*	140	D1	8/7/1983	2:45	8/7/1983	21:00	18.25	1410	BEARING REPLACEMENT
1						1						SUPERHEAT TEMPERATURE CONTROL
521	158	Oak Creek #5	000*	225	D1	8/8/1983	0:30	8/8/1983	7:00	6.5		PROBLEMS
	1									[52 PULV COAL FDR NO CONTROL OF
521	158	Oak Creek #5	000*	225	D1	8/8/1983	7:00	8/9/1983	11:30	28.5	250	COAL FLOW
1	ļ											
1	ĺ	_			1					1		BOILER CONDITIONS, UNIT RETURNING
521	158	Oak Creek #5	000*	200	D1	8/9/1983	14:00	8/11/1983	1:30	35.5	1999	TO SERVICE FOLLOWING OUTAGE
					_	1				1		52 PULVERIZED COAL FEEDER
521	158	Oak Creek #5	000*	165	D1	8/9/1983	11:30	8/9/1983	14:00	2.5	250	TROUBLE
1									!			TUBE LEAK-6B HIGH PRESSURE
521	158	Oak Creek #5	000*	150	D1	8/11/1983	1:30	8/11/1983	7:10	5.66		FEEDWATER HEATER
1			1.						.1			INTERNAL LEAKS 6B AND 6A
521	158	Oak Creek #5			U1	8/11/1983	7:10	8/12/1983	1:30	18.33		FEEDWATER HEATERS
	١											REPAIR LEAK AT RADIANT SUPERHEAT
521	158	Oak Creek #5			U1	8/12/1983	1:30	8/12/1983	12:17	10.78		HEADER
					_							#52 MILL PLUGGED-HAVE TO VACUUM
521	158	Oak Creek #5	000*	80	D1	8/13/1983	11:25	8/14/1983	1:00	13.58	310	CLASSIFIERS
	1					1						
1					1				1	}		A SET OF FEEDWATER HEATERS OUT
521	158	Oak Creek #5	000*	150	D1	8/13/1983	1:30	8/13/1983	11:35	10.08	3440	TO REPAIR TUBE LEAK IN #7A AND #6A
												52 MILL OUT OF SERVICE, 53 MILL
1										1		SUPPLYING UNIT #6-ONLY 1 MILL AVAIL
521		Oak Creek #5	000* .	1	D1	8/14/1983	1:00	8/16/1983	11:15,	58.25		TO UNIT 5
521	158	Oak Creek #5	000,	200		8/16/1983	11:15	8/1 7 /1983 _.	1:30	14.25		HIGH BOILER TEMPERATURE
521		Oak Creek #5	000*	_ 190		8/17/1983	1:30	8/18/1983	1:30	24		HIGH BOILER TEMPERATURE
521		Oak Creek #5	000*	210		<u> </u> 8/18/1983	1:30	8/19/1983	2:00	24.5		HIGH BOILER TEMPERATURE
521	158	Oak Creek #5	000	220	D1	8/19/1983	2:00	8/20/1983	2:00	24		HIGH BOILER TEMPERATURE
1	Ì				_				1			52 PULVERIZED COAL FEEDER OUT OF
521		Oak Creek #5	000*	200	1	8/20/1983	2:00	8/23/1983	6:30	76.5	360	SERVICE-FEED PROBLEMS
521	158	Oak Creek #5	000*	200	D1	8/23/1983	6:30	8/23/1983	14:05	7.58		52 PULV COAL FEEDER
		1			ŀ							52 PULVERIZED COAL FEEDER
521	158	Oak Creek #5	000*	225	D1	8/24/1983	2:00	8/25/1983	11:40	33.66	360	FEEDING ERRATICALLY
		,			1 .			ļ	ļ			
521	158	Oak Creek #5	000*	180	D1	8/25/1983	11:40	8/26/1983	1:45	14.08		52 PULVERIZED COAL FEEDER REPAIR
												BOILER CONDITIONS UNABLE TO
521	١.											CONTROL BOILER TEMPERATURES-
	·	Oak Creek #5	. 000*	225		8/27/1983	1:45	8/29/1983	9:30	55.75		LACK OF SLAG
521	158	Oak Creek #5	000*	180	וטן	8/29/1983	9:30	8/30/1983	2:00	16.5	360	52 PULVERIZED FUEL FEEDER STUCK
5					1							BOILER CONDITIONS UNABLE TO
				:-							,	CONTROL BOILER TEMPERATURES-
_ 521	158	Oak Creek #5	000	225	D1	8/30/1983	2:00	8/30/1983	20:04	18.06	1999	LACK OF SLAG

Ayes Carried

Γ	521	158	Oak Creek #5	1		U2	8/30/1983	20:04	9/6/1983	7:12	155.13	1060	REHEAT LEAK NORTH WALL ELEV 54
上							0,00,1000						STEAM BOILER FEED PUMP CONTROLS
1	521	158	Oak Creek #5	000*	100	D1	9/6/1983	17:52	9/7/1983	0:20	6.46		FAILURE
	·		<u> </u>				3/0/1300		3///1300		0.40		TAILOTTE
					l		[HIGH SUPERHEAT TEMPERATURE DUE
	521	150	Oak Creek #5	000*	180	D1	9/7/1983	0:20	9/8/1983	2:00	25.66	1000	TO NO SLAG BUILD UP ON TUBES
- -	-251	130	Oak Oldek #5	- 000	100	<u> </u>	9///1963	0.20	9/0/1903		25.00	1999	TO NO SEAG BOILD OF ON TOBES
- [.					i	1	1]]			HIGH SUPERHEAT TEMPERATURE DUE
1	521	150	Oak Creek #5	000*	215	D4	0/0/4000	0.00	0/0/4000	2:00	24	1000	TO NO SLAG BUILD UP ON TUBES
-	<u>32 !</u> {	130	Oak Cleek #3	1000	213	<u> </u>	9/8/1983	2:00	9/9/1983	2:00	24	1999	TO NO SEAG BUILD OF ON TUBES
	- 1									,			HIGH SUPERHEAT TEMPERATURE DUE
-	521	150	Oak Creek #5	000-	000	D4	0/0/1000	0.00	0/40/4000	40.00		4000	
-	52.1	130	Oak Cleek #5	000	_230	יטו	9/9/1983	2:00	9/10/1983	19:00	41	1999	TO NO SLAG BUILD UP ON TUBES
-		450											REPAIR INTERNAL LEAKAGE 56B
]	521		Oak Creek #5	000*	120		9/10/1983	19:00	9/13/1983		58,25		FEEDWATER HEATER
.	521	158	Oak Creek #5	000*	230	D1	9/13/1983	5:15	9/14/1983	2:00	20.75	530	HIGH SUPERHEAT TEMPERATURES
					:						1		56A HIGH PRESSURE FEEDWATER
_	521	<u> 158</u>	Oak Creek #5	000*	130	D1	9/14/1983	22:00	9/16/1983	3:25	29.41	3440	HEATER INTERNAL TUBE LEAK
	Į			1 1									52 PULVERIZED FEEDER-FEED
- [.	521	158	Oak Creek #5	000*	230	D1	9/14/1983	2:00	9/14/1983	22:00	20	410	CONTROL PROBLEMS
] }			1		•		}		
	521	158	Oak Creek #5	000*	225	D1	9/16/1983	3:25	9/22/1983	6:15	146.83	1999	SUPERHEAT TEMPERATURE CONTROL
	į												52 PULVERIZED COAL FEEDER
	521	158	Oak Creek #5	000*	225	PD	10/1/1983	1:30	10/1/1983	18:15	16.75	250	REPLACEMENT
	1												52 PULVERIZED COAL FEEDER
	521		Oak Creek #5	000*	210		10/1/1983	18:15	10/4/1983		63.75		REPLACEMENT
	_521	158	Oak Creek #5	•		U1	10/6/1983	14:22	10/10/1983	14:02	95.66	1040	REPAIR SUPERHEAT LEAK
	1												REPAIR LEAK IN 57A FEEDWATER
L	521	158	Oak Creek #5	000*	120	D1	10/10/1983	14:02	10/11/1983	3:30	13.46	3440	HEATER
- 1													
- [521	158	Oak Creek #5	000*	200	D1	10/11/1983	3:30	10/13/1983	1:30	46	1450	SUPERHEAT TEMPERATURE CONTROL
- [
	521	158	Oak Creek #5	000*	225	D1	10/13/1983	1:30	10/15/1983	6:00	52.5	1450	SUPERHEAT TEMPERATURE CONTROL
-													"A" FLY ASH SYSTEM NOT PULLING
	521	158	Oak Creek #5	000*	150	D1	10/15/1983	6:00	10/15/1983	10:05	4.08	880	ADEQUATELY
-							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
,	521	158	Oak Creek #5	000*	225	D1	10/15/1983	10:05	10/18/1983	6:30	68.41	1450	SUPERHEAT TEMPERATURE CONTROL
				- 333			1						52 PULVERIZED COAL FEEDER
_	521	158	Oak Creek #5	000*	235	D1	10/18/1983	6:30	10/18/1983	13:00	6.5	410	ERRATIC FEEDING
₹						 -	1 1 1 1 1 1 1 1 1		10, 10, 1000	10.00			51 FUEL PUMP COUPLING BUSHINGS
Ž	521	158	Oak Creek #5	000*	46	D1	10/23/1983	20:40	10/24/1983	2:00	5.33	340	FAILED
5	521		Oak Creek #5	000*	50		10/26/1983	0:47	10/26/1983	15:00	14.21		51 & 52 MILLS OUT OF SERVICE
4	521		Oak Creek #5	1.000		PO	10/27/1983	22:29	12/31/1983		1585.51		ANNUAL OUTAGE, EXTENDS INTO '84.
WEPCO 40017	. <u> </u>		- U. U. U. U. W. W. W. W. W. W. W. W. W. W. W. W. W.			<u></u>	10/27/1300		12/01/1300	27.00.00	1303.31	1000	ANNUAL OUTAGE, EVENT IS FROM '83,
7	}												EVENT NUMBER 110, ACTUAL
	521	158	Oak Creek #5			РО	1/1/1984	0:00	2/13/1984	9:01	1041,01	1800	STARTIME 10/27/83 22:29
	521		Oak Creek #5	000*	100	·-··	2/14/1984	4:00	2/14/1984	6:40			52 MILL OOS (OVERHAUL)
_	JZ 1	100	Car Oleek #5	1000	100	יטו	2/14/1904	4.00	Z/ 14/ 1904	0:40	2.00	310	DE MILL OUS (OVETTINOL)

521	158 Oak Creek #5	000*	175 D1	2/14/1984	6:40	2/15/1984	1:30	18.83	1850 BOILER WATER QUALITY
521	158 Oak Creek #5	000*	175 D1	2/15/1984	1:30	2/15/1984	8:15	6.75	250 PULV COAL FEEDERS
521	158 Oak Creek #5	000*	50 D1	2/15/1984	8:15	2/15/1984	17:58	9.71	250 PULVERIZED COAL FEEDERS
521	158 Oak Creek #5		U1	2/15/1984	17:59	2/18/1984	11:48	65.81	4140 INTER. PRESS. TURB. BEARINGS
521	158 Oak Creek #5	000*	125 D1	2/19/1984	1:30	2/19/1984	23:30	22	1850 BOILER WATER QUALITY
521	158 Oak Creek #5	000*	175 D1	2/19/1984	23:31	2/20/1984	2:00	2.48	530 HIGH SUPERHEAT TEMPERATURES
521	158 Oak Creek #5	000*	125 D1	2/20/1984	2:01	2/20/1984	6:50	4.81	340 52 & 53 MILLS
521	158 Oak Creek #5	000*	175 D1	2/20/1984	6:51	2/21/1984	20:00	37.15	340 HIGH SUPERHEAT TEMPERATURES
521	158 Oak Creek #5	000*	170 D1	2/21/1984	20:00	2/21/1984	22:45	2.75	250 PULVERIZE FEEDERS
521	158 Oak Creek #5	000*	160 D1	2/21/1984	22:46	2/22/1984	6:50	8.06	260 52 PRIMARY AIR FAN
521	158 Oak Creek #5	000*	170 D1	2/22/1984	6:51	2/23/1984	7:12	24.35	260 52 PRIMARY AIR FAN
521	158 Oak Creek #5	000*	110 D1	2/23/1984	7:12	2/23/1984	9:50	2.63	3410 FEEDWATER PUMP
521	158 Oak Creek #5	000*	170 D1	2/23/1984	9:50	2/24/1984	1:35	15.75	260 52 PRIMARY AIR FAN
521	158 Oak Creek #5	000*	175 D1	2/24/1984	1:35	2/27/1984	9:10	79.58	260 52 PRIMARY AIR FAN
521	158 Oak Creek #5	000*	150 D1	2/27/1984	9:10	2/27/1984	19:00	9.83	410 51 PULVERIZED COAL FDR
521	158 Oak Creek #5	000*	175 D1	2/27/1984	19:00	2/29/1984	11:15	40.25	260 52 PRIMARY AIR FAN
521	158 Oak Creek #5	000*	200 D1	3/1/1984	1:30	3/2/1984	1:30	24	410 53 PULV COAL FEEDER
521	158 Oak Creek #5	000*	200 D1	3/2/1984	1:30	3/2/1984	1:31	. 1	410 51 PULVERIZED COAL FEEDER
521	158 Oak Creek #5	000*	175 D1	3/2/1984	1:31	3/2/1984	20:17	18.76	410 51 PULVERIZED COAL FEEDER
521	158 Oak Creek #5		U1	3/2/1984	20:17	3/4/1984	22:32	50.25	1060 FIRST REHEATER
521	158 Oak Creek #5	000*	75 D1	3/4/1984	22:32	3/6/1984	1:45	27.21	410 51/52 PULVERIZED COAL FDRS.
521	158 Oak Creek #5	000*	210 D1	3/6/1984	1:45	3/6/1984	16:45	15	410 52 PULVERIZED COAL FEEDER
521	158 Oak Creek #5	000*	225 D1	3/6/1984	16:45	3/9/1984	2:00	57.25	530 HI SUPERHEAT TEMPERATURES
521	158 Oak Creek #5	000*	220 D1	3/9/1984	2:00	3/10/1984	4:30	26.5	410 51/52 PULV COAL FEEDERS
521	158 Oak Creek #5	000*	90 PD	3/10/1984	4:30	3/10/1984	16:00	11.5	1450 52 LIQ RHEOSTAT PUMP
521	158 Oak Creek #5	000*	90 PD	3/10/1984	16:00	3/11/1984	6:10	14.16	1450 52 LIQ REHOSTAT PUMP
521	158 Oak Creek #5	000*	220 D1	3/11/1984	6:10	3/14/1984	1:30	67.33	410 51/52 PULV COAL FEEDERS
521	158 Oak Creek #5	000*	175 D1	3/14/1984	1:30	3/14/1984	13:00	11.5	410 51,52,55 PULV COAL FDRS
521	158 Oak Creek #5	000*	185 D1	3/14/1984	13:00	3/15/1984	0:05	11.08	410 51&52 PULV COAL FDRS
521	158 Oak Creek #5	000*	120 D1	3/15/1984	0:05	3/17/1984	13:00	60.91	4040 HP THRUST BEARING
521	158 Oak Creek #5	000*	225 D1	3/17/1984	13:00	3/20/1984	1:45	60.75	4040 HP THRUST BEARING
521	158 Oak Creek #5	000*	220 D1	3/20/1984	1:45	3/21/1984	1:30	23.75	410 51 & 52 PULV COAL FDRS
521	158 Oak Creek #5	000*	225 D1	3/21/1984	1:30	3/22/1984	14:20	36.83	410 51 & 52 PULV COAL FDRS
521	158 Oak Creek #5	000*	230 D1	3/22/1984	14:20	3/24/1984	13:38	47.3	410 51 & 52 PULV COAL FDRS
521	158 Oak Creek #5	000*	200 D2	3/26/1984	14:15	3/26/1984	14:56	0.68	410 51 PULV COAL FDRS
521	158 Oak Creek #5	000*	225 D1	3/28/1984	4:45	3/28/1984	12:30	7.75	410 51 PULV COAL FDR
521	158 Oak Creek #5	000	220 D1	3/29/1984	6:50	3/29/1984	7:25	0.58	410 52 PULV COAL FDR
_ 521	158 Oak Creek #5	000*	220 D1	3/29/1984	9:00	3/29/1984	14:35	5.58	410 52 PULV COAL FDR
521	158 Oak Creek #5	000*	165 D1	3/31/1984	13:35	3/31/1984	19:00	5.41	410 51 & 58 PULV COAL FDRS
521	158 Oak Creek #5	000*	200 D1	3/31/1984	19:00	4/1/1984	2:30	7.5	410 51 & 58 PULV COAL FDRS
521	158 Oak Creek #5	000*	105 D4	4/1/1984	2:30	4/1/1984	3:30	1	1450 52 LIQ RHEO PUMP RED CAPACITY
521	158 Oak Creek #5	000*	200 D1	4/1/1984	3:30	4/2/1984	0:45	21.25	410 51 & 58 PULV COAL FDRS
521	158 Oak Creek #5	000.	185 D1	4/3/1984	13:55	4/3/1984	16:00	2.08	410 51 PULV COAL FEEDER
521	158 Oak Creek #5	000*	235 D1	4/3/1984	18:00	4/5/1984	6:45	36.75	410 51 & 52 PULV COAL FDRS
521		000	195 D1	4/5/1984	6:45	4/8/1984	6:00	71.25	410 51,52 & 53 PULV COAL FDRS
521	158 Oak Creek #5	000*	240 D1	4/8/1984	6:00	4/9/1984	1:00	19	410 BURNER PROBLEMS

Г	521	158	Oak Creek #5	000*	200	D1	4/9/1984	1:00	4/9/1984	5:30	4.5	410	BURNER PROBLEMS
-	521	158	Oak Creek #5	000*	165	D1	4/9/1984	5:30	4/10/1984	1:15	19.75	410	BURNER PROBLEMS
	521	158	Oak Creek #5	000•	200	D1	4/10/1984	1:15	4/12/1984	1:10	47.91	410	BURNER PROBLEMS
-	521	158	Oak Creek #5	000*	220	D1	4/12/1984	1:10	4/12/1984	10:00	8.83	410	PURNER PROBLEMS 52 PULV FDR
	521		Oak Creek #5	000*	160		4/12/1984	12:30	4/12/1984	23:57	11.45		BURNER PROBLEMS
- '	521		Oak Creek #5			МО	4/12/1984	23:57	4/14/1984	3:30	27.55		TURB GOVERNING SYSTEM
1.	521		Oak Creek #5			U1	4/14/1984	3:30	4/15/1984	11:13	31.71		SUPERHEATER LEAK
	521		Oak Creek #5	000*	220		4/16/1984	1:00	4/16/1984	7:55	6.91		BOILER WATER CONDITION
													BURNER PROBLEMS 55 PULV COAL
ŀ	521	158	Oak Creek #5	000*	165	D1	4/16/1984	7:55	4/16/1984	11:00	3.08	410	FEEDER
1-	521		Oak Creek #5	000*	195		4/16/1984	11:00	4/17/1984	1:30	14.5		BOILER WATER CONDITION
-	521		Oak Creek #5	000*	220		4/17/1984	1:30	4/17/1984	9:05	7.58		BOILER WATER CONDITION
1	521		Oak Creek #5	000*	162		4/17/1984	9:05	4/17/1984	17:05	8		BURNER PROBLEMS
-	521		Oak Creek #5	000*	220		4/17/1984	17:05	4/18/1984	1:30	8.41		BLR WATER CONDITION
+	521		Oak Creek #5	000*	165		4/18/1984	12:00	4/18/1984	16:30	4.5		BURNER PROBLEMS 52 FDR
	521		Oak Creek #5	000*	190		4/23/1984	9:20	4/25/1984	14:10	52.83		BURNER PROBLEMS 58 FEEDER
-	521		Oak Creek #5	000.	150		4/25/1984	14:10	4/27/1984	23:25	57.25		HI PRESS HTR TUBE LEAKS
- -	521		Oak Creek #5	000*	200		4/28/1984	7:40	4/28/1984	11:35	3.91		BURNER PROBLEMS
	521		Oak Creek #5	000*	200		4/28/1984	13:30	4/30/1984	1:00	35.5		BURNER PROBLEMS
-	521		Oak Creek #5	000*	219		5/2/1984	12:00	5/2/1984	13:00	1		IMPROPER BALANCE
- }-	521		Oak Creek #5	000	230		5/2/1984	13:00	5/3/1984	7:00	18		BURNER PROBLEMS
- -	521		Oak Creek #5	000	230		5/4/1984	16:00	5/5/1984	0:01	8.01		HI SUPERHEATER TEMP BLR DSGN
\vdash	521		Oak Creek #5	000.	230		5/9/1984	9:00	5/11/1984	22:45	61.75		HI SPHTR T-BLR DSGN
}	521		Oak Creek #5	000-	230		5/11/1984	22:45	5/14/1984	9:00	58.25		CLN FURN LO - MIN LOAD
-	521		Oak Creek #5	000-	235		5/15/1984	7:25	5/17/1984	9:08	49.71		BURN PROB 52 PULV COAL FDR
	- 3 <u>2</u> 1	130	Oak Cieek #5	000	200		3/13/1304	1.23	3/1//1904	3.00		710	BURNER PROBLEMS 51 & 52
	521	158	Oak Creek #5	000-	200	D1	5/17/1984	9:08	5/17/1984	11:45	2.61	410	PULVERIZED COAL FEEDERS
-	. 321	130	Oak Oldek #3		_200		3/1/1304		3/1//1304	11.45	2.011	710	TOEVEL WEED GOVE LEEDENG
	521	158	Oak Creek #5	000*	235	D1	5/17/1984	11:45	5/19/1984	7:30	43.75	410	BURNER PROBLEM 52 PULV COAL FDR
-	ا عر	130	Oak Olock #5	000	200	<u> </u>	3/1//1304		3/13/1304	7.50	70.73		BURNER PROBLEM 52 FDR
	521	158	Oak Creek #5	000*	190	PΩ	5/19/1984	7:30	5/20/1984	1:30	18	410	REPLACEMT
	521		Oak Creek #5	000.	190		5/20/1984	7:05	5/21/1984	12:30	29.41		BURNER PROBLEM 52 PULV FDR
-	521		Oak Creek #5	000*	225		5/21/1984	12:30	5/25/1984	2:42	86.2		BURNER PROBLEMS-52 PULV FDR
-	521		Oak Creek #5	- 000		МО	5/25/1984	2:42	5/30/1984	12:30	129.8		TURBINE CONTROL VALVES
	521		Oak Creek #5			U1	5/30/1984	12:30	5/30/1984	17:30	5		LIGHT OFF SYSTEMS
1_	521		Oak Creek #5	+		MO	5/30/1984	17:30	5/31/1984	9:15	15.75		TURBINE CONTROL VALVES
-	521		Oak Creek #5			U1	5/31/1984	9:15	5/31/1984	23:00	13.75		FIRST SUPERHEATER
	521	··· I	Oak Creek #5			U1	5/31/1984	23:00	6/1/1984	3:00	4		OTHER BURNER PROBLEMS
-	521		Oak Creek #5			U1	6/1/1984	3:00	6/1/1984	5:11	2.18		FIRST SUPERHEATER
	_521		Oak Creek #5	000*	120		6/1/1984	5:11	6/2/1984	1:15	20.06		BOILER WATER CONDITION
} -	521		Oak Creek #5	000.	190		6/2/1984	1:15	6/3/1984	7:00	29.75		BURNER PROBLEMS
<u>.</u>	521		Oak Creek #5	000.	220		6/3/1984	7:00	6/3/1984	8:20	1.33		SUPERHEATER TEMPERATURE
<u> </u>	521		Oak Creek #5	000*	150		6/3/1984	8:20	6/3/1984	11:00	2.66		BURNER PROBLEMS
•	521		Oak Creek #5	000*	180		6/3/1984	11:00	6/3/1984	14:05	3.08		BURNER PROBLEMS
	521		Oak Creek #5	000.	220		6/3/1984	14:05	6/3/1984	19:00	4.91		SUPERHEATER TEMPERATURE
-							_ (22:45			BURNER PROBLEMS
L	521	158	Oak Creek #5	000*	190	וטו	6/3/1984	19:00	6/4/1984	22:45	27.75	410	DUTINEH FRUDLEWS

											
52	+-	158 Oak Cr		000*	220 D1	6/4/1984	22:45	6/5/1984	2:45	4	410 BURNER PROBLEMS
52	21	158 Oak Cr		000*	210 D1	6/5/1984	11:20	6/5/1984	12:58	1.63	1900 CLN FURN-LO MIN LOAD
52	21	158 Oak Cr	eek #5		U1	6/5/1984	12:58	6/9/1984	24:00:00	107.03	4040 BEARINGS
52	21]	158 Oak Cr			U2	6/10/1984	0:01	6/10/1984	10:45	10.73	265 AIR PREHEATER
52	21	158 Oak Cr	eek #5		U1	6/10/1984	10:45	6/11/1984	4:52	18.11	4040 BEARINGS
52	21	158 Oak Cr	eek #5	000*	100 D1	6/11/1984	4:52	6/11/1984	14:00	9.13	1850 BOILER WATER CONDITON
52	21	158 Oak Cr	eek #5	000*	70 D1	6/11/1984	14:00	6/12/1984	2:55	12.91	3310 CONDENSATE HOTWELL PUMP 52
52	21	158 Oak Cr	eek #5	000*	220 D1	6/12/1984	2:55	6/12/1984	6:15	3.33	1900 CLN FURN-LO MIN LOAD
52	21	158 Oak Cr	eek #5	000*	65 D1	6/12/1984	6:15	6/12/1984	7:00	0.75	3149 LOSS OF VACUUM
52	21	158 Oak Cr	eek #5	000*	180 D1	6/12/1984	7:00	6/12/1984	19:30	12.5	1900 CLN FURN-LO MIN LOAD
52	21	158 Oak Cr	eek #5	000*	215 D1	6/12/1984	19:30	6/13/1984	9:30	14	1900 CLN FURN-LO MIN LOAD
52	21	158 Oak Cr	eek #5	000*	180 D1	6/13/1984	9:30	6/13/1984	16:00	6.5	410 BURNER PROBLEMS
52	21	158 Oak Cr	eek #5	000*	180 D1	6/13/1984	21:00	6/14/1984	9:00	12	410 BURNER PROBLEMS
52	21	158 Oak Cr		000*	160 D1	6/14/1984	9:00	6/14/1984	12:00	3	410 BURNER PROBLEMS
52	21	158 Oak Cr	eek #5	000*	200 D1	6/14/1984	12:00	6/15/1984	17:39	29.65	410 BURNER PROBLEMS
52	21	158 Oak Cr	eek #5		U1	6/15/1984	17:39	6/17/1984	2:57	33.3	1040 SUPERHTR LEAK
52	21	158 Oak Cr	eek #5	000*	130 D1	6/17/1984	2:57	6/17/1984	14:00	11.05	1850 BLR WATER CONDITION
52	21	158 Oak Cr	eek #5	000*	200 D1	6/17/1984	14:00	6/18/1984	13:00	23	1900 CLN FURN-LO MIN LOAD
52	21	158 Oak Cr	eek #5	000*	170 D1	6/18/1984	13:00	6/18/1984	23:00	10	410 BURNER PROBLEMS
52	21	158 Oak Cr	eek #5	000*	185 D1	6/18/1984	23:00	6/21/1984	2:00	51	410 BURNER PROBLEMS
52	21	158 Oak Cr	eek #5	000*	225 D1	6/21/1984	2:00	6/22/1984	19:00	41	1900 CLN FURN LO MIN LOAD
52	21	158 Oak Cr	eek #5	000*	185 D1	6/22/1984	19:00	6/23/1984	4:15	9.25	410 OTHER BURNER PROBLEMS
52	21	158 Oak Cr	eek #5	*	225 D1	6/23/1984	4:15	7/3/1984	9:45	245.5	1900 CLN FURN LO MIN LOAD
52	21	158 Oak Cr	eek #5	000*	180 D1	7/3/1984	9:45	7/3/1984	11:54	2.15	410 BURNER PROBLEMS
52	21	158 Oak Cr	eek #5	•	U1	7/3/1984	11:54	7/8/1984	14:01	122.11	1040 FIRST SUPERHEATER
52	21	158 Oak Cr	eek #5	000*	175 D1	7/8/1984	14:01	7/9/1984	10:20	20.31	1850 BOILER WATER COND
52	21	158 Oak Cr	eek #5	000*	200 D1	7/9/1984	10:20	7/10/1984	21:39	35.31	1900 CLN FURN LO MIN LOAD
52		158 Oak Cr		000*	200 D1	7/10/1984	21:39	7/11/1984	5:39	8	1850 BOILER WATER CONDITION.
52	21	158 Oak Cr	eek #5	•	U1	7/11/1984	5:39	7/11/1984	10:00	4.35	1060 FIRST REHEATER
52	21	158 Oak Cr	eek #5	000*	40 D1	7/11/1984	10:00	7/11/1984	13:41	3.68	1050 SECOND SUPERHEATER
52	21	158 Oak Cr	eek #5	•	U2	7/11/1984	13:41	7/13/1984	9:27	43.76	1050 SECOND SUPERHEATER
52		158 Oak Cr	eek #5	000*	100 D1	7/14/1984	1:45	7/14/1984	13:20	11.58	310 PULVERIZER MILLS
52		158 Oak Cr		000*	175 D1	7/14/1984	13:20	7/17/1984	6:00	64.66	410 OTHER BURNER PROBLEMS
52	21	158 Oak Cr	eek #5	000*	200 D1	7/17/1984	6:00	7/18/1984	11:00	29	410 OTHER BURNER PROBLEMS
52		158 Oak Cr		000*	225 D1	7/18/1984	11:00	7/21/1984	8:45	69.75	410 OTHER BURNER PROBLEMS
52		158 Oak Cr		. 000*	75 D1	7/21/1984	8:45	7/22/1984	19:45	35	3440 HI PRESS HTR LEAK
52		158 Oak Cr		000	200 D1	7/22/1984	19:45	7/23/1984	21:00	25.25	3440 HI PRESS HTR LEAK
52	∤	158 Oak Cr		000*	155 D1	7/23/1984	21:00	7/24/1984	14:30	17.5	3440 HI PRESS HTR LEAK - B SET
		158 Oak Cr		000*	225 D1	7/24/1984	14:30	7/31/1984	6:00	159.5	410 OTHER BURNER PROBLEMS
52 52 52 52 52 52 52 52 52 52 52 52 52 5	}	158 Oak Cr		000*	205 D1	7/31/1984	6:00	8/2/1984	12:54	54.9	410 OTHER BURNER PROBLEMS
7 52 C 52	1-	158 Oak Cr		000*	180 D1	8/2/1984	12:54	8/4/1984	7:45	42.85	410 OTHER BURNER PROBLEMS
52		158 Oak Cr		000	70 PD	8/4/1984	7:45	8/4/1984	23:00	15.25	240 PULVERIZED COAL BIN
40020 52		158 Oak Cr		000	215 D1	8/4/1984	23:00	8/6/1984	12:00	37	240 PULVERIZED COAL BIN
020 52	- 4-	158 Oak Cr		000-	230 D1	8/6/1984	12:00	8/11/1984	1:11	109.18	240 PULVERIZED COAL BIN
52		158 Oak Cr		- 500 -	U3	8/11/1984	1:11	8/11/1984	21:30	20.31	240 PULVERIZED COAL BIN
	21	158 Oak Cr			U1	8/11/1984	21:30	8/12/1984	3:00	5.5	240 PULVERIZED COAL BIN
	- 11	130 Oak Ci	CON WO			0/11/1904	21.30	0/12/1304	0.00	5.5]	240 IL OLVENIZED COME DIN

				11.7.		· · · · · · · · · · · · · · · · · · ·				
1	521	158 Oak Creek #5		U3	8/12/1984	3:01	8/12/1984	10:51	7.83	240 PULVERIZED COAL BIN
	521	158 Oak Creek #5	000*	150 D1	8/12/1984	10:51	8/12/1984	21:00	10.14	1850 BOILER WATER CONDITION
	521	158 Oak Creek #5	000*	225 D1	8/12/1984	21:00	8/13/1984	10:40	13.66	1900 CLN FURN-LO MIN LOAD
	521	158 Oak Creek #5	000*	200 D1	8/13/1984	10:40	8/15/1984	2:00	39.33	1900 CLN FURN-LO MIN LOAD
	521	158 Oak Creek #5	000*	215 D1	8/15/1984	2:00	8/16/1984	1:00	23	1900 CLN FURN-LO MIN LOAD
	521	158 Oak Creek #5	000*	225 D1	8/16/1984	1:00	8/19/1984	8:40	79.66	1900 CLN FURN-LO MIN LOAD
	521	158 Oak Creek #5	000*	170 D1	8/19/1984	8:40	8/19/1984	14:20	5.66	410 OTHER BURNER PROBLEMS
	521	158 Oak Creek #5	000*	200 D1	8/19/1984	14:20	8/19/1984	16:30	2.16	410 OTHER BURNER PROBLEMS
-	521	158 Oak Creek #5	000*	225 D1	8/19/1984	16:30	8/20/1984	21:07	28.61	1900 CLN FURN-LO MIN LOAD
	521	158 Oak Creek #5	*	U1	8/20/1984	21:07	8/23/1984	11:48	62.68	1040 SUPERHEAT LEAK
	521	158 Oak Creek #5	000*	150 D1	8/23/1984	11:48	8/24/1984	1:00	13.2	1850 BOILER WATER CONDITION
	521	158 Oak Creek #5	000*	175 D1	8/24/1984	1:00	8/25/1984	1:00	24	1900 CLN FURN
	521	158 Oak Creek #5	000*	200 D1	8/25/1984	1:00	8/26/1984	1:00	24	1900 CLN FURN
	521	158 Oak Creek #5	000	225 D1			8/27/1984	12:10	35.16	1900 CLN FURN-LO MIN LOAD
· ·					8/26/1984	1:00				410 OTHER BURNER PROBLEMS
1	521	158 Oak Creek #5	000*	190 D1	8/27/1984	12:10	8/28/1984	7:20	19.16	
	521	158 Oak Creek #5	000*	210 D1	8/28/1984	7:20	9/2/1984	11:50	124.5	410 OTHER BURNER PROBLEMS
ļ	521	158 Oak Creek #5	000*	75 D1	9/2/1984	11:50	9/3/1984	21:45	33.91	1480 OTHER ID FAN PROBLEMS
- I	521	158 Oak Creek #5	000*	210 D1	9/3/1984	21:45	9/7/1984	23:42	97.95	410 OTHER BURNER PROBLEMS
	521	158 Oak Creek #5		U3	9/7/1984	23:42	9/9/1984	0:15	24.55	3131 AIR EJECTOR PIPING & VLVS
	521	158 Oak Creek #5	000*	150 D1	9/9/1984	0:15	9/10/1984	1:00	24.75	1850 BOILER WATER CONDITION
	521	158 Oak Creek #5	000*	210 D1	9/10/1984	1:00	9/10/1984	10:20	9.33	410 OTHER BURNER PROBLEMS
L	521	158 Oak Creek #5	000	180 D1	9/10/1984	10:20	9/10/1984	13:40	3.33	1850 BOILER WATER CONDITION
	521	158 Oak Creek #5	000*	210 D1	9/10/1984	13:40	9/10/1984	17:10	3.5	410 OTHER BURNER PROBLEMS
	521	158 Oak Creek #5	•	U1	9/10/1984	17:10	9/13/1984	20:18	75.13	1050 SECOND SUPERHEATER
[~~	521	158 Oak Creek #5	000*	180 D1	9/13/1984	20:18	9/14/1984	6:00	9.7	1850 BOILER WATER CONDITION
[-	521	158 Oak Creek #5	000*	210 D1	9/14/1984	6:00	9/14/1984	10:30	4.5	410 OTHER BURNER PROBLEMS
	521	158 Oak Creek #5	000*	150 D1	9/14/1984	10:30	9/14/1984	15:00	4.5	1900 CLN FURN
	521	158 Oak Creek #5	000*	210 D1	9/14/1984	15:00	9/22/1984	3:00	180	410 OTHER BURNER PROBLEMS
-	521	158 Oak Creek #5	000*	160 D1	9/22/1984	3:00	9/22/1984	7:30	4.5	410 OTHER BURNER PROBLEMS
-	521	158 Oak Creek #5	000*	187 D1	9/22/1984	7:30	9/22/1984	21:30	14	410 OTHER BURNER PROBLEMS
	521	158 Oak Creek #5	000.	210 D1	9/22/1984	21:30	9/30/1984	11:03	181.55	410 OTHER BURNER PROBLEMS
-	521	158 Oak Creek #5	•.	U1	9/30/1984	11:03	9/30/1984	18:33	7.5	1070 SECOND REHEATER
	521	158 Oak Creek #5	- -	125 D1	9/30/1984	18:33	10/1/1984	9:00	14.45	3440 HI PRESS HTR TUBE LEAKS
	521	158 Oak Creek #5	000*	140 D1	10/1/1984	9:00	10/2/1984	22:45	37.75	3440 HI PRESS HTR TUBE LEAKS
-	521	158 Oak Creek #5	000*	150 D1	10/2/1984	22:45	10/4/1984	18:40	43.91	3440 HI PRESS HTR TUBE LEAKS
	521	158 Oak Creek #5	000*	210 D1	10/4/1984	18:40	10/6/1984	3:00	32.33	410 OTHER BURNER PROBLEMS
	521	158 Oak Creek #5	000*	180 D1	10/6/1984	3:00	10/7/1984	15:00	36	410 OTHER BURNER PROBLEMS
~	521	158 Oak Creek #5	000*	220 D1	10/7/1984	15:00	10/16/1984	2:06	203.1	410 OTHER BURNER PROBLEMS
WEPCO	521	158 Oak Creek #5	- 000	U1	10/16/1984	2:06	10/16/1984	21:58	19.86	3644 PROTECTION DEVICES
Þ.	521	158 Oak Creek #5	000*	150 D1	10/16/1984	21:58	10/18/1984	9:00	35.03	3440 HI PRESSURE HTR TUBE LEAKS
ŏ	521	158 Oak Creek #5	000*	220 D1	10/18/1984	9:00	10/20/1984	1:15	40.25	410 OTHER BURNER PROBLEMS
40021	+	158 Oak Creek #5	000	150 D1	10/20/1984	1:15	10/21/1984	14:20	37.08	3499 OTHER FDWTR SYS PROBLEMS
2	521									410 OTHER BURNER PROBLEMS
1 1	521 521	158 Oak Creek #5	000*	220 D1 210 D1	10/21/1984	14:20	10/26/1984	9:25	115.08	8560 ELECTROSTATIC PRECIP PROBLEMS
		158 Oak Creek #5	000*		10/26/1984	9:25	10/27/1984	2:45	17.33	410 OTHER BURNER PROBLEMS
	521	158 Oak Creek #5	000.	180 D2	10/27/1984	2:45	10/27/1984	7:30	4.75	41U U I HEH BUNNEN FRUDLEIVIO
L_	521	158 Oak Creek #5	000*	70 D1	10/27/1984	7:30	10/27/1984	14:00	6.5	8560 ELECTROSTATIC PRECIP PROBLEMS

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								-··			<u> </u>	
l	521	158 Oak Creek #5	000*	180		10/27/1984	14:00	10/27/1984	21:20	7.33	410 OTHER BURNER PRO	BLEMS
]	521	158 Oak Creek #5	000*	220	D1	10/27/1984	21:20	10/28/1984	5:00	7.66	410 OTHER BURNER PRO	BLEMS
	521	158 Oak Creek #5	000*	180	D2	10/28/1984	5:00	10/28/1984	6:45	1.75	410 OTHER BURNER PRO	BLEMS
- {	521	158 Oak Creek #5	000*	70	D2	10/28/1984	6:45	10/28/1984	19:15	12.5	8560 ELECTROSTATIC PRE	CIP PROBLEMS
- 1	521	158 Oak Creek #5	000*	220		10/28/1984	19:15	10/31/1984	19:35	72.33	410 OTHER BURNER PRO	
	521	158 Oak Creek #5			U1	10/31/1984	19:35	11/11/1984	13:28	257.88	1040 FIRST SUPERHEATER	
- 1	521	158 Oak Creek #5	000*	210		11/14/1984	14:00	11/18/1984	17:15	99.25	390 BURNER WINDBOXES	
	521	158 Oak Creek #5	000*	180		11/18/1984	17:15	11/18/1984	21:25	4.16	360 #53 PULV COAL FDR	
- }·	521	158 Oak Creek #5	000*	210		11/18/1984	21:25	11/28/1984	11:20	229.91	390 BURNER WINDBOXES	
ľ	521	158 Oak Creek #5	000*	150		11/28/1984	11:20	11/29/1984	18:35	31.25	3440 HI PRESS HTR TUBE	
	521	158 Oak Creek #5	000*	210		11/29/1984	18:35	11/30/1984	22:07	27.53	390 BURNER WINDBOXES	
ı	521	158 Oak Creek #5	*		U2	11/30/1984	22:07	12/2/1984	22:25	72.3	1040 FIRST SUPERHEATER	
	521	158 Oak Creek #5	000*	155		12/3/1984	8:25	12/3/1984	21:00	12.58	1850 BOILER WATER CON	
	521	158 Oak Creek #5	000*	200		12/4/1984	3:00	12/4/1984	11:00	8	1850 BOILER WATER CON	
ŀ	521	158 Oak Creek #5	000*	210		12/4/1984	11:00	12/8/1984	8:43	93.71	390 BURNER WINDBOXES	
	521	158 Oak Creek #5	*		U1	12/8/1984	8:43	12/14/1984	21:54	157.18	1005 GENERATING TUBES	7 4 D7 11111 C110
ŀ	521	158 Oak Creek #5	000*	150		12/16/1984	17:20	12/17/1984	16:15	22.91	3440 HI PRESS HTR TUBE	FAK
1	521	158 Oak Creek #5	000*	205		12/17/1984	16:15	12/20/1984	13:45	69.5	1900 C N FURN	
ŀ	521	158 Oak Creek #5	000.	220		12/20/1984	13:45	12/25/1984	6:00	112.25	1990 BOILER PERFORMAN	CE TESTING
ŀ	521	158 Oak Creek #5	000*	78		12/25/1984	6:00	12/25/1984	15:00	9	340 PULVERIZER PROBLE	
ŀ	521	158 Oak Creek #5	000*	220		12/25/1984	15:00	12/28/1984	14:55	71.91	1990 BOILER PERFORMAN	
ŀ	- 321	130 Oak Cleek #3	- 000	ديرن		12/23/1904	13.00	12/20/1904	14.33	71.31	FIRST SUPERHEATER	
ı	504	150 Oak Creak #5			UЗ	10/00/1004	44.50	12/31/1984	24.00.00	04.00	1040 INTO 1985.	1. CONTINUES
-	521	158 Oak Creek #5 158 Oak Creek #5			U3	12/28/1984	14:58 0:01	1/2/1985	1:54	81.03 25.88	1040 FIRST SUPERHEATER	
ŀ	521		000*	130		1/2/1985	11:30	1/3/1985	0:30	13	340 PULVERIZER PROBLE	
H	521 521	158 Oak Creek #5 158 Oak Creek #5	000*	180		1/3/1985	8:00	1/6/1985	16:30	80.5	360 BURNERS (#56 PULV	
- 1			000*	200		1/6/1985	16:30	1/6/1985	23:00	6.5	1900 CLEAN FURNACE	COAL FUN)
}	521	158 Oak Creek #5				1/6/1985		1/8/1985	23.00	27.75	1999 UNIT CONDITION	
- -	521	158 Oak Creek #5	000*	220			23:00					י פון אין
ŀ	521	158 Oak Creek #5	000*	210		1/8/1985	2:45	1/13/1985	3:00	120.25 39.75	360 FEEDER PROBLEM-56 1999 UNIT CONDITIONS	PULV FUR
- }	521	158 Oak Creek #5	000*	225		1/13/1985	3:00	1/14/1985	18:45			
	521	158 Oak Creek #5	000*	225		1/14/1985	18:45	1/17/1985	22:18	75.55	1999 UNIT CONDITIONS	DE LEAVO
-	521	158 Oak Creek #5			U2	1/17/1985	22:18	1/19/1985	10:18	36	1060 FIRST REHEATER TUI	
-	521	158 Oak Creek #5	000*	150		1/20/1985	6:00	1/23/1985	1:00	67	3440 HI PRESSURE HTR TU	JBE LEAK
-	521	158 Oak Creek #5	000*		D1	1/23/1985	10:56	1/24/1985	3:00	16.06	9270 WET COAL	
1	521	158 Oak Creek #5	000*		D1	1/24/1985	3:00	1/25/1985	2:30	23.5	250 PULVERIZER FEEDEF	<u> </u>
	521	158 Oak Creek #5	000*	225		1/25/1985	2:30	1/27/1985	7:35	53.08	1999 UNIT CONDITIONS	
	521	158 Oak Creek #5	000*		D4	1/27/1985	7:35	1/27/1985	17:00	9.41	9320 OTHER EXTERNAL PF	ROBLEMS
¥	521	158 Oak Creek #5	000*	225		1/28/1985	10:00	1/30/1985	10:30	48.5	1999 UNIT CONDITIONS	·····
ΕP	521	158 Oak Creek #5	000*	154		1/30/1985	10:30	1/30/1985	23:59	13.48	310 PULVERIZER MILLS	
WEPCO	521	158 Oak Creek #5	000*	235		2/1/1985	19:00	2/7/1985	10:45	135.75	1999 UNIT CONDITIONS	
4	521	158 Oak Creek #5	000*	150		2/7/1985	10:45	2/7/1985	17:15	6.5	360 OTHER BUNER PROB	LEMS
40022	521	158 Oak Creek #5	000*	235		2/7/1985	17:15	2/8/1985	10:00	16.75	1999 UNIT CONDITIONS	
22	521	158 Oak Creek #5	000*	175		2/8/1985	10:00	2/8/1985	12:30	2.5	3440 HI PRESS TUBE LEAK	
	521	158 Oak Creek #5	000*	90		2/8/1985	12:30	2/8/1985	15:54	3.4	3440 HI PRESS TUBE LEAK	
	521	158 Oak Creek #5		<u> </u>	U1	2/8/1985	15:54	2/9/1985	13:30	21.6	3440 HI PRESS HTR TUBE !	
1	521	158 Oak Creek #5			U1	2/9/1985	13:30	2/10/1985	8:23	18.88	1040 FIRST SUPERHEATER	}
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- [521	158 Oak Creek #5	000	200 C		H-1 12	2/12/1985	3:00	13	1999 UNIT CO	
_	521	158 Oak Creek #5	000*	235 C		8:00	2/13/1985	6:50	22.83	1999 UNIT CO	NDITIONS
- -	521	158 Oak Creek #5	000*	90 C	2/13/198	6:50	2/14/1985	1:00	18.16	890 BOTTOM	ASH SYSTEMS
- 1 "	521	158 Oak Creek #5	000*	235 C		12:00	2/23/1985	18:50	222.83	1999 UNIT CO	NDITIONS
-	521	158 Oak Creek #5	000*	150 C	2/23/198	18:50	2/25/1985	9:30	38.66	3440 HIGH PR	ESSURE HTR TUBE LEAKS
- 1	521	158 Oak Creek #5	000*	235 C	2/28/198	13:00	3/6/1985	8:47	139.78	1999 UNIT COI	NDITIONS
-	521	158 Oak Creek #5	000*	204 C			3/6/1985	23:00	14.21		URNER PROBLEMS
- 1	521	158 Oak Creek #5	000*	235 C			3/11/1985	17:45	114.75	1999 UNIT COI	
	521	158 Oak Creek #5	000*	155 C			3/12/1985	21:30	27.75		ESS HTR TUBE LEAK
	521	158 Oak Creek #5	000*	235 C			3/17/1985	12:09	110.65	1999 UNIT COI	
1	521	158 Oak Creek #5			3/17/198		3/22/1985	12:36	120.45		SUPERHEATER
-	521	158 Oak Creek #5	000*	235 C			3/27/1985	17:50	54.83	1999 UNIT COI	
	521	158 Oak Creek #5	000*	195 D			3/27/1985	19:00	1.16		ASH SYS OUT FOR REPAIR
Ì	521	158 Oak Creek #5	000*	235 C			3/28/1985	16:50	21.83	1999 UNIT COI	
		158 Oak Creek #5	000,	200 C			3/29/1985	1:00	8.16		H SYSTEM PROBLEMS
- 1		158 Oak Creek #5		215 D			4/2/1985	1:29	80.48		OSTATIC PRECIP PROBLEMS
ŀ		158 Oak Creek #5			10 4/2/198		4/6/1985	12:00	106.6	1005 GENERA	
-		158 Oak Creek #5		- i			4/2/1985	1:02	0.3	1000 TRIP - UN	
		158 Oak Creek #5			F 4/6/198		4/9/1985	2:35	62.58	1005 GENERA	
	521	158 Oak Creek #5	000*	155 D			4/10/1985	10:31	31.93		S HTR TUBE LEAKS
		158 Oak Creek #5	1000	133 0			4/12/1985	17:31	55	 	S HTR TUBE LEAKS
	521	158 Oak Creek #5	000*	40 C			4/13/1985	13:30	8.75		HEATER PROBLEMS
		158 Oak Creek #5	000	57 C			4/15/1985	19:25	53.91		MTRS & DRIVES
	521	158 Oak Creek #5	000*	135 D			4/16/1985	6:00	10.58		SHTR TUBE LEAKS
		158 Oak Creek #5	000*	215 C			4/10/1985	0:01	210.01	1999 UNIT COI	
}		158 Oak Creek #5	000	,			4/27/1985		67.81		OSTATIC PRECIP PROBLEMS
	521			213 C 125 C				19:50 4:20	32.5		S HTR TUBE LEAK
}	521	158 Oak Creek #5	000*				4/29/1985 5/3/1985		امری 102.91		OSTATIC PRECIP PROBLEMS
	521	158 Oak Creek #5	000*	213 [11:15			
-	521	158 Oak Creek #5	000*	80 D			5/3/1985	19:45	8.5	310 PULVERI	
	521	158 Oak Creek #5	000*	213 C			5/18/1985	1:46	342.01		OSTATIC PRECIP PROBLEMS
	521	158 Oak Creek #5			5/18/198			1:37	71.85	1050 SUPERH	
<u> </u>	521	158 Oak Creek #5	000*	175 C			5/23/1985	10:00	24	1455 52 ID FAN	
-	521	158 Oak Creek #5	000*	130 [5/25/1985	3:40	35.41		HTR TUBE LEAK
<u> </u>	521	158 Oak Creek #5	000*	188 E			5/30/1985	3:00	41.25		OSTATIC PRECIP PROBLEMS
	521	158 Oak Creek #5	000*	210				20:20	113.33		OSTATIC PRECIP PROBLEMS
	521	158 Oak Creek #5			0/3/198	· · · · · · · · · · · · · · · · ·		13:00	40.66		XCITER PROBLEMS
	521	158 Oak Creek #5			AO 6/5/198			8:59	43.98	1070 SECOND	
€.	521	158 Oak Creek #5		1	J1 6/7/198		6/9/1985	6:44	30.95	1070 SECOND	
Æ	521	158 Oak Creek #5			J1 6/9/198		6/12/1985	13:22	77.23	1050 SUPERH	
PC -	521	158 Oak Creek #5	000*	140			6/27/1985	19:17	33.98	1070 SECOND	
Ö	521	158 Oak Creek #5			O 6/27/198		8/15/1985	5:50	1162.55	1800 ANNUAL	
40	521	158 Oak Creek #5	000*	55 [8/16/1985	8:25	17.66		DBLEMS - #51 & #53
WEPCO 40023	521	158 Oak Creek #5		I	J1 8/16/198			10:26	74.01	880 FLYASH	
•	521	158 Oak Creek #5	000.	200 [8/27/1985	17:05	99.08	1999 UNIT CO	
	521	158 Oak Creek #5			J1 8/27/198		8/28/1985	14:07	21.03	1040 FIRST SU	
_	521	158 Oak Creek #5	000•	80 [01 9/3/198	35 4:40	9/3/1985	9:00	4.33	250 PULVERI	ZER FEEDERS

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521	158	Oak Creek #5	000*	220	D1	9/4/1985	4:00	9/6/1985	15:00	59	1999 UNIT CONDITIONS
521		Oak Creek #5	The same of the last of the la		D1	9/6/1985	15:00	9/7/1985	15:00	24	310 MILL PROBLEMS
				220		THE RESERVE AND PARTY OF PERSONS ASSESSED.				THE REAL PROPERTY AND ADDRESS OF THE PARTY AND	
521		Oak Creek #5				9/7/1985	15:00	9/14/1985	7:30	160.5	1999 UNIT CONDITIONS
521		Oak Creek #5			PD	9/14/1985	7:30	9/14/1985	23:00	15.5	310 PULVERIZER MILLS
521		Oak Creek #5		220		9/14/1985	23:00	9/18/1985	17:45	90.75	1999 UNIT CONDITIONS
521		Oak Creek #5			U1	9/18/1985	17:45	9/22/1985	23:11	101.43	1040 FIRST SUPERHEATER
521		Oak Creek #5		220		9/24/1985	0:01	9/24/1985	17:20	17.31	1999 UNIT CONDITIONS
521		Oak Creek #5	000*	142		9/24/1985	17:20	9/24/1985	19:30	2.16	8560 ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #5	*	220		9/24/1985	19:30	10/1/1985	17:08	165.63	1999 UNIT CONDITIONS
521		Oak Creek #5		1	МО	10/1/1985	17:08	10/3/1985	10:26	41.3	1070 SECOND REHEATER
521		Oak Creek #5			МО	10/3/1985	12:14	10/4/1985	4:54	16.66	4290 HYDRAULIC SYSTEM PUMPS
521		Oak Creek #5	000*	195		10/5/1985	9:30	10/7/1985	1:45	40.25	1999 UNIT CONDITIONS
521	158	Oak Creek #5	000*	220	D1	10/8/1985	11:00	10/11/1985	20:50	81.83	1999 UNIT CONDITIONS
521		Oak Creek #5			U1	10/11/1985	20:50	10/15/1985	13:59	89.15	1050 SUPERHEAT LEAK.
521		Oak Creek #5	. 000*	205		10/17/1985	7:45	10/17/1985	16:00	8.25	1999 UNIT CONDITIONS
521	158	Oak Creek #5	000*	220		10/17/1985	16:00	10/21/1985	4:10	84.16	1999 UNIT CONDITIONS
521	158	Oak Creek #5	000*		D1	10/21/1985	4:10	10/21/1985	5:40	1.5	920 A-FLYASH SYSTEM HI ASH LEVELS
521	158	Oak Creek #5			U1	10/21/1985	5:40	10/21/1985	23:30	17.83	920 FLYASH EQUIPMENT BREAKDOWN
521	158	Oak Creek #5	000*	130	D1	10/21/1985	23:30	10/24/1985	10:06	58.6	3440 HI PRESS FEED WTR HEATER
521	158	Oak Creek #5			U1	10/26/1985	22:27	10/31/1985	19:24	116.95	1050 SUPERHEATER LEAK
521	158	Oak Creek #5	000*	130	D1	11/1/1985	2:00	11/1/1985	20:00	18	3440 HI PRESSURE FEEDWATER HEATER
521	158	Oak Creek #5	000*	195	D1	11/1/1985	20:00	11/2/1985	11:54	15.9	1999 UNIT CONDITIONS
521		Oak Creek #5	000*	70	D1	11/2/1985	11:54	11/2/1985	20:20	8.43	9270 WET COAL
521	158	Oak Creek #5	000*	200	D1	11/2/1985	20:20	11/4/1985	13:05	40.75	1999 UNIT CONDITIONS
521	158	Oak Creek #5	000*	77	D1	11/4/1985	13:05	11/4/1985	18:00	4.91	880 FLYASH HANDLING
521	158	Oak Creek #5	000*	220	D1	11/4/1985	18:00	11/18/1985	13:50	331.83	1999 UNIT CONDITIONS
521		Oak Creek #5	000*	190	D1	11/18/1985	15:50	11/18/1985	16:30	0.66	410 OTHER BURNER PROBLEMS
521		Oak Creek #5	000*	220		11/18/1985	16:30	11/20/1985	20:45	52.25	1999 UNIT CONDITIONS
521		Oak Creek #5	000*	165		11/20/1985	20:45	11/21/1985	0:30	3.75	410 OTHER BURNER PROBLEMS
521	and the last name of	Oak Creek #5	000*	220		11/21/1985	0:30	11/26/1985	18:20	137.83	1999 UNIT CONDITIONS
521		Oak Creek #5	000*	+25		11/26/1985	18:20	12/2/1985	21:30	171.16	3440 HI PRESS HTR TUBE LEAK
521		Oak Creek #5	000*	220		12/2/1985	21:30	12/27/1985	2:05	580.58	1999 UNIT CONDITIONS
521		Oak Creek #5			МО	12/27/1985	2:05	12/29/1985	22:50	68.75	8560 ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #5			U1	12/31/1985	7:58	12/31/1985		16.03	90 FUEL BIN EXPLOSION
											FUEL BIN EXPLOSION, EVENT
521	158	Oak Creek #5			U1	1/1/1986	0:01	1/5/1986	17:35	113.56	90 STARTED 12/31/85 @ 7:58 AM.
521		Oak Creek #5			U1	1/6/1986	22:47	1/7/1986	6:18	7.51	880 FLYASH SYSTEM PROBLEMS
521		Oak Creek #5	000*	220		1/7/1986	21:00	1/9/1986	7:34	34.56	1999 UNIT CONDITIONS
521	the transfer of	Oak Creek #5		130		1/9/1986	7:34	1/10/1986	10:20	26.76	3440 HI PRESS FEEDWATER HEATER
521		Oak Creek #5	000*	220		1/10/1986	10:20	1/11/1986	16:45	30.41	1999 UNIT CONDITIONS
521		Oak Creek #5	000*	195		1/11/1986	16:45	1/11/1986	18:00	1.25	410 OTHER BURNER PROBLEMS
521	to married the	Oak Creek #5	000*	220		1/11/1986	18:00	1/21/1986	15:30	237.5	1999 UNIT CONDITIONS
521		Oak Creek #5	000*	185		1/21/1986	15:30	1/22/1986	3:10	11.66	410 OTHER BURNER PROBLEMS
521		Oak Creek #5	000*	205		1/24/1986	9:20	1/24/1986	16:50	7.5	8560 ELECTROSTATIC PRECIP PROBLEMS
521				200	U1		the second of the second	THE RESERVE OF THE PERSON NAMED IN	0:09		1005 GENERATING TUBE LEAK
		Oak Creek #5	2004		tract and a second of	1/24/1986	16:50	2/5/1986		271.31	
521	158	Oak Creek #5	000*	60	D1	2/5/1986	7:00	2/5/1986	18:00	11	1470 ID FANS MOTORS AND DRIVES

Γ_	521	150	Oak	Creek #	5 000	* 10	5 D1	2/8/1986	6:06	2/8/1986	6:20	0.23	9560	PRECIP. PROBLEMS
	521			Creek #			0 D1	2/9/1986	19:00		24:00:00	5		UNIT CONDITIONS
	521			Creek #			0 D1	2/16/1986	6:00	2/18/1986	6:10	48.16		HI PRESSURE FEEDWATER HEATER
	521			Creek #			5 D1		4:45	2/19/1986		1.25		PRIMARY AIR FAN
	JZ !	158	Oak	Cleek #	5 000	17	וטוכ	2/19/1986	4:45	2/19/1900	6:00	1.25	260	PHIMART AIR FAIN
	501	150	~	0-0-0-1-1	5 000	. 40	مام	0/04/4000	0.47	0/00/4000	5.00	40.04	2440	AN PRESCRIPE EDICTE LITE A LEAVY
<u> </u>	521			Creek #			0 D1	2/21/1986	6:47	2/23/1986	5:00	46.21		HI PRESSURE FDWTR HTR LEAK)
	521			Creek #			0 D1	2/27/1986	18:00	2/27/1986	22:00	4		ELECTROSTATIC PRECIP PROBLEMS
	521			Creek #			0 D1	2/28/1986	7:42	3/1/1986	8:03	24.35		ELECTROSTATIC PRECIP PROBLEMS
	521			Creek #		13	0 D1	3/10/1986	7:52	3/10/1986	21:40	13.8		HI PRESSURE FEEDWATER HEATER
	521			Creek #		_{	MO	3/10/1986	21:40	3/14/1986	13:10	87.5		PRECIPITATORS FIELD GROUNDS
	521			Creek #			SE	3/14/1986	13:10	3/17/1986	11:59	70.81		GENERATING TUBE LEAK
	521			Creek #			1 D1	3/20/1986	8:30	3/20/1986	12:45	4.25		OTHER BURNER PROBLEMS
- -	521			Creek #			5 D1	3/21/1986	19:00	3/21/1986	22:15	3.25		OTHER BURNER PROBLEMS
	521			Creek #			0 D1	3/30/1986	10:50	3/30/1986	17:45	6.91		HI PRESSURE FDWTR HEATER
	521			Creek #		9	0 D1	3/30/1986	17:45	4/1/1986	1:15	31.5		HI PRESSURE FDWTR HEATER
	521			Creek #			MO	4/7/1986	15:53	4/8/1986	4:00	12.11		FIRST REHEATER TUBE LEAK
	521			Creek #			U1	4/8/1986	4:00	4/13/1986	7:07	123,11		FIRST SUPERHEATER
	521			Creek #		17	5 D1	4/14/1986	5:10	4/15/1986	0:58	19.79		FIRST SUPERHEATER
1	521			Creek #			MO	4/15/1986	0:58	4/17/1986	3:00	50.03		FIRST SUPERHEATER
	521			Creek #			SF	4/17/1986	3:00	4/17/1986	23:58	20.96		SEAL OIL SYSTEM AND SEALS
	521	158	Oak	Creek #	5 '		U1	4/18/1986	14:17	4/20/1986	12:30	46.21		FIRST SUPERHEATER
	521			Creek #			U1	4/20/1986	12:30	4/21/1986	21:44	33.23		CONVECTION TUBE
	521			Creek #		• 9	0 D1	4/24/1986	17:00	4/25/1986	21:51	28.85		A4 TURBINE BEARING LEAK
	521			Creek #			U1	4/25/1986	21:51	4/28/1986	4:33	54.7	4140	A4 TURBINE BEARING LEAK
	521	158	Oak	Creek #	5 •	_1	U2	4/28/1986	11:10	5/1/1986	13:03	73.88	4140	A4 TURBINE BRG OIL LEAK
Ĺ	521	158	Oak	Creek #	5 •	·	U2	5/1/1986	22:06	5/9/1986	17:53	187.78		A4 TURB BRG OIL LEAK
												1		INTERNAL LEAKAGE 7A FDWTR 2ND
İ	521	158	Oak	Creek #	5 .		U1	5/10/1986	7:25	5/10/1986	21:24	13.98		SET OF HEATERS
	521	158	Oak	Creek #	5 000	14	0 D2	5/11/1986	6:00	5/15/1986	4:05	94.08	3440	7A FEEDWATER HEATER
[-	521	158	Oak	Creek #	5 000	13	0 D4	5/23/1986	23:05	5/25/1986	4:01	28.93	3441	OTHER HI PRESS HTR PROBLEMS
	521	158	Oak	Creek #	5 000)* 7	0 D1	6/11/1986	7:45	6/12/1986	2:00	18.25	310	PULVERIZER MILLS
Γ.	521	158	Oak	Creek #	5 *		U1	6/18/1986	17:04	6/22/1986	19:30	98.43	1020	CONVECTION PASS TUBE LEAK
}	521	158	Oak	Creek #	5 000)* 5	0 D1	6/23/1986	2:05	6/23/1986	7:35	5.5	3440	B FEEDWATER HEATER LEAKS
	521	$\overline{}$		Creek #			U2	6/23/1986	7:35	6/23/1986	19:17	11.7		A&B FEEDWATER HEATER LEAKS
-	521	158	Oak	Creek	5 000)* 13	0 D1	6/24/1986	9:00	6/25/1986	1:00	16		FEEDWATER HEATER LEAK
1	521	158	Oak	Creek i	5		0 D1	6/25/1986	1:00	7/2/1986	16:37	183.61	1999	UNIT CONDITIONS
	521			Creek #			U1	7/2/1986	16:37	7/6/1986	4:34	83.95	1020	CONVECTION PASS TUBE LEAK
	521			Creek			U2	7/6/1986	12:00	7/7/1986	11:15	23.25	1050	SECOND SUPERHEATER
	521			Creek #			U1	7/10/1986	1:12	7/10/1986	1:52	0.66	9900	OPERATOR ERROR
€ .	521			Creek			U1	7/10/1986	1:52	7/11/1986	14:35	36.71		1ST SUPERHEATER LEAK
WEPCO	521	158	Oak	Creek	5	_	SF	7/11/1986	14:35	7/13/1986	10:38	44.05		FIRST SUPERHEATER LEAK
č	521			Creek			U1	7/13/1986	14:35	7/13/1986	15:07	0.53	4299	HYDRAULIC SYSTEM PROBLEMS
0 4	521			Creek		22	0 D1	7/13/1986	15:07	7/19/1986	4:18	133.18	1999	UNIT CONDITIONS
40025	521			Creek			PO	7/19/1986	4:18	9/29/1986	13:45	1737.45	1800	ANNUAL OUTAGE
25	521			Creek		_	U1	9/29/1986	13:45	10/5/1986	0:30	130.75		OTHER AIR PREHEATER PROBLEMS
	521			Creek			Ū1	10/5/1986	0:30	10/9/1986	9:15	104.75	1005	GENERATING TUBE LEAK
			•											

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Γ	521	158	Oak Creek #5	•	80	D1	10/14/1986	12:00	10/15/1986	2:00	14	310	PULVERIZER MILLS
	521		Oak Creek #5		165		10/15/1986	2:00	10/17/1986	0:04	46.06		PRECIPITATOR FOULING
									A COLOR TO A COLOR TO THE				OTHER HYDRAULIC SYSTEM
	521	158	Oak Creek #5			МО	10/17/1986	0:04	10/19/1986	6:32	54.46	4299	PROBLEMS
-	521		Oak Creek #5			МО	10/21/1986	1:22	10/23/1986	12:00	58.63		ELECTROSTATIC PRECIP PROBLEMS
	521	158	Oak Creek #5			МО	10/23/1986	12:00	11/11/1986	13:21	457.35		FLUEGAS DUCTS
	521		Oak Creek #5	•	125		11/13/1986	3:00	11/15/1986	18:50	63.83		PRECIPITATOR PROBLEM
	521	158	Oak Creek #5			МО	11/15/1986	18:50	11/16/1986	11:52	17.03		PRECIPITATOR INSPECTION
- 1	521	158	Oak Creek #5	•	100	D1	11/17/1986	2:15	11/24/1986	16:55	182.66	8560	PRECIPITATOR PROBLEMS
	521	158	Oak Creek #5	•	65	D1	11/24/1986	16:55	11/27/1986	2:00	57.08		COAL LEVELS
	521	158	Oak Creek #5	•	100		11/27/1986	2:00	12/1/1986	12:00	130		PRECIPITATOR PROBLEM
	521		Oak Creek #5	•	190	D1	12/1/1986	12:00	12/4/1986	21:40	81.66		PRECIPITATOR PROBLEM
	521		Oak Creek #5	•	100		12/4/1986	21:40	12/4/1986	23:48	2.13		PULVERIZED FEEDER PROBLEMS
	521	158	Oak Creek #5	•	190		12/4/1986	23:48	12/6/1986	14:54	39.09		PRECIPITATOR PROBLEM
1.	521		Oak Creek #5		60		12/6/1986	14:54	12/7/1986	15:00	24.1		COAL LEVELS
	521		Oak Creek #5		190		12/7/1986	15:00	12/8/1986	5:00	14		PRECIPITATOR PROBLEM
	521		Oak Creek #5	•	60		12/8/1986	5:00	12/8/1986	6:30	1.5		COAL LEVELS
- 1.	521		Oak Creek #5	*	205		12/9/1986	8:00	12/10/1986	8:00	24		UNIT CONDITIONS
- 1.	521		Oak Creek #5	•	225		12/10/1986	8:00	12/11/1986	0:40	16.66		UNIT CONDITIONS
	521		Oak Creek #5	*	60		12/11/1986	0:40	12/12/1986	21:45	45.08		52 ID FAN MOTOR
	521		Oak Creek #5			MO	12/12/1986	21:45	12/14/1986	6:27	32.7		PRECIPITATOR PROBLEM
	521		Oak Creek #5	•	60		12/14/1986	6:27	12/15/1986	19:57	37.5		#52 ID FAN
_	521		Oak Creek #5			RS	12/15/1986	19:57	12/24/1986	22:40	218.71		Reserve Shutdown
- 1	521		Oak Creek #5	•	60		12/15/1986	19:57	12/24/1986	22:40	218.71		#52 ID FAN.
1	521		Oak Creek #5	*	125		12/26/1986	7:00	12/26/1986	14:45	7.75		PRECIPITATOR PROBLEM
.	521		Oak Creek #5	*	200		12/26/1986	17:15	12/30/1986	12:20	91.08		PRECIPITATOR PROBLEM
-	521		Oak Creek #5	*	130		12/30/1986	12:20	12/31/1986		35.66		PRECIPITATOR PROBLEM
	521		Oak Creek #5	000*	130		1/1/1987	0:01	1/9/1987	20:46	212.75		PRECIPITATOR PROBLEM.
	521		Oak Creek #5			MO	1/9/1987	20:46	1/11/1987	1:33	28.78		REPLACE SUPERHTR DRAIN VLV
-	521		Oak Creek #5	000*	130		1/11/1987	1:33	1/19/1987	11:56	202.38		PRECIPITATOR PROBLEM
ļ.	521		Oak Creek #5	000*	100		1/19/1987	11:56	1/19/1987	16:30	4.56		AIR PREHEATER-#53 AIR HTR
	521		Oak Creek #5	000*	130		1/19/1987	16:30	1/28/1987	7:30	207 16.5		PRECIPITATOR PROBLEMS PULVERIZER MILLS
}-	521		Oak Creek #5	000*	65		1/28/1987	7:30	1/28/1987				PULVERIZER MILLS
-	521		Oak Creek #5	000*	65	RS	1/29/1987	7:00	1/31/1987	23:45 22:38	64.75 46.8		Reserve Shutdown
-	521 521		Oak Creek #5 Oak Creek #5	000*	130		1/30/1987 1/31/1987	23:50 23:45	2/1/1987 2/9/1987	9:31	201.76		PRECIPITATOR PROBLEMS
- 1	521		Oak Creek #5	1000		U1		9:31	2/9/1987	10:39	1.13		OTHER HYDRAULIC SYS PROBLEMS
·	521		Oak Creek #5			<u>U1</u> U1	2/9/1987 2/9/1987	10:54	2/9/1987	20:54	1.13		MAIN STOP VALVE
	521		Oak Creek #5	000*	130		2/9/1987	20:54	2/13/1987	12:45	87.85		PRECIP PROBLEMS
4	521		Oak Creek #5	000*	150		2/13/1987	12:45	2/19/1987	10:22	141.61		PRECIPITATOR PROBLEMS
Æ	521		Oak Creek #5	000		U1	2/19/1987	10:22	2/19/1987	11:08	0.76		OTHER HYDRAULIC SYS PROBLEMS
РС	521		Oak Creek #5	000*	65		2/19/1987	11:08	2/24/1987	14:15	123.11		#52 ID FAN MTR
0	521		Oak Creek #5	000.	70		2/24/1987	14:15	3/8/1987	14:00	287.75		52 ID FAN MTR
WEPCO 40026	521		Oak Creek #5	000*	150		3/8/1987	14:00	3/14/1987	5:00	135		PRECIP PROBLEMS
)26	521		Oak Creek #5	000	70		3/14/1987	5:00	3/14/1987	15:23	10.38		ID FAN CONTROLS
-	521		Oak Creek #5	000	150		3/14/1987	15:23	4/10/1987	19:04	651.68		PRECIP PROBLEMS
	<u> </u>	., ., .,	Can 0.001 #0	. 1000		<u> </u>	U 14/1307	10.20	-1, 10, 1007	.0.04	331.00	3000	1

_				7.									,
	521		Oak Creek #5			PO	4/10/1987	19:04	7/17/1987	12:15	2345.18		ANNUAL OUTAGE
l	521		Oak Creek #5			U1	7/17/1987	22:02	7/20/1987	10:18	60.26		INTERMEDIATE PRES TRBN BRNG
	521		Oak Creek #5			U2	7/23/1987	10:48	7/25/1987	3:59	41.18	1040	SUPERHEAT LEAK
-	521	158	Oak Creek #5			NC	7/25/1987	3:00	7/29/1987	0:25	93.41	1410	52 FD FAN MOTOR BRG
	521	158	Oak Creek #5	000*	75		8/1/1987	21:25	8/2/1987	6:00	8.58	3620	5 MAIN TRANSFORMER
-	521	158	Oak Creek #5	000*	180		8/2/1987	10:50	8/4/1987	23:46	60.93	1850	SILICA-CONDENSER TUBE LEAK
F	521	158	Oak Creek #5	•		MO	8/4/1987	23:46	8/5/1987	19:19	19.54		CONDENSER TUBE LEAK
1	521	158	Oak Creek #5	000*	180	D1	8/7/1987	8:30	8/7/1987	14:05	5.58		BLR WATER SILICA
1	521		Oak Creek #5	•		МО	8/13/1987	20:18	8/17/1987	13:48	89.5		REMOVE STEAM STRAINERS
1	521		Oak Creek #5	•		U1	8/20/1987	13:23	8/23/1987	3:02	61.65		SUPERHEAT PENDANT TUBE FAILURE
ļ.,	521		Oak Creek #5			NC	8/29/1987	16:30	8/29/1987	16:56	0.43		TURB OVERSHPEED TRIP TEST
	521		Oak Creek #5	*		PO	9/7/1987	7:12	9/7/1987	7:42	0.5		TURBINE OVERSPEED TEST.
<u> </u>	521		Oak Creek #5	•		МО	9/10/1987	22:15	9/12/1987	17:45	43.5		FIRST SUPERHEATER.
	521		Oak Creek #5	•		RS	9/12/1987	17:45	9/13/1987	7:07	13.36		Reserve Shutdown
+	<u> </u>		Jak Olouk III				+						BOILER FEED WATER AND DRUM
	521	159	Oak Creek #5	000*	160	D1	9/14/1987	8:00	9/14/1987	10:15	2.25	730	LEVEL CONTROL.
<u> </u>	521		Oak Creek #5	000.	190		9/14/1987	10:15	9/14/1987	11:55	1.66		UNIT CONDITIONS.
			Oak Creek #5	1000		NC	9/17/1987	22:30	9/18/1987	2:25	3.91		PA FAN.
	521		Oak Creek #5			NC	9/21/1987	23:30	9/22/1987	1:45	2.25		PRIMARY AIR FAN.
ļ	521					U2	10/4/1987	3:07	10/11/1987	11:10	176.05		
	521		Oak Creek #5	000*	125		10/20/1987	13:10	10/11/1987	14:10	170.05		CONTROL VALVES
	521		Oak Creek #5	000			·	22:31		14:10	00.00		#2 AIR HTR DRIVE FAILURE
	521		Oak Creek #5			МО	10/30/1987	~ ~~~~	11/1/1987		39.98		SECOND REHEATER
	521		Oak Creek #5	000•	185		11/2/1987	17:45	11/2/1987	18:30	0.75		PULV FDR 53 OUT OF SERVICE
	521		Oak Creek #5			RS	12/30/1987	22:38	12/31/1987	23:59	25.35		Reserve Shutdown
-	521		Oak Creek #5			RS	1/1/1988	0:01	1/3/1988	10:50	58.81		Reserve Shutdown
<u> </u>	521	158	Oak Creek #5	000*	202	U1	1/4/1988	17:00	1/4/1988	19:00	2	410	OTHER BURNER PROBLEM
1	1										_ {		
1	521		Oak Creek #5	000*	120		1/12/1988	16:25	1/13/1988	0:01	7.6		OTHER SLAG & ASH RMVL PROBLEMS
	521		Oak Creek #5			U2	1/16/1988	1:18	1/19/1988	0:07	70.81		SECOND SUPERHEATER
1	521	158	Oak Creek #5			NC	2/28/1988	8:40	2/28/1988	17:30	8.83		OTHER AIR & GAS HNDLG PROBLEMS
	521	158	Oak Creek #5	000*	160		3/19/1988	6:00	3/19/1988	17:35	11.58		OTHER BURNER PROBLEMS
	521	158	Oak Creek #5	000*	150		3/19/1988	17:35	3/19/1988	18:45	1,16	410	OTHER BURNER PROBLEMS
	521	158	Oak Creek #5	000*	190	PD	3/19/1988	18:45	3/19/1988	24:00:00	5.25	410	OTHER BURNER PROBLEMS
	521	158	Oak Creek #5	•		RS	3/31/1988	21:18	4/10/1988	12:23	231.08	0	Reserve Shutdown
1	521	158	Oak Creek #5	000*	75	D1	4/13/1988	14:15	4/15/1988	6:15	40	1470	ID FAN MOTOR
-	521	158	Oak Creek #5	000*	85	D1	4/15/1988	7:50	4/18/1988	10:23	74.55	1470	ID FAN MOTOR
_	521		Oak Creek #5	•		U2	5/28/1988	0:12	5/28/1988	6:50	6.63	4261	CONTROL VALVES
	521		Oak Creek #5	•	75	D1	7/12/1988	10:55	7/12/1988	15:00	4.08		FEEDWATER PUMP STEAM TURBINE
. –	521		Oak Creek #5	•	120		7/16/1988	1:30	7/16/1988	21:40	20.16		STEAM BFP BRG PROBLEM
Ę –	521		Oak Creek #5			МО	8/20/1988	17:38	8/22/1988	7:51	38.21		RADIANT SUPERHEAT LEAK
#E8CO	521		Oak Creek #5			МО	8/26/1988	22:04	8/29/1988	8:34	58.5		RADIANT SUPERHEAT LEAK
Š	521		Oak Creek #5			U1	8/30/1988	18:24	8/30/1988	23:12	4.8		L SS OF VACUUM
.	521		Oak Creek #5		120		9/16/1988	6:15	9/16/1988	18:30	12.25		OTHER PULVERIZER PROBLEMS
40077	521		Oak Creek #5			NC	9/24/1988	23:30	9/25/1988	21:00	21.5		OTHER HP HEATER PROBLEMS
4 .	521		Oak Creek #5			МО	10/3/1988	21:20	10/4/1988	9:44	12.4		FLY ASH HANDLING
-	521		Oak Creek #5	000*	210		10/13/1988	5:45	10/13/1988	6:12	0.45		PRIMARY AIR FAN
_	JZ 1	100	CUR CIGOR #3	1000	210	101	10/10/1300	J.7J	10/13/1300	0.12	0.40	200	LINGUILLAN

501	150	Oak Creek #5	000*	200	D4	11/8/1988	10:10	11/9/1988	0.01	10.05	0500	DDEOID DEDEODMANOE
521			000*	200			10:10			13.85		PRECIP PERFORMANCE
521		Oak Creek #5			U2	11/16/1988	13:05	11/16/1988	14:00	0.91		DEAERATOR
521		Oak Creek #5			U2	11/16/1988	14:01	11/24/1988	21:52	199.85	8560	ELECTROSTATIC PRECIPITATOR
521		Oak Creek #5	000	190		11/26/1988	18:25	11/28/1988	23:46	53.35		UNIT CONDITIONS BLR TEMPS
521		Oak Creek #5			МО	11/28/1988	23:46	11/29/1988	11:55	12.15		CONDENSOR TUBE LEAKS
521		Oak Creek #5	000*	185		12/6/1988	17:00	12/6/1988	23:00	6		ELECTROSTATIC PRECIPITATOR
521		Oak Creek #5			U2	12/15/1988	23:33	12/17/1988	1:24	25.85		GENERATING TUBES
521		Oak Creek #5	000*	145		12/19/1988	7:10	12/21/1988	3:59	44.81		ELECTROSTATIC PRECIPITATOR
521		Oak Creek #5	*		RS	12/21/1988	3:59	12/28/1988	0:01	164.03		Reserve Shutdown
521	158	Oak Creek #5	*		РО	12/28/1988	0:01	12/31/1988	24:00:00	95.98	1800	RENOVATION OUTAGE
											-	ANNUAL OUTAGE STARTED 12/28/88-
521		Oak Creek #5	*		PO	1/1/1989	0:01	6/17/1989	15:33	4023.53		00:01
521	158	Oak Creek #5	*	80		6/21/1989	11:00	6/26/1989	1:05	110.08	1470	ID FAN PROBLEMS
521	158	Oak Creek #5			NC	6/24/1989	0:48	6/24/1989	4:44	3.93	4460	TURBINE OVERSPEEDS
521	158	Oak Creek #5	•		RS	6/25/1989	11:09	6/25/1989	21:41	10.53	0	Reserve Shutdown
521	158	Oak Creek #5	*		U1	6/26/1989	1:05	6/26/1989	2:15	1.16	4700	GENERATOR VOLTAGE CONTROLS
521	158	Oak Creek #5	•		U2	6/26/1989	23:16	6/29/1989	7:30	56.23	1040	1ST SUPERHEATER
521	158	Oak Creek #5			NC	6/29/1989	7:30	7/2/1989	0:10	64.66	4260	REMOVE STEAM STRAINERS
521	158	Oak Creek #5	*		RS	7/2/1989	0:10	7/5/1989	1:05	72.91	0	Reserve Shutdown
521	158	Oak Creek #5	•	85	D1	7/6/1989	16:25	7/8/1989	18:30	50.08	1470	ID FAN PROBLEMS
521		Oak Creek #5	*	180	D1	7/9/1989	15:56	7/10/1989	2:00	10.06		BLR WATER CONDITIONS
521	158	Oak Creek #5	•	180	D1	7/10/1989	15:50	7/10/1989	19:15	3,41		BURNER PROBLEMS
521	158	Oak Creek #5			NC	7/11/1989	17:50	7/11/1989	19:40	1.83		REPLACE SCR 51 ID FAN
521	158	Oak Creek #5			NC	7/15/1989	4:03	7/15/1989	4:46	0.71		TURBINE OVERSPEEDS
521		Oak Creek #5			NC	7/15/1989	8:15	7/15/1989	11:35	3.33		ID FAN PROBLEMS
521	158	Oak Creek #5	1.	135	D1	7/24/1989	17:30	7/25/1989	23:45	30.25	1470	52 ID FAN TRIP
521	158	Oak Creek #5			NC	8/5/1989	7:30	8/5/1989	13:12	5.7	1470	51 ID FAN MTR & DRIVES
521	158	Oak Creek #5			NC	8/6/1989	9:00	8/6/1989	16:00	7	1470	51 ID FAN MTR & DRIVES
521	158	Oak Creek #5	•	130	D1	8/10/1989	5:00	8/12/1989	1:00	44	1480	52 ID FAN COUPLING
521	158	Oak Creek #5			NC	8/15/1989	18:30	8/15/1989	23:30	5	1470	51 ID FAN TESTING
521		Oak Creek #5			NC	8/16/1989	17:50	8/16/1989	21:25	3.58		52 ID FD FAN TESTING
521	158	Oak Creek #5			NC	8/17/1989	17:30	8/17/1989	23:30	6	1470	51 ID & FD FAN TESTING
521	158	Oak Creek #5			NC	8/25/1989	13:00	8/26/1989	5:00	16	360	BURNERS
521	158	Oak Creek #5	•		RS	9/1/1989	22:59	9/4/1989	21:54	70.91	0	Reserve Shutdown
521		Oak Creek #5	*	150		9/5/1989	8:45	9/5/1989	9:30	0.75		PULVERIZER FEEDERS
521		Oak Creek #5	-	198		9/6/1989	14:00	9/7/1989	1:00	11		HIGH BLR WTR SILICA
521		Oak Creek #5	*	70		9/17/1989	18:15	9/17/1989	21:25	3.16		CURRENT TRANSFORMER PROBLEM
												CONVECTION SUPRHEAT TUBE 947349
521	158	Oak Creek #5	•		U2	10/1/1989	23:03	10/9/1989	9:19	178.26	1050	000000
521 521												#56 PULV COAL FEEDER 000000
521	158	Oak Creek #5	•	180	D1	10/11/1989	19:00	10/11/1989	21:00	2	250	000000
,		·				* ******						#55 PULVERIZED COAL FEEDE900000
521	158	Oak Creek #5	*	180	D1	10/13/1989	8:40	10/13/1989	16:00	7.33		000000
					* ****	217,1,3,1,3,7,3						HIGH BLR WATER SILICA 000000
521	158	Oak Creek #5		200	D1	10/16/1989	9:00	10/16/1989	14:40	5.66		000000
		<u> </u>										

	T	1											PULV MILL PROBLEM 000000
	4 4-		0.1.0	1.	440	D 4	10/10/1000	47.00	10404000	00.50	- 40		
52	1 15	B	Oak Creek #5		110	וטו	10/16/1989	17:30	10/16/1989	22:59	5.48		000000
1	1	-		1 1		_			ļ		1		PULV MILL PROBLEM 000000
52	1 15	8	Oak Creek #5			МО	10/16/1989	22:59	10/19/1989	10:22	59.38	310	000000
	}	-	*				}		·	j			OTHER STEAM TURBINE PROBL542000
52			Oak Creek #5			U1	10/24/1989	8:27	10/24/1989	11:57	3.5		000000
52	1 15	8	Oak Creek #5	*		RS	10/28/1989	2:25	10/29/1989	20:04	41.65		Reserve Shutdown
	1	-											PULVERIZER FEEDER 000000
52	1 15	8	Oak Creek #5			NC	11/10/1989	21:50	11/12/1989	4:30	30.66	250	000000
								Ì	į		İ		OTHER BURNER PROBLEMS 000000
52	1 15	8	Oak Creek #5			NC	11/12/1989	4:30	11/12/1989	17:00	12.5		000000
ŀ	-												OTHER BURNER PROBLEM 000000
52	1 15	8	Oak Creek #5		210	D1	11/17/1989	14:25	11/18/1989	2:15	11.83	410	000000
													GENERATING TUBE 000000
52	1 15	8	Oak Creek #5	•		U1	12/8/1989	6:30	12/14/1989	7:05	144.58		000000
	7												SWITCHYARD SYSTEM 000000
52	1 15	8	Oak Creek #5	•		SF	12/14/1989	7:05	12/14/1989	10:03	2.96	3612	000000
	·	- 1					1						HYDRAULIC SYSTEM FILTERS 000000
52	1 15	8	Oak Creek #5	•		U1	12/14/1989	16:01	12/14/1989	17:46	1.75	4292	000000
1	-	-											PUL. FDR. (REPL. 52 PC FD9000
52	1 15	8	Oak Creek #5		:	NC	12/22/1989	22:30	12/24/1989	7:50	33.33		000000
52			Oak Creek #5			NC	1/5/1990	11:20	1/5/1990	12:20	1	1415	51 FD FAN CONTROLS
	1	1											OTHER COAL FUEL SUPPLY PROB.
52	1 15	8	Oak Creek #5	•	40	D1	1/16/1990	16:30	1/17/1990	2:25	9.91	110	UPTHROUGH BUNKERS
52			Oak Creek #5	- 1		U2	1/17/1990	2:25	1/18/1990	23:45	45.33		PUL. VENTAGE PROBLEMS
52			Oak Creek #5			МО	1/18/1990	23:45	1/20/1990	12:16	36.51		BLR. DRUM RELIEF/SAFETY VALVES
52			Oak Creek #5	*	195		2/14/1990	8:00	2/15/1990	16:45	32.75		PULVERIZER FEEDERS
52			Oak Creek #5			U1	3/2/1990	3:04	3/2/1990	5.24	2.33		INTERCEPT VALVES
52			Oak Creek #5		220		3/5/1990	9:30	3/5/1990	13:20	3.83		HIGH BLR SILICA
52			Oak Creek #5			U1	3/25/1990	1:56	3/25/1990	5:10	3.23		INTERCEPT VALVES
52			Oak Creek #5	-+	105		5/5/1990	8:16	5/5/1990	11:25	3.15		ID FAN MTR & DRIVE CNTRLS
52			Oak Creek #5	000*	105		5/5/1990	11:25	5/5/1990	13:00	1.58		ELECTROSTATIC PRECIP FOULING
52			Oak Creek #5	000*	150		5/12/1990	15:00	5/15/1990	10:00	67		ID FAN CONTROLS
- 52 52			Oak Creek #5	*		МО	5/19/1990	1:20	5/21/1990	6:39	53.31		SECOND REHEATER
		_				RS	5/25/1990			14:53	63.23		Reserve Shutdown
52			Oak Creek #5					23:39	5/28/1990				BLR WTR CONDITION (SILICA)
52			Oak Creek #5		200		6/21/1990	6:10	6/21/1990	17:45	11.58		
52			Oak Creek #5		214		7/10/1990	11:00	7/10/1990	13:30	2.5		CONDENSATE/HOTWELL PMPS Reserve Shutdown
52			Oak Creek #5	-		RS	7/31/1990	13:45	8/19/1990	20:36	462.85		
52	1 15	8	Oak Creek #5			PO	9/7/1990	19:04	12/31/1990	24:00:00	2788.93	1800	PLANNED MAINTENANCE OUTAGE
_												400-	PLANNED MAINTENANCE OUTAGE -
52			Oak Creek #5			PO	1/1/1991	0:01	1/16/1991	18:22	378.35		STARTED 9/7/90
52			Oak Creek #5	.	190		1/16/1991	18:22	1/24/1991	13:13	186.85		COMBUSTION CONTROLS TUNING
52			Oak Creek #5			PO	1/24/1991	13:13	1/25/1991	1:20	12.11		480V PROTECTION DEVICES
52			Oak Creek #5	•	190		1/25/1991	1:20	1/25/1991	19:35	18.25		COMBUSTION CONTROLS TUNING
52			Oak Creek #5	<u>*</u>		PO	1/25/1991	19:35	1/29/1991	0:32	76.94		PRIMARY AIR DUCTS & DAMPERS
52	1 15	8	Oak Creek #5	•	190	PD	1/29/1991	0:32	1/29/1991	7:36	7.06	17:10	COMBUSTION CONTROLS TUNING

			T						
521	158 Oak Creek #5		PO	1/29/1991	7:36	1/29/1991	13:42	6.1	3430 FDWTR REGULATING VALVE
521	158 Oak Creek #5		190 PD	1/29/1991	13:42	2/2/1991	14:20	96.63	1710 COMBUSTION CONTROLS TUNING
521	158 Oak Creek #5	•	PO	2/2/1991	14:20	2/2/1991	16:33	2.21	9910 MAINTENANCE ERROR
521	158 Oak Creek #5	•	190 PD	2/2/1991	16:33	2/3/1991	23:59	31.43	1710 COMBUSTION CONTROLS TUNING
521	158 Oak Creek #5	•	150 PD	2/4/1991	0:01	2/6/1991	0:01	48	1710 COMBUSTION CONTROLS TUNING
521	158 Oak Creek #5		180 PD	2/6/1991	0:01	2/7/1991	22:08	46.11	1710 COMBUSTION CONTROLS TUNING
521	158 Oak Creek #5		RS	2/7/1991	22:08	2/8/1991	21:30	23.36	0 Reserve Shutdown
521	158 Oak Creek #5	*	MO	2/16/1991	0:37	2/18/1991	3:12	50.58	1800 MAINTENANCE OUTAGE
521	158 Oak Creek #5	 -	210 PD	2/18/1991	3:12	2/18/1991	5:36	2.4	1710 COMBUSTION CONTROLS TUNING
521	158 Oak Creek #5		U1	2/18/1991	5:36	2/18/1991	5:55	0.31	1799 OTHER CONTROL PROBLEMS
521	158 Oak Creek #5		210 PD	2/18/1991	5:55	2/21/1991	1:03	67.13	1710 COMUBSTION CONTROLS TUNING
521	158 Oak Creek #5		U1	2/21/1991	1:03	2/21/1991	1:30	0.45	4302 HI SPEED TURB TRIP SYSTEM
521	158 Oak Creek #5		U1	2/21/1991	6:10	2/21/1991	6:31	0.35	1799 OTHER CONTROL PROBLEMS
521	158 Oak Creek #5		U1	2/23/1991	18:00	2/23/1991	20:01	2.01	1799 OTHER CONTROL PROBLEMS
			<u> </u>				12:24	1.15	
521	158 Oak Creek #5	000+	120 D1	3/21/1991	11:15	3/21/1991			1470 ID FAN MTRS AND DRIVES
521	158 Oak Creek #5	000*	150 D1	4/2/1991	7:15	4/2/1991	7:40	0.41	1710 COMBUSTION CONTROLS
521	158 Oak Creek #5		U1	4/5/1991	2:31	4/5/1991	5:31	3	4302 HIGH SPEED TURB TRIP SYSTEM
521	158 Oak Creek #5		U1	4/13/1991	3:17	4/13/1991	4:57	1.66	3412 FDWTR PUMP DRIVE-STEAM TURB
521	158 Oak Creek #5		U1	4/18/1991	0:47	4/18/1991	1:37	0.83	4302 HI SPEED TURB TRIP SYSTEM
521	158 Oak Creek #5		RS	4/26/1991	21:39	4/28/1991	22:35	48.93	0 Reserve Shutdown
521	158 Oak Creek #5		U1	4/29/1991	4:25	4/29/1991	4:45	0.33	1799 OTHER CONTROL PROBLEMS
521	158 Oak Creek #5	000*	160 D1	4/30/1991	7:30	4/30/1991	9:30	2	3509 55B FDWTR HTR TWIP SYS PROBLEM
521	158 Oak Creek #5	•	U1	5/7/1991	2:36	5/7/1991	3:06	0.5	1710 COMBUSTION/STM CONDITION CTRLS
521	158 Oak Creek #5	000*	165 D1	5/12/1991	20:30	5/12/1991	22:00	1.5	310 PULVERIZER MILLS PROBLEM
521	158 Oak Creek #5	•	U1	5/28/1991	14:28	5/28/1991	15:11	0.71	1710 COMBUSTION CONTROLS
521	158 Oak Creek #5		U1	5/28/1991	17 26	5/28/1991	17:59	0.55	1710 COMBUSTION CONTROLS
521	158 Oak Creek #5	•	U1	5/28/1991	19 41	5/28/1991	20:24	0.71	1710 COMBUSTION CONTROLS
521	158 Oak Creek #5	•	RS	6/9/1991	0.46	6/9/1991	9:55	9.14	0 Reserve Shutdown
521	158 Oak Creek #5	•	RS	6/21/1991	23:30	6/23/1991	21:57	46.45	0 Reserve Shutdown
521	158 Oak Creek #5	000*	180 PD	7/4/1991	0:01	7/8/1991	7:45	103.73	300 PULVERIZERS MTRS & DRIVES
521	158 Oak Creek #5	000	215 ₁ D1	7/11/1991	9:50	7/12/1991	4:00	18.16	3412 FEEDPUMP DRIVE STM TURB
521	158 Oak Creek #5	000	210 D1	7/15/1991	14:00	7/16/1991	5:00	15	3112 CONDENSER TUBE FOULING
521	158 Oak Creek #5		NC	7/26/1991	16:30	7/26/1991	23:00	6.5	310 MILL PROBLEMS
521	158 Oak Creek #5		NC	7/28/1991	15:30	7/29/1991	21:00	29.5	310 MILL PROBLEMS
521	158 Oak Creek #5		NC	8/3/1991	5:00	8/4/1991	18:45	37.75	310 53 MILL PULVERIZER
521	158 Oak Creek #5	•	U1	8/11/1991	16:56	8/11/1991	18:08	1.2	9910 MAINTENANCE ERROR
521	158 Oak Creek #5	*	U1	8/12/1991	5:20	8/12/1991	7:48	2.46	250 53 MILL FEEDER TRIP
521	158 Oak Creek #5	•	МО	8/23/1991	10:03	8/25/1991	21:28	59.41	1060 FIRST REHEATER
521	158 Oak Creek #5	000*	200 D1	8/27/1991	11:30	8/27/1991	19:16	7.76	1850 BOILER WATER CONDITION
521	158 Oak Creek #5		U2	8/27/1991	19:16	8/29/1991	17:00	45.73	1040 FIRST SUPERHEATER
521	158 Oak Creek #5	•	МО	8/29/1991	17:00	9/7/1991	18:35	217.58	4260 MAIN STOP VALVES
521	158 Oak Creek #5	000*	140 D1	9/9/1991	20:12	9/10/1991	12:00	15.8	310 PULVERIZER MILLS
521	158 Oak Creek #5	000*	155 D1	9/14/1991	12:53	9/14/1991	13:45	0.86	250 #53 PULVERIZER FEEDER
521	158 Oak Creek #5	000*	180 D1	9/16/1991	16:30	9/16/1991	20:09	3.65	310 PULVERIZER MILLS
521	158 Oak Creek #5		RS	9/16/1991	20:09	9/17/1991	19:35	23.43	0 Reserve Shutdown
521	158 Oak Creek #5		RS	9/17/1991	19:35	9/18/1991	4:24	8.81	0 Reserve Shutdown
				3, 1,7,13311		Ţ 			5,

-									,					
-	521			Creek #5	•		U1	9/18/1991	. 4	9/18/1991	5:39	1.1		GENERATOR VOLTAGE CONTROL
	521			Creek #5	000*	155		9/19/1991	6:00	9/19/1991	9:00	3	250	PULVERIZER FEEDER
- 1	521	158	Oak	Creek #5			NC	9/28/1991	22:15	9/29/1991	5:30	7.25	3431	OTHER FEEDWATER VALVES
- 1.	521	158	Oak	Creek #5	000*	140	D1	10/11/1991	12:20	10/11/1991	15:50	3.5	250	#53 PULVERIZER FEEDER
1.	521	158	Oak	Creek #5	•	1	U1	10/24/1991	5:48	10/24/1991	6:15	0.45	1710	COMBUSTION CONTROLS
Γ	521	158	Oak	Creek #5	•		U1	10/24/1991	6:43	10/24/1991	7:12	0.48	1710	COMBUSTION CONTROLS
	521	158	Oak	Creek #5	•		U1	10/25/1991	5:59	10/25/1991	6:26	0.45	1710	COMBUSTION CONTROLS
	521	158	Oak	Creek #5	000*	110	D1	10/25/1991	7:00	10/25/1991	11:30	4.5	1710	COMBUSTION CONTROLS
	521	158	Oak	Creek #5	000*	180		10/28/1991	5:30	10/29/1991	12:30	31	340	51 MILL-RPL RIBBON CONVEYOR
	521	1.58	Oak	Creek #5	000*	200		11/1/1991	7:00	11/1/1991	18:00	11	3112	CONDENSER TUBE FOULING
	521			Creek #5	000*	150		11/4/1991	6:00	11/4/1991	7:00	1		PULVERIZER MILL
	521			Creek #5	000*	150		11/4/1991	7:00	11/4/1991	8:30	1.5		BURNER INSTRUMENTS & CONTROLS
	521			Creek #5	000*	150		11/4/1991	8:30	11/4/1991	12:35	4.08		PULVERIZER FEEDER
	521	158	Oak	Creek #5	000*	180		11/28/1991	5:40	11/30/1991	3:58	46.3		51 MILL REPL BROKEN RIBBON CNYR
1.	521	158	Oak	Creek #5	*		U1	11/30/1991	3:58	11/30/1991	6:42	2.73		COMBUSTION CONTROLS
	521	158	Oak	Creek #5	000*	180		11/30/1991	6:42	11/30/1991	12:40	5.96		51 MILL REPL BROKEN RIBBON CNVR
T.	521	158	Oak	Creek #5			NC	12/7/1991	0:01	12/8/1991	13:00	36.98	340	53 MILL EXHAUSTER
ľ	521			Creek #5	•		RS	12/21/1991	5:38	12/30/1991	0:01	210.38	0	Reserve Shutdown
[521	158	Oak	Creek #5	•		МО	12/30/1991	0:01	12/31/1991	23:59	47.96	1800	PLANNED MAINT. OUTAGE
Γ	1													PLANNED MAINT. OUTAGE (STARTED
- 1	521	158	Oak	Creek #5	•		PO	1/1/1992	0:02	2/1/1992	20:46	764.73	1800	12/30/91 00:01)
	521			Creek #5	*		MO	2/1/1992		2/1/1992	23:13	1.96		PULVERIZER CONTROL SYS
	521			Creek #5	*		MO	2/2/1992		2/2/1992	3:28			MAINTENANCE ERROR
	521			Creek #5	•		МО	2/2/1992		2/3/1992	18:10			LUBE OIL SYS VALVES & PIPING
	521			Creek #5	•		U1	2/5/1992		2/5/1992	11:17	1.41	3412	FEED PUMP DRIVE STEAM TURBINE
	521			Creek #5	000*	134		2/6/1992		2/6/1992	22:20	14.83		PULVERIZER FEEDER
- 1.	521			Creek #5	•		RS	2/9/1992		2/9/1992	4:04	3.1		Reserve Shutdown
	521	158	Oak	Creek #5	*		U1	2/14/1992	0:05	2/14/1992	18:07	18.03		MAINT. ERROR
	521			Creek #5	•		RS	2/21/1992	4:29	2/24/1992	3:24	70.91		Reserve Shutdown
	521	158	Oak	Creek #5	000*	180		2/25/1992	6:45	2/25/1992	7:45	1	3416	FEEDWATER CONTROLS
	521	158	Oak	Creek #5	000	220		2/25/1992	7:45	2/25/1992	10:00			BLR. WATER COND. (HIGH SILICA)
	521			Creek #5	000*	205		2/26/1992		2/26/1992	23:00			BLR. WATER CONDITION (SILICA)
	521	158	Oak	Creek #5	•		RS	2/27/1992	23:19	3/2/1992	2:53	51.56		Reserve Shutdown
	521	158	Oak	Creek #5	000*	165	D1	3/2/1992	15:00	3/3/1992	11:00	20		OTHER PULVERIZER PROBLEMS
	521	158	Oak	Creek #5	•		U1	3/15/1992	4:40	3/15/1992	5:22	0.7	3412	FEED PMP DRIVE STEAM TURBINE
														CONDENSER TUBE & WTRBX
	521	158	Oak	Creek #5	•		U1	3/27/1992	3:48	3/27/1992	4:10	0.36	3113	CLEANING
S	521	158	Oak	Creek #5	*		U1	3/27/1992	4:17	3/27/1992	4:47	0.5	1700	FEEDWATER CONTROLS
WEPCO	521	158	Oak	Creek #5		1	NC	3/28/1992		3/29/1992	13:30		250	53 PULVERIZED FUEL FEEDER
Ğ.	521	158	Oak	Creek #5	000*	180	D1	4/10/1992		4/13/1992	4:01	69.01		51 MILL PULVERIZER
Ó	521	158	Oak	Creek #5		1	NC	4/14/1992		4/14/1992	4:00		1470	ID FAN MOTORS AND DRIVES
40031	521			Creek #5	000*	180		5/7/1992		5/8/1992	7:10		360	BURNERS
3	521			Creek #5		T	NC	6/19/1992		6/21/1992	13:30			PULVERIZER MOTORS & DRIVES
	521			Creek #5		†	RS	6/25/1992		7/1/1992	6:24		0	Reserve Shutdown
	521			Creek #5		1	U1	7/1/1992		7/1/1992	11:45			LIGHT OFF IGNITERS
ł	521			Creek #5	/:	1	U1	7/1/1992		7/1/1992	22:36			LIGHT UNF IGNITERS
<u> </u>														

	521		Oak Creek #5	•	U1	7/16/1992	13:22	7/16/1992	16:15	2.88	1799	OTHER CONTROL PROBLEMS
	521	158	Oak Creek #5	*	RS	7/16/1992	18:40	7/19/1992	12:56	66.26	0	Reserve Shutdown
1	521	158	Oak Creek #5	•	U1	7/19/1992	16: 0 0	7/19/1992	16:16	0.26		LIGHT OFF IGNITERS
	521	158	Oak Creek #5	*	U1	7/19/1992	17:01	7/19/1992	17:10	0.15		LIGHT OFF IGNITERS
1.	521	158	Oak Creek #5	*	U1	7/19/1992	17:34	7/19/1992	17:45	0.18	380	LIGHT OFF IGNITERS
-	521		Oak Creek #5	•	U1	7/28/1992	0:17	7/28/1992	0:39	0.36		COMBUSTION CONTROLS
-	521		Oak Creek #5	•	U1	8/10/1992	20:52	8/10/1992	22:34	1.7		BURNER MGMT SYSTEM
	521	158	Oak Creek #5	•	RS	8/27/1992	10:43	9/7/1992	12:16	265.54		Reserve Shutdown
-	521		Oak Creek #5	•	U1	9/7/1992	21:32	9/7/1992	22:26	0.9		BURNER MANAGEMENT SYSTEM
	521	158	Oak Creek #5	•	U1	9/9/1992	10:14	9/9/1992	11:07	0.88		BURNER MANAGEMENT SYSTEM
	521	158	Oak Creek #5	•	U1	9/9/1992	21:39	9/9/1992	23:23	1.73	1750	BURNER MANAGEMENT SYSTEM
-	521	158	Oak Creek #5	000*	220 D1	10/2/1992	10:15	10/2/1992	12:00	1.75	1799	OTHER BOILER CONTROL PROBLEMS
	521	158	Oak Creek #5	*	RS	10/3/1992	0:17	10/4/1992	20:16	43.98	0	Reserve Shutdown
	521	158	Oak Creek #5	•	U1	10/4/1992	22:45	10/4/1992	23:30	0.75	380	LIGHT-OFF SYSTEMS
-	521	158	Oak Creek #5	*	U1	10/5/1992	0:52	10/5/1992	2:13	1.35	380	LIGHT-OFF SYSTEMS
	521	158	Oak Creek #5	•	MO	10/7/1992	23:37	10/8/1992	12:30	12.88		GLAND SEAL SYSTEM
	521	158	Oak Creek #5	•	MO	10/8/1992	12:30	10/9/1992	6:37	18.11	1090	RADIANT SPRHT DRAIN LINE LEAK
	521	158	Oak Creek #5	000*	140 D2	10/23/1992	13:30	10/25/1992	0:01	34.51	3440	HP HTR TUBE LEAK
- -												
	521	158	Oak Creek #5		NC	10/25/1992	0:01	10/26/1992	4:00	27.98	3440	HI PRESSURE FDWTR HTR TUBE LEAK
	521	158	Oak Creek #5	000-	140 PD	10/26/1992	4:00	10/26/1992	22:20	18.33	3440	HI PRESSURE FOWTR HTR TUBE LEAK
	521	158	Oak Creek #5		NC	10/31/1992	3:00	11/1/1992	9:00	30	3440	HI PRESSURE FOWTR HTR TUBE LEAK
	521	158	Oak Creek #5	000*	138 D1	11/1/1992	17:15	11/1/1992	17:40	0.41	340	OTHER MILL PROBLEMS
- -	521	158	Oak Creek #5	000*	138 D1	11/2/1992	17:20	11/2/1992	17:50	0.5		PULVERIZER FEEDER
	521	158	Onle Canale ME									OTHER BOLLED THRE LEAVE
	521		Oak Creek #5	* _	MO	11/12/1992	21:54	11/14/1992	12:45	38.84		OTHER BOILER TUBE LEAKS
	52 1	158	Oak Creek #5	*	U1	11/20/1992	3:43	11/20/1992	12:45 4:08	0.41	9270	WET COAL
	521	158		000*	U1 160 D2			11/20/1992 12/2/1992		0.41 20.58	9270 340	WET COAL OTHER PULVERIZER PROBLEMS
		158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1	11/20/1992	3:43	11/20/1992 12/2/1992 12/3/1992	4:08	0.41	9270 340 1799	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS
-	521 521 521	158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5		U1 160 D2 203 D1 U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992	3:43 9:15 17:00 17:21	11/20/1992 12/2/1992 12/3/1992 12/9/1992	4:08 5:50 6:00 2:43	0.41 20.58 13 9.36	9270 340 1799 1799	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS
-	521 521 521 521	158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5		U1 160 D2 203 D1 U1 U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992	3:43 9:15 17:00 17:21 3:17	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992	4:08 5:50 6:00 2:43 3:52	0.41 20.58 13 9.36 0.58	9270 340 1799 1799 380	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM
	521 521 521 521 521	158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992	3:43 9:15 17:00 17:21 3:17 8:37	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992	4:08 5:50 6:00 2:43 3:52 10:13	0.41 20.58 13 9.36 0.58 1.6	9270 340 1799 1799 380 380	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS
	521 521 521 521 521 521	158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5		U1 160 D2 203 D1 U1 U1 U1 175 PD	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48	0.41 20.58 13 9.36 0.58 1.6 15.3	9270 340 1799 1799 380 380 310	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS
-	521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/11/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16	9270 340 1799 1799 380 380 310	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown
	521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/11/1992 12/13/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43	9270 340 1799 1799 380 380 310 0	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS
	521 521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS U1 U1 U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/11/1992 12/13/1992 12/14/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20 2:46	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/17/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46 2:45	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43 71.98	9270 340 1799 1799 380 380 310 0 380 1040	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS FIRST SUPERHEATER
	521 521 521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 175 PD RS U1 U1 MO	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/17/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20 2:46 2:45	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/17/1992 12/18/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46 2:45 16:30	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43 71.98 37.75	9270 340 1799 1799 380 310 0 380 1040 1320	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS FIRST SUPERHEATER TUBE SUPPORTS/ATTACHMENTS
W	521 521 521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS U1 U1 MO RS	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/11/1992 12/13/1992 12/14/1992 12/17/1992 12/18/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20 2:46 2:45 16:30	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/18/1992 12/20/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46 2:45 16:30 6:22	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43 71.98 37.75 37.86	9270 340 1799 1799 380 380 310 0 380 1040 1320 0	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS FIRST SUPERHEATER TUBE SUPPORTS/ATTACHMENTS Reserve Shutdown
WEP	521 521 521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS U1 U1 MO RS U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/17/1992 12/18/1992 12/20/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20 2:46 2:45 16:30 7:33	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46 2:45 16:30 6:22 10:13	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43 71.98 37.75 37.86 2.66	9270 340 1799 1799 380 310 0 380 1040 1320 0 340	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS FIRST SUPERHEATER TUBE SUPPORTS/ATTACHMENTS Reserve Shutdown OTHER PULVERIZER PROBLEMS
WEPCO	521 521 521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS U1 U1 MO RS U1 U1 U1 MO RS U1 U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20 2:46 2:45 16:30 7:33 16:37	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992 12/20/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46 2:45 16:30 6:22 10:13 17:40	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43 71.98 37.75 37.86 2.66 1.04	9270 340 1799 1799 380 310 0 380 1040 1320 0 340 380	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS FIRST SUPERHEATER TUBE SUPPORTS/ATTACHMENTS Reserve Shutdown OTHER PULVERIZER PROBLEMS LIGHT OFF IGNITORS
WEPCO 40	521 521 521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS U1 U1 MO RS U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992 12/20/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20 2:46 2:45 16:30 7:33 16:37 21:50	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46 2:45 16:30 6:22 10:13 17:40 22:10	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43 71.98 37.75 37.86 2.66 1.04 0.33	9270 340 1799 1799 380 310 0 380 1040 1320 0 340 380 380	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS FIRST SUPERHEATER TUBE SUPPORTS/ATTACHMENTS Reserve Shutdown OTHER PULVERIZER PROBLEMS LIGHT OFF IGNITORS LIGHT OFF IGNITORS
WEPCO 4003	521 521 521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS U1 U1 MO RS U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/3/1/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20 2:46 2:45 16:30 7:33 16:37 21:50 0:07	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46 2:45 16:30 6:22 10:13 17:40 22:10 0:31	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43 71.98 37.75 37.86 2.66 1.04 0.33 0.4	9270 340 1799 1799 380 310 0 380 1040 1320 0 340 380 380 4302	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS FIRST SUPERHEATER TUBE SUPPORTS/ATTACHMENTS Reserve Shutdown OTHER PULVERIZER PROBLEMS LIGHT OFF IGNITORS LIGHT OFF IGNITORS LO SPEED TURB TRIP DEVICE
WEPCO 40032	521 521 521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS U1 U1 MO RS U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/31/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20 2:46 2:45 16:30 7:33 16:37 21:50 0:07 10:30	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/31/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46 2:45 16:30 6:22 10:13 17:40 22:10 0:31 12:00	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43 71.98 37.75 37.86 2.66 1.04 0.33 0.4 1.5	9270 340 1799 380 310 0 380 1040 1320 0 340 380 380 380 380 270	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS FIRST SUPERHEATER TUBE SUPPORTS/ATTACHMENTS Reserve Shutdown OTHER PULVERIZER PROBLEMS LIGHT OFF IGNITORS LIGHT OFF IGNITORS LO SPEED TURB TRIP DEVICE WET COAL
WEPCO 40032	521 521 521 521 521 521 521 521 521 521	158 158 158 158 158 158 158 158 158 158	Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5 Oak Creek #5	000*	U1 160 D2 203 D1 U1 U1 U1 175 PD RS U1 U1 MO RS U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1 U1	11/20/1992 12/1/1992 12/2/1992 12/8/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/3/1/1992	3:43 9:15 17:00 17:21 3:17 8:37 7:30 22:48 21:20 2:46 2:45 16:30 7:33 16:37 21:50 0:07	11/20/1992 12/2/1992 12/3/1992 12/9/1992 12/9/1992 12/9/1992 12/11/1992 12/13/1992 12/14/1992 12/18/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992 12/20/1992	4:08 5:50 6:00 2:43 3:52 10:13 22:48 18:58 1:46 2:45 16:30 6:22 10:13 17:40 22:10 0:31	0.41 20.58 13 9.36 0.58 1.6 15.3 44.16 4.43 71.98 37.75 37.86 2.66 1.04 0.33 0.4	9270 340 1799 1799 380 310 0 380 1040 1320 0 340 380 380 380 1750	WET COAL OTHER PULVERIZER PROBLEMS OTHER BLR CONTROL PROBLEMS OTHER BLR CONTROL PROBLEMS LIGHT OFF SYSTEM LIGHT OFF SYSTEMS PULVERIZER MILLS Reserve Shutdown LIGHT OFF SYSTEMS FIRST SUPERHEATER TUBE SUPPORTS/ATTACHMENTS Reserve Shutdown OTHER PULVERIZER PROBLEMS LIGHT OFF IGNITORS LIGHT OFF IGNITORS LO SPEED TURB TRIP DEVICE

										
521		000*	220		1/4/1993	7:00	1/5/1993	5:56	22.93	8550 ELECTROSTATIC PRECIP FOULING
521		•		U1	1/5/1993	5:56	1/5/1993	9:07	3.18	3950 PROCESS COMPUTER
521	158 Oak Creek #5	000*	200	D1	1/5/1993	16:30	1/11/1993	0:50	128.33	8550 ELECTROSTATIC PRECIPS FOULING
521	158 Oak Creek #5	•		U1	1/17/1993	13:02	1/17/1993	14:35	1.55	1700 FEEDWATER CONTROLS
521	158 Oak Creek #5	•		U1	1/17/1993	17:43	1/17/1993	18:07	0.4	1750 BURNER MANAGEMENT SYSTEM
521	158 Oak Creek #5	000*	1101		1/25/1993	0:30	1/25/1993	10:38	10.13	1060 FIRST REHEATER
521	158 Oak Creek #5	•		МО	1/25/1993	10:38	1/29/1993	3:15	88.61	1060 FIRST REHEATER
521	158 Oak Creek #5	000*	213		3/15/1993	8:00	3/15/1993	13:30	5.5	1799 BOILER CONTROL PROBLEMS
521	158 Oak Creek #5	000*	210		3/19/1993	8:00	3/19/1993	23:00	15	1700 FEEDWATER CONTROLS
521	158 Oak Creek #5	•		PO	3/20/1993	9:42	4/30/1993	15:31	989.81	1800 PLANNED MAINTENANCE OUTAGE
521	158 Oak Creek #5			PO	5/1/1993	2:17	5/1/1993	2:39	0.36	1710 COMBUSTION CONTROLS
521	158 Oak Creek #5			PO	5/1/1993	15:00	5/1/1993	16:09	1.15	1710 COMBUSTION CONTROLS
521	158 Oak Creek #5	*	200		5/3/1993	6:00	5/4/1993	1:00	19	1850 BOILER WATER CONDITIONS
521	158 Oak Creek #5			RS	5/6/1993	23:24	5/11/1993	4:46	101.36	0 Reserve Shutdown
521	158 Oak Creek #5			U1	·		5/19/1993		0.43	1990 BOILER PERFORMANCE TESTING
·	158 Oak Creek #5			U1	5/19/1993	1:04		1:30		1990 BOILER PERFORMANCE TESTING
521					5/20/1993	1:36	5/20/1993	1:55	0.31	
521	158 Oak Creek #5	— -	212		5/20/1993	8:30	5/20/1993	17:18	8.8	4309 OTHER TURB INST & CTRL PROBLEMS
521	158 Oak Creek #5			U1	5/20/1993	17:18	5/20/1993	17:51	0.55	1710 COMBUSTION CONTROLS
521	158 Oak Creek #5		,215		5/20/1993	17:51	5/20/1993	20:11	2.33	4309 OTHER TURB INST & CTRL PROBLEMS
521	158 Oak Creek #5			J1	5/20/1993	20:11	5/20/1993	20:36	0.41	1710 COMBUSTION CONTROLS
521	158 Oak Creek #5		160 [5/26/1993	9:00	5/26/1993	11:15	2.25	338 PULVERIZER CONTROL SYSTEM
521	158 Oak Creek #5			NC	5/29/1993	21:00	5/30/1993	16:00	19	340 OTHER PULVERIZER PROBLEMS
521	158 Oak Creek #5	!*		MO	6/16/1993	2:43	6/16/1993	3:29	0.76	4293 HYDRALIC SYSTEM PIPES & VLVS
521	158 Oak Creek #5			NC	6/16/1993	3:30	6/19/1993	6:25	74.91	300 PULVERIZER MOTORS & DRIVES
521	158 Oak Creek #5	*	160		6/25/1993	3:15	6/25/1993	18:30	15.25	300 PULVERIZER MOTOR & DRIVES
521	158 Oak Creek #5	000*	220 [8/13/1993	11:30	8/13/1993	17:30	6	9270 WET COAL
521	158 Oak Creek #5	000*	175 [9/13/1993	7:00	9/13/1993	18:00	11	310 PULVERIZER MILLS
521	158 Oak Creek #5	*		RS	9/15/1993	23:19	9/25/1993	11:13	227.9	0 Reserve Shutdown
521	158 Oak Creek #5	•	5	SF	9/25/1993	11:13	9/25/1993	11:50	0.61	1710 COMBUSTION CONTROLS
521	158 Oak Creek #5		1	NC	10/8/1993	23:00	10/9/1993	17:00	18	3441 OTHER HP FDWTR HTR PROBLEMS
521	158 Oak Creek #5	*	l	Ū1	10/16/1993	7:55	10/16/1993	9:47	1.86	4601 EXCITATION FIELD RHEOSTAT
521	158 Oak Creek #5	000*	220	D1	10/27/1993	8:00	10/27/1993	22:00	14	9290 OTHER FUEL QUALITY PROBLEMS
521	158 Oak Creek #5	000*	220 [D1	10/28/1993	7:00	10/28/1993	22:00	15	9290 OTHER FUEL QUALITY PROBLEMS
521	158 Oak Creek #5	000*	130 [D1	11/1/1993	9:00	11/1/1993	11:45	2.75	310 PULVERIZER MILLS
521	158 Oak Creek #5	•		U1	11/6/1993	16:36	11/6/1993	17:59	1.38	3950 PROCESS COMPUTER
521	158 Oak Creek #5	•	l	J1	11/16/1993	22:51	11/22/1993	11:00	132.14	4520 GENERATOR STATOR GROUND
521	158 Oak Creek #5	•		MO	11/22/1993	11:00	11/23/1993	1:09	14.15	4613 HYDROGEN SEALS HS
521	158 Oak Creek #5	- 1		RS	12/24/1993	2:09	12/27/1993	1:00	70.85	0 Reserve Shutdown
521 521 521 521	158 Oak Creek #5	•		MO	12/27/1993	1:01	12/31/1993	23:59	118.96	4240 LP TURBINE BEARING
521	158 Oak Creek #5			MO	1/1/1994	0:02	1/3/1994	17:26	65.4	4240 LP TURBINE BEARING
521	158 Oak Creek #5	000-	160		1/5/1994	4:00	1/5/1994	22:29	18.48	3110 CONDENSER TUBE LEAKS
	158 Oak Creek #5			RS	1/5/1994	22:29	1/6/1994	6:24	7.91	0 Reserve Shutdown
521 3 521	158 Oak Creek #5			J1	1/6/1994	10:53	1/6/1994	12:39	1.76	1700 FEEDWATER CONTROLS
ა52 <u>1</u> 521	158 Oak Creek #5	000.	138		1/18/1994	8:45	1/18/1994	10:30	1.75	250 PULVERIZER FEEDER
521	158 Oak Creek #5			J1	3/25/1994	6:07	3/25/1994	8:13	2.09	1710 COMBUSTION CONTROLS
521	(- -		RS -	5/21/1994	1:02	5/21/1994	3:11	2.15	0 Reserve Shutdown
521	130 Car Cleek #3			10	3/2//1994	1.02	3/2 // 1994	3.11	2.15	Aluesaise ouninowii

S21 158 Oak Creek #5				1	2,24,22	12.22					12
Sept	521			U1	6/3/1994	16:29	6/8/1994	8:00	111.51		
S21 158 Oak Creek #5	521										
521 158 Oak Creek #5 U2 71/1/1994 22-48 74/1994 4-07 53.31 1090 OTHER BOILER TUBE LEAKS 521 158 Oak Creek #5 O00 200 D1 77/1994 16:00 77/8/1994 5:06 0.98 3380 LIGHT OFF SYSTEM 521 158 Oak Creek #5 U3 7/8/1994 1:17 7/8/1994 1:17 9.28 3110 CONDENSER TUBE LEAKS 521 158 Oak Creek #5 U3 7/8/1994 1:17 7/8/1994 9:09 7.86 3110 CONDENSER TUBE LEAKS 521 158 Oak Creek #5 U3 7/8/1994 1:103 7/8/1994 9:09 7.86 3110 CONDENSER TUBE LEAKS 521 158 Oak Creek #5 O00 190 D1 8/9/1994 11:03 7/8/0/1994 22:00 4.5 3112 COND. TUBE FOULING TUBE SIDE 521 158 Oak Creek #5 O00 190 D1 8/9/1994 22:00 4.5 3112 COND. TUBE FOULING TUBE SIDE 521 158 Oak Creek #5 O00 150 D1 9/19/1994 17:30 8/9/1994 22:00 4.5 3112 COND. TUBE FOULING TUBE SIDE 521 158 Oak Creek #5 O00 150 D1 9/19/1994 16:21 9/21/1994 13:01 11:0.5 1050 SECOND SUPERHEATER 521 158 Oak Creek #5 O00 150 D1 9/21/1994 14:29 9/21/1994 14:29 44:13 3440 H PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 O00 150 D1 9/21/1994 17:02 9/22/1994 12:00 4:3 3440 H PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 O00 150 D1 9/22/1994 12:00 9/22/1994 2:00 1:05 BURNER MANAGEMENT SYSTEM 521 158 Oak Creek #5 O00 150 D1 9/22/1994 2:09 9/22/1994 3:24 0.41 3440 H PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 O00 150 D1 9/22/1994 2:59 9/22/1994 3:24 0.41 3440 H PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 O00 150 D1 9/22/1994 2:59 9/22/1994 3:24 0.41 3440 H PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 O00 150 D1 9/22/1994 2:59 9/22/1994 3:24 0.41 3440 H PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 O00 150 D1 9/22/1994 3:24 0.41 3440 H PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 O00 150 D1 9/22/1994	521	158 Oak Creek	#5	SF	6/12/1994	9:15	6/16/1994	5:23	92.13	4260	MAIN STOP VALVE
521 158 Oak Creek #5	521	158 Oak Creek	#5 000°	135 D1	6/29/1994	8:45	6/29/1994	19:25	10.66	200	PULVERIZER EXHAUSTER FAN
S21 158 Oak Creek #5	521	158 Oak Creek	#5 *		7/1/1994	22:48	7/4/1994		53.31		
521 158 Oak Creek #5 000 200 D1 77/11994 16:00 78/1994 1:17 9.28 3110 CONDENSER TUBE LEAKS											
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521 158 Oak Creek #5 U1 7/30/1994 11:03 7/30/1994 22:00 4.5 3112 COND. TUBE FOULING TUBE SIDE	} (-							1			
521 158 Oak Creek #5 O00 190 D1 889/1994 17:30 899/1994 22:00 4.5 3112 COND. TUBE FOULING TUBE SIDE 521 158 Oak Creek #5 RS 9/4/1994 23:50 9/5/1994 21:08 21:3 D1 Reserve Stutiotown 521 158 Oak Creek #5 U2 9/6/1994 22:40 9/1/1994 13:10 11:05 1050 SECOND SUPERHEATER 521 158 Oak Creek #5 O00 150 D1 9/19/1994 14:29 9/21/1994 14:29 44.13 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 O00 150 D1 9/21/1994 14:29 9/21/1994 17:02 2.55 1570 BURNER MANAGEMENT SYSTEM 521 158 Oak Creek #5 O00 150 D1 9/21/1994 17:02 9/22/1994 1:20 8.3 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 U1 9/22/1994 1:20 9/22/1994 1:20 8.3 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 U1 9/22/1994 1:20 9/22/1994 1:20 8.3 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 U1 9/22/1994 1:20 9/22/1994 1:20 8.3 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 U1 9/22/1994 2:29 9/22/1994 6:18 2.9 1570 BURNER MANAGEMENT SYSTEM 521 158 Oak Creek #5 O00 150 D1 9/22/1994 2:59 9/22/1994 3:24 0.41 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 O00 150 D1 9/22/1994 6:18 9/23/1994 10:47 59.9 10:40 FIRST SUPERHEAT 521 158 Oak Creek #5 U1 10/18/1994 7:03 10/18/1994 7:46 0.71 17/10 COMBUSTION CONTROLS 521 158 Oak Creek #5 U1 10/18/1994 7:03 10/18/1994 7:46 0.71 17/10 COMBUSTION CONTROLS 521 158 Oak Creek #5 SF 12/13/1994 2:00 12/15/1994 6:14 52.23 1005 GENERATING TUBE 521 158 Oak Creek #5 SF 12/13/1994 2:00 12/15/1994 6:14 52.23 1005 GENERATING TUBE 521 158 Oak Creek #5 O00 150 D1 12/20/1994 15:00 12/20/1994 15:00 10/18/1995 15:00 10/18/1995 15:00 14/18/1995 15:00 14/18/1995 15:00 14/18/1995 15:00 14/18/1995 15:00 14/1	1										
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521 158 Oak Creek #5 000° 150 D1 9/19/1994 18:21 9/21/1994 14:29 44.13 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 ' U1 9/21/1994 14:29 9/21/1994 17:02 9.255 1570 BURNER MANAGEMENT SYSTEM 521 158 Oak Creek #5 ' U1 9/21/1994 12:09 8.3 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 ' U1 9/22/1994 12:09 9/22/1994 2:59 1.65 1570 BURNER MANAGEMENT SYSTEM 521 158 Oak Creek #5 ' U1 9/22/1994 3:24 9/22/1994 2:59 1.65 1570 BURNER MANAGEMENT SYSTEM 521 158 Oak Creek #5 ' U1 9/22/1994 3:24 9/22/1994 2:59 1.65 1570 BURNER MANAGEMENT SYSTEM 521 158 Oak Creek #5 ' U1 9/22/1994 3:24 9/22/1994 3:24 0.41 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 000° 150 D1 9/22/1994 2:59 9/22/1994 3:24 0.41 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 000° 150 D1 9/22/1994 6:18 9/23/1994 11:00 28.7 3440 HI PRESSURE HTR TUBE LEAKS 521 158 Oak Creek #5 ' U2 10/9/1994 22:53 10/12/1994 10:47 59.9 1040 FIRST SUPERHEAT 521 158 Oak Creek #5 ' U1 10/18/1994 7:03 10/18/1994 10:47 59.9 1040 FIRST SUPERHEAT 521 158 Oak Creek #5 ' U1 10/18/1994 1:31 10/19/1994 1:59 0.46 1710 COMBUSTION CONTROLS 521 158 Oak Creek #5 ' U1 10/19/1994 1:31 10/19/1994 1:59 0.46 1710 COMBUSTION CONTROLS 521 158 Oak Creek #5 ' PO 12/11/1994 0:27 12/13/1994 2:00 289.54 1800 PLANNED ANNUAL OUTAGE 521 158 Oak Creek #5 ' SF 12/15/1994 6:14 12/15/1994 15:00 10 1470 ID FAN MOTOR AND DRIVE 521 158 Oak Creek #5 ' SF 12/15/1994 6:14 12/15/1994 15:00 10 1470 ID FAN MOTOR AND DRIVE 521 158 Oak Creek #5 ' SF 12/15/1994 6:14 12/15/1994 15:00 10 1470 ID FAN MOTOR AND DRIVE 521 158 Oak Creek #5 ' W1 2/20/1994 15:00 12/20/1994 15:00 10 1470 ID FAN MOTOR AND DRIVE 521 158 Oak Creek #5 ' W1 2/20/1994 15:00 12/20/1994 15:00 10 1470 ID FAN MOTOR AND DRIVE 521 158 Oak Creek #5 ' W1 2/20/1994 15:00 12/20/1994 15:00 12/20/1994 15:00 10 1470 ID FAN MOTOR AND DRIVE 521 158 Oak Creek #5 ' W1 2/20/1995 13:00 2/21/1995 2:03 2.5 8560 ELECTROSTATIC PRECIP PROBLEMS 521 158 Oak Creek #5 ' W1 2/20/1995 13:00 2/21/1995 2:03 2.5 17:00 COMBUSTION CONTROS 521 158 Oak Creek #5 ' W1	I				·						
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521 158 Oak Creek #5 * U1 10/19/1994 1:31 10/19/1994 1:59 0.46 1710 COMBUSTION CONTROLS 521 158 Oak Creek #5 * PO 12/1/1994 0:27 12/13/1994 2:00 289.54 1800 PLANNED ANNUAL OUTAGE 521 158 Oak Creek #5 * SF 12/13/1994 2:00 12/15/1994 6:14 52.23 1005 GENERATING TUBE 521 158 Oak Creek #5 * SF 12/15/1994 6:14 12/15/1994 18:14 12 3644 PROTECTION DEVICES 521 158 Oak Creek #5 000* 85 D1 12/20/1994 15:00 10 1470 10 FAN MOTOR AND DRIVE 521 158 Oak Creek #5 000* 110 D1 12/20/1994 15:00 12/20/1994 21:28 6.46 1850 BOILER WATER CONDITION 521 158 Oak Creek #5 * MO 12/20/1994 21:28 12/21/1994 8:24 10.93 3110 CONDENSER TUBE LEAKS 521 158 Oak Creek #5 * 000* 224 D1 2/21/1995 18:00 2/21/1995 20:30 2.5 8560 ELECTROSTATIC PRECIP PROBLEMS 521 158 Oak Creek #5 * MO 3/28/1995 3:40 3/1/1995 4:50 1.16 3271 INTAKE GRATING FOULING 521 158 Oak Creek #5 * MO 3/28/1995 23:04 4/2/1995 21:43 118.65 1060 FIRST REHEATER 521 158 Oak Creek #5 * MO 3/28/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 * MO 4/4/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 * MO 4/4/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 * MO 4/4/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 * MO 4/4/1995 1:15 4/4/1995 1:20 0.41 4750 TEST REVERSE POWER RELAY 521 158 Oak Creek #5 * MO 4/4/1995 1:15 4/4/1995 1:20 0.44 1750 GENERATING TUBE	521	158 Oak Creek	#5	U2	10/9/1994	22:53		10:47			
521 158 Oak Creek #5 * PO 12/1/1994 0:27 12/13/1994 2:00 289.54 1800 PLANNED ANNUAL OUTAGE 521 158 Oak Creek #5 * SF 12/13/1994 2:00 12/15/1994 6:14 52.23 1005 GENERATING TUBE 521 158 Oak Creek #5 * SF 12/15/1994 6:14 12/15/1994 18:14 12 3644 PROTECTION DEVICES 521 158 Oak Creek #5 000* 85 D1 12/20/1994 5:00 12/20/1994 15:00 10 1470 ID FAN MOTOR AND DRIVE 521 158 Oak Creek #5 000* 110 12/20/1994 15:00 12/20/1994 21:28 6.46 1850 BOILER WATER CONDITION 521 158 Oak Creek #5 * MO 12/20/1994 21:28 12/21/1994 8:24 10.93 3110 CONDENSER TUBE LEAKS 521 158 Oak Creek #5 * U1 3/11/1995 </td <td>521</td> <td>158 Oak Creek</td> <td>#5 *</td> <td>U1</td> <td>10/18/1994</td> <td>7:03</td> <td>10/18/1994</td> <td>7:46</td> <td>0.71</td> <td>1710</td> <td>COMBUSTION CONTROLS</td>	521	158 Oak Creek	#5 *	U1	10/18/1994	7:03	10/18/1994	7:46	0.71	1710	COMBUSTION CONTROLS
521 158 Oak Creek #5 * PO 12/1/1994 0:27 12/13/1994 2:00 289.54 1800 PLANNED ANNUAL OUTAGE 521 158 Oak Creek #5 * SF 12/13/1994 2:00 12/15/1994 6:14 52.23 1005 GENERATING TUBE 521 158 Oak Creek #5 * SF 12/15/1994 6:14 12/15/1994 18:14 12 3644 PROTECTION DEVICES 521 158 Oak Creek #5 000* 85 D1 12/20/1994 5:00 12/20/1994 15:00 10 1470 ID FAN MOTOR AND DRIVE 521 158 Oak Creek #5 000* 110 12/20/1994 15:00 12/20/1994 21:28 6.46 1850 BOILER WATER CONDITION 521 158 Oak Creek #5 * MO 12/20/1994 21:28 12/21/1994 8:24 10.93 3110 CONDENSER TUBE LEAKS 521 158 Oak Creek #5 * U1 3/11/1995 </td <td>521</td> <td>158 Oak Creek</td> <td>#5</td> <td>U1</td> <td>10/19/1994</td> <td>1:31</td> <td>10/19/1994</td> <td>1:59</td> <td>0.46</td> <td>1710</td> <td>COMBUSTION CONTROLS</td>	521	158 Oak Creek	#5	U1	10/19/1994	1:31	10/19/1994	1:59	0.46	1710	COMBUSTION CONTROLS
521 158 Oak Creek #5					12/1/1994		12/13/1994	2:00	289.54	1800	PLANNED ANNUAL OUTAGE
521 158 Oak Creek #5	l				_,						
521 158 Oak Creek #5 000° 85 D1 12/20/1994 5:00 12/20/1994 15:00 10 1470 ID FAN MOTOR AND DRIVE 521 158 Oak Creek #5 000° 110 D1 12/20/1994 15:00 12/20/1994 21:28 6.46 1850 BOILER WATER CONDITION 521 158 Oak Creek #5 MO 12/20/1994 21:28 12/21/1994 8:24 10.93 3110 CONDENSER TUBE LEAKS 521 158 Oak Creek #5 000° 224 D1 2/21/1995 18:00 2/21/1995 20:30 2.5 8560 ELECTROSTATIC PRECIP PROBLEMS 521 158 Oak Creek #5 "U1 3/1/1995 3:40 3/1/1995 4:50 1.16 3271 INTAKE GRATING FOULING 521 158 Oak Creek #5 "MO 3/28/1995 23:04 4/2/1995 21:43 118.65 1060 FIRST REHEATER 521 158 Oak Creek #5 "U1 4/3/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 "MO 4/4/1995 1:15 4/	· · · · · · · · · · · · · · · · · · ·				12/15/1994			18:14			
521 158 Oak Creek #5 000° 110 D1 12/20/1994 15:00 12/20/1994 21:28 6.46 1850 BOILER WATER CONDITION 521 158 Oak Creek #5 ° MO 12/20/1994 21:28 12/21/1994 8:24 10.93 3110 CONDENSER TUBE LEAKS 521 158 Oak Creek #5 000° 224 D1 2/21/1995 18:00 2/21/1995 20:30 2.5 8560 ELECTROSTATIC PRECIP PROBLEMS 521 158 Oak Creek #5 ° U1 3/1/1995 3:40 3/1/1995 4:50 1.16 3271 INTAKE GRATING FOULING 521 158 Oak Creek #5 ° MO 3/28/1995 23:04 4/2/1995 21:43 118.65 1060 FIRST REHEATER 521 158 Oak Creek #5 ° U1 4/3/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 ° MO	1 +										
521 158 Oak Creek #5											
521 158 Oak Creek #5 000° 224 D1 2/21/1995 18:00 2/21/1995 20:30 2.5 8560 ELECTROSTATIC PRECIP PROBLEMS 521 158 Oak Creek #5 ° U1 3/1/1995 3:40 3/1/1995 4:50 1.16 3271 INTAKE GRATING FOULING 521 158 Oak Creek #5 ° MO 3/28/1995 23:04 4/2/1995 21:43 118.65 1060 FIRST REHEATER 521 158 Oak Creek #5 ° SF 4/2/1995 21:43 4/2/1995 23:09 1.43 380 LOSS OF FLAME IGNITORS 521 158 Oak Creek #5 ° U1 4/3/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 ° MO 4/4/1995 1:15 4/4/1995 1:40 0.41 4750 TEST REVERSE POWER RELAY 521 158 Oak Creek #5 000° 150 D1 4/17/1995 0:01 4/20/1995 19:00 90.98 3440 HIGH PRESSURE HEATER TUBE LEA 521 158 Oak Creek #5 ° </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
521 158 Oak Creek #5 * U1 3/1/1995 3:40 3/1/1995 4:50 1.16 3271 INTAKE GRATING FOULING 521 158 Oak Creek #5 * MO 3/28/1995 23:04 4/2/1995 21:43 118.65 1060 FIRST REHEATER 521 158 Oak Creek #5 * SF 4/2/1995 21:43 4/2/1995 23:09 1.43 380 LOSS OF FLAME IGNITORS 521 158 Oak Creek #5 * U1 4/3/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 * MO 4/4/1995 1:15 4/4/1995 1:40 0.41 4750 TEST REVERSE POWER RELAY 521 158 Oak Creek #5 000* 150 D1 4/17/1995 0:01 4/20/1995 19:00 90.98 3440 HIGH PRESSURE HEATER TUBE LEA 521 158 Oak Creek #5 * U1 5/2/1995 9:10 5/8/1995 1:23 136.21 1005 GENERATING TU	L				+						
521 158 Oak Creek #5 ' MO 3/28/1995 23:04 4/2/1995 21:43 118.65 1060 FIRST REHEATER 521 158 Oak Creek #5 ' SF 4/2/1995 21:43 4/2/1995 23:09 1.43 380 LOSS OF FLAME IGNITORS 521 158 Oak Creek #5 ' U1 4/3/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 ' MO 4/4/1995 1:15 4/4/1995 1:40 0.41 4750 TEST REVERSE POWER RELAY 521 158 Oak Creek #5 000* 150 D1 4/17/1995 0:01 4/20/1995 19:00 90.98 3440 HIGH PRESSURE HEATER TUBE LEA 521 158 Oak Creek #5 ' U1 5/2/1995 9:10 5/8/1995 1:23 136.21 1005 GENERATING TUBE											
521 158 Oak Creek #5 * SF 4/2/1995 21:43 4/2/1995 23:09 1.43 380 LOSS OF FLAME IGNITORS 521 158 Oak Creek #5 * U1 4/3/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 * MO 4/4/1995 1:15 4/4/1995 1:40 0.41 4750 TEST REVERSE POWER RELAY 521 158 Oak Creek #5 000* 150 D1 4/17/1995 0:01 4/20/1995 19:00 90.98 3440 HIGH PRESSURE HEATER TUBE LEA 521 158 Oak Creek #5 * U1 5/2/1995 9:10 5/8/1995 1:23 136.21 1005 GENERATING TUBE											
521 158 Oak Creek #5 * U1 4/3/1995 13:19 4/3/1995 13:34 0.25 1710 COMBUSTION CONTROL 521 158 Oak Creek #5 * MO 4/4/1995 1:15 4/4/1995 1:40 0.41 4750 TEST REVERSE POWER RELAY 521 158 Oak Creek #5 000* 150 D1 4/17/1995 0:01 4/20/1995 19:00 90.98 3440 HIGH PRESSURE HEATER TUBE LEA 521 158 Oak Creek #5 * U1 5/2/1995 9:10 5/8/1995 1:23 136.21 1005 GENERATING TUBE	b										
521 158 Oak Creek #5 * MO 4/4/1995 1:15 4/4/1995 1:40 0.41 4750 TEST REVERSE POWER RELAY 521 158 Oak Creek #5 000* 150 D1 4/17/1995 0:01 4/20/1995 19:00 90.98 3440 HIGH PRESSURE HEATER TUBE LEA 521 158 Oak Creek #5 * U1 5/2/1995 9:10 5/8/1995 1:23 136.21 1005 GENERATING TUBE											
521 158 Oak Creek #5 000* 150 D1 4/17/1995 0:01 4/20/1995 19:00 90.98 3440 HIGH PRESSURE HEATER TUBE LEA 521 158 Oak Creek #5 * U1 5/2/1995 9:10 5/8/1995 1:23 136.21 1005 GENERATING TUBE											
521 158 Oak Creek #5 * U1 5/2/1995 9:10 5/8/1995 1:23 136.21 1005 GENERATING TUBE	521	150 Oak Cleek	#5	1010	4/4/1555		41411333	1.40	0.41	4/30	TEST REVERSE FOWER RELEAT
521 158 Oak Creek #5 * U1 5/2/1995 9:10 5/8/1995 1:23 136.21 1005 GENERATING TUBE	501	150 Oak Crook	#5 000	150 01	4/17/1005	0:01	4/20/1005	10.00	90.98	3440	HIGH DRESSLIRE HEATER TLIRE LEAKS
										1005	GENERATING THE
				U1	5/10/1995	19:47	5/16/1995	2:34	126.78		
	≤ 521										
521 158 Oak Creek #5 000° 150 D1 6/22/1995 15:33 6/22/1995 16:45 1.2 380 LIGHT OFF SYSTEM	521										
521 158 Oak Creek #5 000* 150 D1 6/22/1995 15:33 6/22/1995 16:45 1.2 380 LIGHT OFF SYSTEM 521 158 Oak Creek #5 ' RS 7/3/1995 16:27 7/4/1995 17:00 24.55 0 Reserve Shutdown 521 158 Oak Creek #5 ' SF 7/4/1995 17:00 7/8/1995 0:32 79.53 4240 TURBINE BEARINGS	공 521										
O 521 158 Oak Creek #5 • SF 7/4/1995 17:00 7/8/1995 0:32 79.53 4240 TURBINE BEARINGS	0 521										
521 158 Oak Creek #5 * U1 7/13/1995 12:21 7/13/1995 13:20 0.98 3499 OTHER FDWTR SYS PROBLEMS	521										
521 158 Oak Creek #5	ဋ္ဌ 521										······································
521 158 Oak Creek #5 000° 250 D1 7/14/1995 3:00 7/14/1995 18:00 15 4308 TORBINE INST & CONTROL	521										
521 158 Oak Creek #5 ' U1 7/16/1995 0:39 7/16/1995 1:13 0.56 9270 WET COAL	521										
521 158 Oak Creek #5 000* 140 D4 7/20/1995 6:00 7/20/1995 17:00 11 3504 HEATER DRAIN VALVES	521	158 Oak Creek	#5 000 *	140 D4	7/20/1995	6:00	7/20/1995	17:00	11	3504	HEATER DRAIN VALVES

521	158 Oak Creek #5	000*	140	PD	7/20/1995	17:00	7/20/1995	22:00	5	300	PULVERIZER MOTORS AND DRIVES
521	158 Oak Creek #5	000*	217	D1	7/25/1995	11:30	7/26/1995	0:30	13	8560	ELECTROSTATIC PRECIP PROBLEMS LEMS
521	158 Oak Creek #5	000*	170	D1	7/26/1995	11:45	7/26/1995	14:45	3		PULVERIZER FEEDER
											OTHER MISC CNDSATE SYS
521	158 Oak Creek #5	000*	230	D1	7/27/1995	13:00	7/27/1995	15:30	2.5	3300	PROBLEMS
521	158 Oak Creek #5	000*	140	-	8/5/1995	6:00	8/5/1995	21:00	15		"B" FEEDWATER HTR HEAD LEAK
521	158 Oak Creek #5	000*	200		8/18/1995	7:00	8/19/1995	7:00	24		WET COAL
521	158 Oak Creek #5	000*	210		THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER, THE PERSON NAMED IN COLUM			15:30	22		WET COAL
	130 Oak Cleek #3	000	210	DI	8/20/1995	17:30	8/21/1995	15.30	22	9270	FDWTR PIPING DOWNSTREAM REG
501	159 Ook Crook #5	000*	000	Di	0/07/1005	45.45	0/4/4005	0.40	105.00	070	
521	158 Oak Creek #5	000*	220	וט	8/27/1995	15:15	9/1/1995	0:19	105.06	6/0	VLV
	45000000000										FDWTR PPNG DOWNSTREAM OF REG
521	158 Oak Creek #5	-		MO	9/1/1995	0:20	9/4/1995	17:57	89.61	670	jV
521	158 Oak Creek #5	000*	220	D1	, 9/5/1995	7:00	9/10/1995	2:00	115	3310	CONDENSATE SYS 51 HOTWELL PUM:
521	158 Oak Creek #5	000*	150	D1	10/27/1995	9:30	10/27/1995	18:30	. 9	3441	OTHER HIGH PRESSURE HTR PROBLEM
521	158 Oak Creek #5	*		PO	11/11/1995	0:42	12/27/1995	2:26	1129.73	4510	ROTOR COLLECTOR RINGS
521	158 Oak Creek #5	*		U1	12/29/1995	10:52	12/29/1995	11:35	0.71		TURB CONTROL SYS DIGITAL CONTRO
521	158 Oak Creek #5	000*	180	D1	12/29/1995	11:35	12/30/1995	4:30	16.91		PULV LUBE OIL SYSTEM
521	158 Oak Creek #5	000*	85		1/12/1996	18:00	1/12/1996	21:00	3	1470	
521	158 Oak Creek #5	000*	110		1/27/1996	16:40	1/28/1996	3:20	10.66	1470	
521	158 Oak Creek #5	000*	94		2/12/1996	16:15	2/12/1996	21:15	5	1470	
521	158 Oak Creek #5	000*	175		3/4/1996	4:30	3/4/1996	17:25	12.91	3441	
521	158 Oak Creek #5	000*	160		4/17/1996	6:00	4/17/1996	13:30	7.5		Normal
521	158 Oak Creek #5	000*	160	STREET, STREET	4/22/1996	0:00	4/30/1996	12:00	204	345	
521	158 Oak Creek #5	000*	120		5/13/1996	13:30	5/13/1996	15:00	1.5	240	
521	158 Oak Creek #5	*	120	MO	5/30/1996	5:19	6/3/1996	20:30	111.18	4260	
521	158 Oak Creek #5			U1	6/5/1996	12:40	6/9/1996	13:44	97.06	1040	
521	158 Oak Creek #5	*		U1					278.79	1040	
521	158 Oak Creek #5	000*	180		6/12/1996	17:16	6/24/1996	8:04		310	
	The same of the sa	000*			6/30/1996	23:35	7/3/1996	18:30	66.91		
521	158 Oak Creek #5	000	150		7/15/1996	7:00	7/16/1996	20:30	37.5	3439	
521	158 Oak Creek #5	-	-	U3	8/23/1996	1:38	8/24/1996	1:15	23.61	3110	
521	158 Oak Creek #5			U1	8/26/1996	19:24	9/2/1996	0:54	149.5	1040	
521	158 Oak Creek #5	-		U1	9/3/1996	12:03	9/8/1996	14:15	122.2	1040	
521	158 Oak Creek #5			U1	9/10/1996	0:36	9/19/1996	15:59	231.38	1040	
521	158 Oak Creek #5			U1	9/19/1996	19:23	9/19/1996	19:45	0.36	380	
521	158 Oak Creek #5	*	-	U1	9/23/1996	8:18	9/23/1996	8:45	0.45	1470	
521	158 Oak Creek #5	000*	220		9/30/1996	6:00	9/30/1996	10:00	4		Normal
521	158 Oak Creek #5	000*	120	D1	10/7/1996	19:00	10/8/1996	2:30	7.5	3112	
521 521 521	158 Oak Creek #5	000*	110	the same of the same of	10/10/1996	7:30	10/11/1996	3:00	19.5	3112	
	158 Oak Creek #5	000*	98	D1	10/16/1996	7:00	10/16/1996	10:30	3.5		Normal
521 521 521	158 Oak Creek #5	000*	120	D1	11/9/1996	0:01	11/10/1996	14:00	37.98	3441	
521	158 Oak Creek #5	000*	180		11/11/1996	15:30	11/11/1996	19:30	4	250	
521	158 Oak Creek #5			U3	11/21/1996	12:00	11/25/1996	3:46	87.76	4611	
521		*		U1	11/25/1996	3:46	11/26/1996	5:25	25.65	1055	

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ı	521		Oak Creek #5			U1	12/20/1996	2:51	12/20/1996	13:30	10.65	250	
- 1	521	158	Oak Creek #5	00*0	110	D1	1/21/1997	12:00	1/21/1997	20:30	8.5	1488	52 Air Heater
													DPU51 Failure Initiated Unit Trip Due to
- 1	521	158	Oak Creek #5			U1	2/21/1997	17:43	2/21/1997	23:30	5.78	3950	Computer Communication Problems
-	521		Oak Creek #5	00*0	120		2/23/1997	11:50	2/28/1997	16:15	124.41		Pulverizer Fires
ŀ	32.1		Out Orcok #0	- 00 0	120	<u> </u>	- 2/20/1301			_ 10.13	124.41		Maint Outage Replace Hydrogen Cooler
- 1	504	150	Ook Crack #5	.		МО	2/4/1007	0:56	2/9/4007	10.05	100.15	4044	
- -	521		Oak Creek #5				3/4/1997		3/8/1997	13:05	108.15		Gaskets
- 1	521		Oak Creek #5			U1	3/10/1997	8:26	3/17/1997	20:36	180.16		Superheat Leak
1	521		Oak Creek #5	00*0	150		3/20/1997	3:00	3/20/1997	12:25	9.41		Control Valve
	521		Oak Creek #5	*		U1	3/22/1997	19:38	3/27/1997	18:56	119.3		Superheat Tube Leak
	521		Oak Creek #5			U1	4/8/1997	10:24	4/15/1997	2:17	159.88		Superheat Tube Leak
- [521		Oak Creek #5	00*0	125		5/1/1997	5:00	5/1/1997	12:00	7		Pulverizer Feeder
	521		Oak Creek #5			U1	5/8/1997	20:33	5/11/1997	19:03	70.5		Superheat Tube Leak
	521	158	Oak Creek #5	00*0	130	D1	5/12/1997	14:00	5/13/1997	7:00	17	250	Pulverizer Feeder
Ī	521	158	Oak Creek #5	*		U3	5/16/1997	16:24	5/18/1997	19:45	51.35	1040	Delayed Outage to Repair Tube Leak
- 1	521		Oak Creek #5	00*0	150	D4	5/18/1997	19:45	5/19/1997	20:00	24.25	1850	Boiler Water Condition
- 1	521		Oak Creek #5	•		U2	5/22/1997	0:04	5/22/1997	16:30	16.43		Repair EHC Piping Leak
	521		Oak Creek #5	00*0	160		7/5/1997	11:00	7/6/1997	1:30	14.5		51-1 Feeder Belt Torn - To Be Replaced
ŀ			<u> </u>	-									1 11 Godd Boll Toll To Be Hopiaced
- 1	521	158	Oak Creek #5	00*0	110	DЗ	7/17/1997	23:00	7/18/1997	3:30	4.5	265	52 Air Heater Replace Fluid D rive Coupling
ŀ	521		Oak Creek #5	00*0	120		7/23/1997	22:30	7/27/1997	22:30	96		
-				00 0									Pulverizer Capacity Due to We ar
ŀ	521		Oak Creek #5			U1	7/29/1997	15:31	7/29/1997	16:40	1.15	3416	Steam Boiler Feed Pump Trip
L	521		Oak Creek #5	00*0	90		8/4/1997	23:00	8/6/1997	4:00	29		Condenser Tube Fouling
- 1	521		Oak Creek #5	*		RS	8/8/1997	1:01	8/10/1997	19:26	66.41		Reserve Shutdown
L	521		Oak Creek #5	*		U1_	8/11/1997	_18:59	8/16/1997	15:41	116.7		Superheat Tube Leak
ſ	521		Oak Creek #5	•		U1	8/20/1997	7:49	8/26/1997	22:05	158.26	1040	Superheat Tube Leak
	521	158	Oak Creek #5	00*0	120	D1	9/23/1997	6:00	9/26/1997	12:15	78.25	280	Pulverizer Fires
							T						Troubleshoot EHC High Temperat ure
-1	521	158	Oak Creek #5	00.0	160	D1	10/6/1997	7:45	10/6/1997	12:00	4.25	4299	Problem
ı	521		Oak Creek #5	00.0	165		10/14/1997	18:05	10/19/1997	5:00	106.91		Pulverizer Exhauster Fan Drive
- 1	521		Oak Creek #5	00.0	105		10/20/1997	21:30	10/21/1997	13:30	16		53 Feeder Belt Broke
- 1	521		Oak Creek #5	00.0	90		10/27/1997	7:00	10/27/1997	19:00	12	2112	Condenser Tube Fouling
1	32 !	150	Oak Cleek #3	00 0	30	DI.	10/2//1997	7.00	10/2//1997	19.00		3112	Operate at Reduced Power to Av oid
- 1	504	450	0-1-01-05	0000	000	C 4	44/4/4007	7.00	44444007	40.00	4.00	4000	
	521		Oak Creek #5	00*0	220		11/4/1997	7:02	11/4/1997	12:00	4.96	1200	Slagging Fine Coal
	521		Oak Creek #5	00*0	200		11/24/1997	22:20	12/1/1997	0:00	169.66	340	Other Pulverizer Problems
:	521		Oak Creek #5			RS	12/20/1997	2:03	12/22/1997	2:02	47.98		Reserve Shutdown
3	521	158	Oak Creek #5			PO	12/26/1997	4:18	12/31/1997	23:59	139.68	1800	Planned Annual Outage
,											+		Planned Annual Outage (started 12/26/97
5	521		Oak Creek #5	*		PO	1/1/1998	0:01	4/3/1998	13:03	2221.03		04:18)
5	521	158	Oak Creek #5	00*0	130	D1	4/7/1998	3:30	4/8/1998	6:00	26.5		Mill Motors
3				7 - 7							T		51 Air Heater - Replace Fluid Drive
•	521	158	Oak Creek #5	00*0	210	D3	4/15/1998	9:45	4/15/1998	21:00	11.25		Coupling
	521	158	Oak Creek #5	00.0	145		4/20/1998	8:30	4/20/1998	9:45	1.25		Pulverizer Feeders - Rock in Feeder
	521		Oak Creek #5	00*0	145		4/21/1998	9:40	4/21/1998	10:00	0.33		Pulverizer Feeder Plugged
1	521		Oak Creek #5	00.0	210		4/22/1998	19:30	4/22/1998	21:45	2.25		Other Pulverizer Problems
	521		Oak Creek #5	00.0	185		4/26/1998	14:30	4/26/1998	15:26	0.93		53 Mill Set Spring Cartridge Tension Etc
i	JE 1		Can Clock #5	100 0	.00	, - ,	1 7/20/1000	17.00	7,20,1000		0.55		oo min oot opring ourallage rension cit

	521	158 Oak Cre	∍ek #5	00*0	205	D1	4/26/1998	15:26	4/26/1998	21:00	5.56	3270 Cooling Water Fouling Due To Rough Lak
-	521	158 Oak Cre				МО	5/6/1998	23:04	5/7/1998	6:20	7.26	4430 Gland Seal System
- 1	521	158 Oak Cre		1.		МО	5/23/1998	5:26	5/30/1998	18:24	180.96	4260 Main Stop Valves
-	521	158 Oak Cre		00.0	200		6/1/1998	8:00	6/1/1998	14:30	6.5	510 Main Steam Relief/Safety Valves
	521	158 Oak Cre		00*0	110		6/2/1998	8:15	6/5/1998	11:45	75.5	1470 52 Induced Draft Fan
	521	158 Oak Cre				U1	6/13/1998	16:22	6/13/1998	16:53	0.51	3950 Failure of Unit Computer
	521	158 Oak Cre				U2	6/16/1998	0:21	6/16/1998	14:45	14.4	3110 Condenser Tube Leak
	521	158 Oak Cre				SF	6/16/1998	14:45	6/20/1998	12:30	93.75	4609 Other Exciter Problems
- 1 -	521	158 Oak Cre				U1	6/20/1998	12:30	6/21/1998	1:21	12.85	9900 Operator Error
-	521	158 Oak Cre		00.0	100		6/22/1998	23:00	6/23/1998	0:01	1.01	800 Drum Problems
-	521	158 Oak Cre		- 00 0		PO	7/4/1998	17:18	7/4/1998	19:08	1.83	4460 Overspeed Trip Test
- }-	521	158 Oak Cre		00.0	220		7/5/1998	11:30	7/5/1998	17:00	5.5	3210 Circulating Water Pump
ļ-··	521	158 Oak Cre		- 00 0		MO						4640 Seal System And Seals
				0010			7/11/1998	1:15	7/13/1998	5:22	52.11	
-	521	158 Oak Cre		00*0	220		7/20/1998	7:00	7/20/1998	23:53	16.88	800 Drum Door Leak
]	521	158 Oak Cre		00*0	120		7/20/1998	23:53	7/21/1998	8:30	8.61	250 Pulverizer Feeders
	521	158 Oak Cre				МО	7/23/1998	7:28	7/24/1998	22:47	39.31	800 Repair South Drum Door Leak
1.	521	158 Oak Cre		00*0	175		8/4/1998	20:15	8/4/1998	22:15	2	250 53 Feeder Trip
	521	158 Oak Cre		00*0	220		8/5/1998	9:45	8/5/1998	11:45	2	110 Wet Coal
	521	158 Oak Cre		00.0	220		8/6/1998	10:00	8/6/1998	22:00	12	110 Wet Coal
_	521	158 Oak Cre		00*0	135		8/7/1998	7:50	8/7/1998	10:30	2.66	250 53 Feeder Belt
L	521	158 Oak Cre	ek #5	00.0	145	D1	8/15/1998	20:00	8/16/1998	4:00	8	250 51-52 Feeder Belt Broken
	521	158 Oak Cre		00*0	220		8/16/1998	7:00	8/16/1998	23:30	16.5	3199 Condenser Back Pressure
_	521	158 Oak Cre		00.0	220		8/17/1998	8:00	8/17/1998	22:00	14	3199 Condenser Back Pressure
	521	158 Oak Cre		00.0	220	D1	8/18/1998	6:00	8/19/1998	23:30	41.5	3199 Condenser Back Pressure
_	521	158 Oak Cre		00*0	180		8/24/1998	16:11	8/25/1998	20:51	28.66	60 Coal Crushers Including Motor
	521	158 Oak Cre		00*0	190	D1	8/25/1998	20.51	8/26/1998	10:38	13.78	60 Coal Crushers Including Motor
	521	158 Oak Cre	ek #5	00*0	225	D1	8/26/1998	10:38	8/31/1998	7:00	116.36	3199 Condenser Back Pressure
	521	158 Oak Cre	ek #5	00*0	150	D1	9/2/1998	6:45	9/2/1998	8:30	1.75	250 Pulverizer Feeder Plugged Chute
	521	158 Oak Cre	ek #5	00.0	115	D1	9/11/1998	11:40	9/11/1998	17:28	5.8	9630 Opacity
	521	158 Oak Cre	ek #5	•		U2	9/11/1998	17:28	9/12/1998	6:14	12.76	8550 Precipitator Fouling
-	521	158 Oak Cre		00.0	90	D1	9/13/1998	12:00	9/13/1998	16:15	4.25	280 53 Mill Fire
L	521	158 Oak Cre				U1	9/14/1998	7:30	9/14/1998	13:40	6.16	3261 Traveling Screen Fouling
	521	158 Oak Cre		00.0	80		9/14/1998	13:40	9/16/1998	20:00	54.33	1475 52 Induced Draft Fan Speed Controls
	521	158 Oak Cre		00*0	130		9/18/1998	4:00	9/19/1998	9:00	29	340 51 Mill Ribbon conveyor
≦ "	521	158 Oak Cre		00*0	100		9/19/1998	9:00	9/19/1998	10:17	1.28	1470 52 ID Fan Motor Bearing Inspection
두 -	521	158 Oak Cre		1,000		<u>U1</u>	9/19/1998	10:17	9/19/1998	10:55	0.63	410 Burner Problems
ဥ -	521	158 Oak Cre		00*0	100		9/19/1998	10:55	9/20/1998	5:00	18.08	1470 52 ID Fan Motor Bearing Inspection
<u>.</u> 4	521	158 Oak Cre		00.0	100		9/20/1998	5:00	9/20/1998	12:30	7.5	340 Other Pulverizer Problems
WEPCO 40037	521	158 Oak Cre				MO	9/25/1998	23:21	10/2/1998	2:30	147.14	1800 Maintenance Outage
37	521	158 Oak Cre		00*0	170		10/8/1998	14:11	10/2/1998	6:30	16.31	8550 Precip Fouling
	521	158 Oak Cre	00k #5	+		U3	10/10/1998	21:50	10/9/1998	9:13	11.38	8550 Precip Fouling
	521	158 Oak Cre		00.0	110		10/10/1998	9:30	10/11/1998	21:15	11.75	1412 FD Fan Drive Problems
ļ	1	158 Oak Cre		00.0	120		10/26/1998					1471 52 ID Fan VFD Cooler Leak
-	521							17:21	10/27/1998	6:40	13.31	
-	521	158 Oak Cr		00*0	120		10/27/1998	7:30	10/27/1998	13:45	6.25	1471 52 ID Fan VFD Cooler Leak
I	521	158 Oak Cre	eek #5	00.0	120	ט1	10/27/1998	17:55	10/28/1998	5:30	11.58	1471 52 ID Fan VFD Cooler Leak

_							······································						
ı	521		Oak Creek #		0 11	5 D1	11/15/1998	19:18	11/16/1998	4:25	9.11		Precip Fouling
- 1	521	158	Oak Creek #	5 00*		0 D1	11/17/1998	15:00	11/19/1998	12:00	45	8656	Precip Fouling - High Opacity
	521	158	Oak Creek #	5 00*	0 11	3 D1	11/19/1998	12:00	11/19/1998	16:00	4	8656	Precip Fouling - High Opacity
	521	158	Oak Creek #	5 00°	0 12	5 D1	11/19/1998	19:11	11/20/1998	5:00	9.81		Precip Fouling - High Opacity
	521		Oak Creek #		0 15	5 D1	11/20/1998	6:30	11/23/1998	13:30	79		Precip Fouling - High Opacity
Ì	521		Oak Creek #		0 9	0 D1	11/23/1998	13:30	11/24/1998	6:55	17.41		Hi Opacity Tr Set Malfunction
- 1	521		Oak Creek #			0 D1	11/25/1998	12:15	11/25/1998	21:37	9.36		Precip Fouling - Hi Opacity
1	521		Oak Creek #			МО	11/25/1998	21:37	11/30/1998	1:13	99.6		Planned Outage for Precip Repairs
ŀ	521		Oak Creek #		0 15	0 D1	11/30/1998	1:47	12/4/1998	14:00	132.21		52 Mill Trunion Seals
	521		Oak Creek #			3 D1	12/4/1998	14:00	12/5/1998	8:30	18.5		51 Mill Motor I/B Bearing
-	<u> </u>		Our Olock II		 	9	12 4 1000	14.00	12/0/1000	0.00			Overheating Bir Tubes (Hi temp, no slag
-	521	158	Oak Creek #	5 00*	n 20	0 D1	12/5/1998	20:35	12/6/1998	10:00	13.41	1350	cover)
H	521		Oak Creek #			0 D1	12/6/1998	10:00	12/6/1998	10:37	0.61		51 Mill Motor - Hi Vibration
ŀ	521		Oak Creek #			U1	12/6/1998	10:37	12/6/1998	14:00	3.38		Generator Brgs and Lube Oil System
- [521		Oak Creek #		0 15	0 D1	12/6/1998	14:00	12/8/1998	21:00	55		51 Mill Vibration
	521		Oak Creek #		0 11	5 D1	12/8/1998	21:00	12/24/1998	12:12	375.2		Generation Vibration
ŀ	521		Oak Creek #			0 D1	12/26/1998	17:40	12/28/1998	12:15	42.58		Boiler Tube Temp
	521		Oak Creek #			0 D1	12/28/1998	12:15	12/29/1998	5:48	17.54		Boiler Tube Temp
ŀ	521		Oak Creek #			5 D1	12/29/1998	5:48	12/31/1998	10:35	52.78		Other Fuel Quality Problems
ı	321	136	Oak Cleek #	5 00	0 21	101	12/29/1990	5.46	1231/1990	10.55	32.76	9290	Other Fuer Quality Froblems
	521	150	Oak Creek #	_ .		U2	10/01/1000	10.05	12/31/1998	22.50	12.4	540	Reheat Steam Piping Up to Main Stop VIvs
-	521	150	Oak Cleek #	5		02	12/31/1998	10:35	12/31/1990	23:59	13.4	540	Reheat Steam Piping Up to Main Stop Vivs
	504	450	O-1: O1: #	_ ,		110	4/4/4000	0.04	1/0/1000	0.54	00.00	E40	
ŀ	521		Oak Creek #		15	U2	1/1/1999	0:01	1/2/1999	9:51	33.83		(started 12/31/98 10:35)
-	521	158	Oak Creek #	5	15	0 D1	1/7/1999	5:30	1/7/1999	23:49	18.31	8050	Precip Fouling Tube Leak Trying to maintain 2100 Throttle
- {	501	450	Only Croals #	<u> </u>	04	0 04	1/0/1000	6.00	1/10/1000	0-50	00.00	1040	Pressure
-	521		Oak Creek #		21	0 D1	1/8/1999	6:30	1/12/1999	0:52	90.36		
- }-	521		Oak Creek #		 	U2	1/12/1999	0:52	1/15/1999	10:34	81.69		Tube Leak Repair
-	521		Oak Creek #		18	0 D1	1/17/1999	21:00	1/21/1999	19:50	94.83		52 Mill Ribbon Conveyor
-	521		Oak Creek #			U1	1/21/1999	19:50	1/22/1999	5:49	9.98		DCS Drop 5 Problems
l	521		Oak Creek #			0 D1	1/22/1999	5:49	1/23/1999	12:40	30.85		52 Mill Ribbon Conveyor
.	521		Oak Creek #			5 D1	1/23/1999	18:00	1/25/1999	18:00	48		Other Pulverizer Problems
1	521		Oak Creek #		16	0 D1	1/26/1999	16:30	1/26/1999	23:00	6.5		Other Pulverizer Problems
	521		Oak Creek #			U1	1/30/1999	10:22	1/30/1999	11:36	1.23		TBFP Trip - Back Pressure
	521		Oak Creek #			U1	1/30/1999	12:01	1/30/1999	14:21	2.33		Exciter Problems
. ب	521		Oak Creek #			0 D1	2/2/1999	7:43	2/2/1999	8:22	0.65		Pulverizer Lube Oil
WEDCO	521		Oak Creek #		0 22	0 D1	3/1/1999	7:10	3/1/1999	9:00	1.83		Precip Fouling - Hi Opacity
7	521		Oak Creek #			U1	3/27/1999	8:58	4/1/1999	18:30	129.53		Economizer Tube Leak
Ć,	521		Oak Creek #			RS	4/1/1999	18:30	4/4/1999	19:46	73.26		Reserve Shutdown
	521		Oak Creek #			MO	4/27/1999	1:34	4/28/1999	15:00	37.43		Reheat Tube Repair
10010	521		Oak Creek #			МО	4/28/1999	15:00	5/2/1999	19:33	100.55		Repair FW Tie Valves
ο ΄	521		Oak Creek #			5 D1	5/22/1999	19:55	5/22/1999	20:50	0.91		53 Feeder Trip
	521		Oak Creek #			0 D1	5/26/1999	12:00	5/26/1999	14:00	2		Traveling Water Screen Fouling
	521		Oak Creek #			0 D1	6/2/1999	6:00	6/2/1999	9:30	3.5		51A Exhauster Fan Bearing
	521		Oak Creek #		0 16	0 D1	6/15/1999	7:55	6/15/1999	18:00	10.08		Pulverizer Exhauster Fan Drive
	521		Oak Creek #			NC	6/15/1999	18:01	6/16/1999	8:00	13.98		Pulverizer Exhauster Fan Drive
- 1	521	158	Oak Creek #	5	16	5 D1	6/16/1999	8:01	6/16/1999	23:00	14.98	205	Peter ar Exhauster Fan Drive

Г	521	158	Oak Co	reek #5	•		NC	6/16/1999	23:01	6/17/1999	8:00	8.98	205	Pulverizer Exhauster Fan Drive
- }-	521			reek #5		175	D1	6/17/1999	8:01	6/17/1999	19:30	11.48		Pulverizer Exhauster Fan Drive
- }-	52 1	_130	Oak O	CON #3	<u> </u>	113	<u> </u>	0/1//1333		0/1//1999	13.00	11.40		Unit Trip On Loss of Flame Scanner On 1A
	504	150	0-1: 0	l. #F	.		114	0/04/4000	4.05	0/04/4000	E-10	0.00	4750	
- 1-	521			reek #5		405	U1	6/24/1999	4:35	6/24/1999	5:16	0.68		& 2A Ignitor
.	_ 521	158	Oak C	reek #5		165	וטן	6/28/1999	7:00	6/28/1999	10:20	3.33	340	Other Pulverizer Problems
- 1							i							52B Exhauster Cap Dmpr & Other Pulv
- -	521			reek #5		165		7/4/1999	21:55	7/5/1999	4:38	6.71		Problems
	521			reek #5	•	140		7/17/1999	23:30	7/18/1999	2:50	3.33		53 Mill Pulverizer Exhauster
I	521			reek #5	_ *	170		7/21/1999	20:00	7/22/1999	4:30	8.5		Transformer 851 Cooling Problems
	521			reek #5		130		8/13/1999	20:17	8/13/1999	21:30	1.21		Traveling Water Screen Fouling
	521	158	Oak C	reek #5	•		U2	8/17/1999	8:11	8/17/1999	13:07	4.93		Traveling Water Screen Fouling
	521	158	Oak C	reek #5	•		U1	8/17/1999	13:53	8/23/1999	14:11	144.3	1040	Superheat Tube Leak
	521	158	Oak C	reek #5	•	170	D1	9/7/1999	10:00	9/7/1999	11:55	1.91	330	52 A Exhauster Coal Leak
	521	158	Oak C	reek #5	-	170	D4	9/10/1999	21:55	9/11/1999	22:00	24.08	330	52 A Exhauster Coal Leak
- -	521			reek #5	*		U1	9/14/1999	23:28	9/14/1999	23:58	0.5	370	Loss of Flame Scanners 1A/2A
-	521			reek #5	+		RS	9/17/1999	12:00	9/29/1999	18:27	294.45		Reserve Shutdown
-		:33	<u> </u>	33.1									<u>-</u>	Repair of Feed Pmp Discharge Limitorque
	521	158	Oak Cı	rook #5			мо	10/23/1999	2:15	10/26/1999	2:25	72.16	3431	
-	52	-130	Oak Oi	0011 #3	-		14.0	10/20/1000	2.13	10/20/1333		72.10		LS NUI Meter in Cntrl Rm Was Not
							1					1		Calibrated With Action Pack in Bazler
1	504	450	0-1.0	I. #F			U1	10/00/1000	0.01	10/06/1000	44.44	7 74	4000	Cabinet Cabinet
-	521			reek #5		-470		10/26/1999	3:31	10/26/1999	11:14	7.71		
- }-	521			reek #5		170		11/1/1999	17:22	11/3/1999	21:24	52.03		Pulverizer Exhauster Fan Drive
-	521			reek #5	00.0	140		11/30/1999	5:00	11/30/1999	17:52	12.86		53 Mill BSOG Piston
-	521			reek #5		120		12/29/1999	4:30	12/30/1999	3:30	23		Service Water Line Leak
-	521			reek #5			RS	12/30/1999	8:27	12/31/1999	23:59	39.53		Reserve Shutdown
-	521			reek #6	211		D1	1/3/1975	17:45	1/8/1975	3:30	105.75	340	
-	521			reek #6	211		D1	1/17/1975	8:00	1/17/1975	16:00	8	3999	
]	521			reek #6			U1	1/18/1975	0:11	1/19/1975	0:19	24.13	1080	
L	521			reek #6	240		D1	1/23/1975	6:00	1/25/1975	1:09	43.15	1060	
	521			reek #6			U1	1/25/1975	1:09	1/26/1975	8:28	31.31	1060	
L.	521			reek #6			U1	2/1/1975	1:42	2/2/1975	22:34	44.86	1060	
L	521			reek #6_	206		D1	2/19/1975	4:30	2/20/1975	14:30	34	3440	
	521	168	Oak C	reek #6	126		D1	2/26/1975	11:00	2/27/1975	7:40	20.66	340	
r	521	168	Oak C	reek #6	126		D1	3/4/1975	14:00	3/6/1975	7:45	41.75	340	
-	521	168	Oak C	reek #6	126		D1	3/6/1975	7:45	3/6/1975	19:50	12.08	340	
•	521			reek #6			U1	3/6/1975	19:50	3/7/1975	13:22	17.53	1080	
€ '	521			reek #6	210		D1	3/11/1975	9:45	3/11/1975	21:49	12.06	1040	
WEPCO	521			reek #6	-=: -		U1	3/11/1975	21:49	3/13/1975	10:36	36.78	1040	
Ŭ.	521			reek #6	 		U1	3/28/1975	23:39	3/30/1975	1:31	25.86	1060	
)	521			reek #6	-+		U1	3/30/1975	2:44	3/30/1975	2:46		4899	
9	521			reek #6	200		D1	4/2/1975	21:00	4/3/1975	13:25	16.41	3440	
40039	521			reek #6	- <u></u>			4/6/1975	2:43	4/7/1975	0:18	21.58	1060	
	521			reek #6			U1 U1	4/17/1975	0:12	4/19/1975	0:10	47.96	1060	
	521	168	Cak C	reek #6			U1	4/19/1975	8:39	4/19/1975	20:03	11.4	4099	
	521			reek #6				5/1/1975	23:50	5/5/1975	2:05	74.25	1060	.,
- {-	521	160	Oak C		+ 175		U1 D1	5/9/1975	0:01			144	9290	
L	521	108	Oak C	reek #6	175		וטו	5/9/19/5	0.01	5/15/1975	0:01	144	9290	

521	168 Oak Creek #6	188	D1	10/30/1975	15:00	10/31/1975	4:30	13.5	3440	
521	168 Oak Creek #6	190	D1	11/4/1975	2:00	11/4/1975	19:00	17	3440	
521	168 Oak Creek #6		U1	11/4/1975	12:47	11/6/1975	0:14	35.45	1040	
521	168 Oak Creek #6	175	D1	11/10/1975	12:45	11/11/1975	4:55	16.16	3440	
521	168 Oak Creek #6		U1	11/17/1975	0:17	11/18/1975	15:03	38.76	1080	
521	168 Oak Creek #6	190	<u>D1</u>	11/22/1975	11:35	11/23/1975	8:50	21.25	3440	
521	168 Oak Creek #6	150	D1			11/27/1975	7:00	38.5	340	
521	168 Oak Creek #6	90	Di	11/25/1975 11/26/1975	16:30 4:30		19:15	14.75	340	
521	168 Oak Creek #6	170	D1	11/29/1975	5:45	11/26/1975 11/29/1975	16:40	10.91	3440	
521	168 Oak Creek #6	190	D1			12/1/1975	13:15	41.5	3440	
521	168 Oak Creek #6	170	D1	11/30/1975 12/3/1975	19:45	12/3/1975	16:30	12.5		· · · · · · · · · · · · · · · · · · ·
521	168 Oak Creek #6	150	D1		4:00	12/11/1975	5:00	16.83	3440 3440	
}-··	168 Oak Creek #6	175	D1	12/10/1975 12/11/1975	12:10	12/11/1975			3440	
521	168 Oak Creek #6				5:00		17:25	12.41		
521		170	U1	12/12/1975	1:10	12/14/1975	1:44	48.56	1060	
521	168 Oak Creek #6	170	D1	12/22/1975	9:30	12/22/1975	11:30	2	340	
521	168 Oak Creek #6		MO	12/27/1975	6:53	12/28/1975	22:47	39.9	1999	
521	168 Oak Creek #6	222	D1	1/1/1976	0:01	1/10/1976	0:32	216.51	4099	
521	168 Oak Creek #6	177	D1	1/4/1976	12:15	1/5/1976	5:25	17.16	3440	
521	168 Oak Creek #6	177	D1	1/5/1976	9:00	1/7/1976	3:15	42.25	3440	
521	168 Oak Creek #6	177	D1	1/7/1976	16:00	1/7/1976	18:30	2.5	3440	
521	168 Oak Creek #6	112	D1	1/7/1976	18:30	1/8/1976	17:50	23.33	1999	
521	168 Oak Creek #6		U1	1/9/1976	20:47	1/9/1976	21:32	0.75	4301	
521	168 Oak Creek #6		PO	1/10/1976	0:32	2/11/1976	14:26	781.9	1999	
521	168 Oak Creek #6	90	D1	2/11/1976	14:26	2/13/1976	9:00	42.56	340	
521	168 Oak Creek #6		U1	2/14/1976	23:58	2/15/1976	0:42	0.73	4301	
521	168 Oak Creek #6	231	D1	2/16/1976	13:00	2/16/1976	15:30	2.5	4099	
521	168 Oak Creek #6	206	D1	2/19/1976	8:00	2/19/1976	16:50	8.83	3999	
521	168 Oak Creek #6	116	D1_	2/29/1976	10:00	3/2/1976	10:00	24	340	
521	168 Oak Creek #6	181	D1	3/2/1976	19:05	3/3/1976	7:50	12.75	3440	
521	168 Oak Creek #6	136	D1	3/4/1976	8:10	3/5/1976	2:25	18.25	3440	
521	168 Oak Creek #6	90	D1	3/7/1976	5:30	3/7/1976	16:00	10.5	340	
521	168 Oak Creek #6	181	D1	3/13/1976	12:00	3/14/1976	16:00	28	3440	
521	168 Oak Creek #6	175	D1	3/14/1976	16:00	3/17/1976	10:45	66.75	3440	
521	168 Oak Creek #6		MO	3/19/1976	23:24	3/22/1976	16:37	65.21	1999	
521	168 Oak Creek #6	150	D1	3/29/1976	9:15	3/30/1976	3:35	18.33	3440	
521	168 Oak Creek #6	151	D1	3/31/1976	8:00	4/1/1976	5:30	21.5	3440	
521	168 Oak Creek #6	116	D1	4/7/1976	23:00	4/9/1976	6:45	31.75	3440	1
521	168 Oak Creek #6	205	D1	4/9/1976	18:00	4/10/1976	10:00	16	3999	
521 521 521 521	168 Oak Creek #6	131	D1	4/12/1976	10:15	4/12/1976	21:51	11.6	340	
521	168 Oak Creek #6		U1	4/12/1976	21:50	4/13/1976	12:03	14.21	340	
	168 Oak Creek #6	156	D1	4/13/1976	13:30	4/14/1976	6:30	17	3440	
521	168 Oak Creek #6	126	D1	4/16/1976	5:45	4/16/1976	7:30	1.75	340	
521 521	168 Oak Creek #6	161	D1	4/17/1976	20:15	4/19/1976	10:23	38.13	3440	
521	168 Oak Creek #6	136	D1	4/17/1976	21:00	4/18/1976	19:00	22	3440	
521	168 Oak Creek #6		U1	4/21/1976	1:41	4/23/1976	11:22	57.68	1060	
521	168 Oak Creek #6	51	D1	4/23/1976	17:00	4/24/1976	5:00	12	340	

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	521	168 Oak Creek #6	160	D1	5/6/1976	13:15	5/7/1976	13:30	24.25	3440	
	521	168 Oak Creek #6	90	D1	5/8/1976	0:01	6/6/1976	21:00	716.98	340	
- 1	521	168 Oak Creek #6		МО	5/12/1976	22:40	5/17/1976	20:44	118.06	1060	<u></u>
	521	168 Oak Creek #6		U1	5/31/1976	11:49	6/1/1976	5:30	17.68	3999	
	521	168 Oak Creek #6	204	D1	6/8/1976	11:00	6/12/1976	4:25	89.41	1060	
	521	168 Oak Creek #6	144	D1	6/8/1976	20:50	6/12/1976	4:25	79.58	3440	
-	521	168 Oak Creek #6	177	U1	6/9/1976	23:23	6/12/1976	4:25	53.03		
		168 Oak Creek #6	100	D1	6/17/1976		6/18/1976	9:40		1060	
-	521		120			2:00			31.66	3440	
	521	168 Oak Creek #6	150	D1	6/21/1976	12:00	6/21/1976	23:30	11.5	3440	
-	521	168 Oak Creek #6	90	D1	6/22/1976	14:00	6/23/1976	6:00	16	340	
_	521	168 Oak Creek #6	125	D1	6/24/1976	19:00	6/25/1976	9:25	14.41	3440	L
	521	168 Oak Creek #6	95	D1	6/24/1976	22:00	6/25/1976	6:30	8.5	340	
	521	168 Oak Creek #6	120	D1	6/27/1976	9:30	6/28/1976	0:30	15	3440	<u> </u>
	521	168 Oak Creek #6	150	D1	6/28/1976	0:30	6/28/1976	11:55	11.41	3440	1
-	521	168 Oak Creek #6	145	D1	7/8/1976	1:15	7/8/1976	14:30	13.25	1455	
]_	521	168 Oak Creek #6	90	D1	7/8/1976	8:30	7/8/1976	14:30	6	1455	
ļ	521	168 Oak Creek #6	90	PD	7/9/1976	8:30	7/9/1976	14:50	6.33	1999	
_	521	168 Oak Creek #6	90	D1	7/12/1976	6:00	7/12/1976	22:35	16.58	435	
-1	521	168 Oak Creek #6	150	D1	7/16/1976	6:45	7/17/1976	5:45	23	3440	
I_	521	168 Oak Creek #6	140	D1	7/23/1976	14:30	7/25/1976	6:30	40	3440	
	521	168 Oak Creek #6	135	D1	7/27/1976	12:00	7/28/1976	2:30	14.5	340	
1	521	168 Oak Creek #6	135	D1	7/30/1976	22:00	8/1/1976	16:00	42	3440	
	521	168 Oak Creek #6	190	D1	8/3/1976	13:00	8/3/1976	22:00	9	3999	
	521	168 Oak Creek #6	210	D1	8/4/1976	6:45	8/5/1976	4:00	21.25	3999	
	521	168 Oak Creek #6	131	D1	8/9/1976	3:35	8/16/1976	22:30	186.91	340	
	521	168 Oak Creek #6	32	D1	8/10/1976	5:30	8/11/1976	11:30	30	3440	
	521	168 Oak Creek #6		U1	8/11/1976	23:35	8/16/1976	10:17	106.7	1060	
	521	168 Oak Creek #6		МО	8/11/1976	23:35	8/16/1976	10:17	106.7	1999	
	521	168 Oak Creek #6		U1	8/21/1976	0:52	8/23/1976	0:10	47.3	1060	
	521	168 Oak Creek #6	191	D1	- 8/23/1976	0:10	8/23/1976	16:00	15.83	3440	
	521	168 Oak Creek #6	191	D1	8/23/1976	17:15	8/24/1976	6:00	12.75	3440	
-	521	168 Oak Creek #6		U1	8/28/1976	2:01	8/30/1976	1:09	47.13	1060	
	521	168 Oak Creek #6	151	D1	9/1/1976	5:00	9/3/1976	8:00	51	340	
	521	168 Oak Creek #6	187	D1	9/10/1976	12:30	9/10/1976	14:30	2	3440	
	521	168 Oak Creek #6	177	D1	9/10/1976	14:30	9/11/1976	2:45	12.25	3440	
•	521	168 Oak Creek #6	192	D1	9/11/1976	2:45	9/11/1976	16:00	13.25	3440	
	521	168 Oak Creek #6	122	D1	9/13/1976	20:15	9/14/1976	8:00	11.75	3440	
	521	168 Oak Creek #6	167	D1	9/18/1976	13:15	9/19/1976	3:00	13.75	3440	
≦ -	521	168 Oak Creek #6	107	D1	9/20/1976	21:00	9/21/1976	1:15	4.25	340	
ਹੁੰ ⁻	521	168 Oak Creek #6	117	D1	9/22/1976	15:00	9/23/1976	10:45	19.75	3440	
WE PCO	521	168 Oak Creek #6		U1	9/25/1976	1:15	9/27/1976	2:49	49.56	1060	
	521	168 Oak Creek #6	217	D1	9/28/1976	4:00	9/28/1976	12:47	8.78	1060	
40042	521	168 Oak Creek #6	· + - : -	U1	9/28/1976	12:47	9/29/1976	4:25	15.63	1060	
2	521	168 Oak Creek #6	149	D1	10/5/1976	12:00	10/6/1976	18:00	30	3440	
-	521	168 Oak Creek #6	149	D1	10/7/1976	16:00	10/8/1976	9:55	17.91	3440	
	521	168 Oak Creek #6		Ui	10/9/1976	2:09	10/11/1976	6:10	52.01	1060	
_	JZ []	100 Car Olege #0		121	10/3/13/0	2.09	10/11/19/0	0.10	92.01	1000	

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	521	168 Oak Creek #6	149	D1	10/15/1976	10:30	10/16/1976	20:00	33.5	3440	
Г	521	168 Oak Creek #6		U1	10/16/1976	1:36	10/17/1976	3:08	25.53	1060	
1	521	168 Oak Creek #6	149	D1	10/17/1976	13:40	10/20/1976	19:30	77.83	3440	
-	521	168 Oak Creek #6	124	D1	10/19/1976	13:40	10/21/1976	20:30	54.83	3440	
İ	521	168 Oak Creek #6	149	D1	10/21/1976	20:30	10/23/1976	7:00	34.5	3440	
- -	521	168 Oak Creek #6		U1	10/23/1976	23:40	10/24/1976	16:56	17.26	1000	
- 1	521	168 Oak Creek #6	149	D1	10/27/1976	12:00	10/28/1976	5:30	17.5	3440	
-	521	168 Oak Creek #6		U1	10/30/1976	0:10	11/1/1976	4:03	51.88	1060	
	521	168 Oak Creek #6	151	D1	11/4/1976	20:00	11/5/1976	8:20	12.33	3440	
	521	168 Oak Creek #6	96	D1	11/4/1976	20:30	11/5/1976	3:15	6.75	3999	
	521	168 Oak Creek #6	151	D1	11/9/1976	21:00	11/10/1976	11:15	14.25	3440	
- 1	521	168 Oak Creek #6	151	D1	11/10/1976	22:30	11/11/1976	9:30	11	3440	
	521	168 Oak Creek #6	151	D1	11/12/1976	0:30	11/12/1976	17:05	16.58	3440	
- 1	521	168 Oak Creek #6		U1	11/13/1976	0:31	11/15/1976	4:50	52.31	1040	
[521	168 Oak Creek #6		U1	11/16/1976	2:11	11/16/1976	23:00	20.81	1060	
- 1	521	168 Oak Creek #6	151	D1	11/18/1976	22:00	11/19/1976	12:45	14.75	3440	
	521	168 Oak Creek #6	191	D1	11/21/1976	11:00	11/22/1976	11:45	24.75	340	
- 1	521	168 Oak Creek #6	91	D1	11/21/1976	12:00	11/22/1976	9:00	21	3440	
	521	168 Oak Creek #6	151	D1	11/23/1976	10:00	11/24/1976	2:30	16.5	3440	
-	521	168 Oak Creek #6		U1	11/25/1976	4:11	11/27/1976	7:35	51.4	1060	:
""	521	168 Oak Creek #6		U1	11/30/1976	23:39	12/2/1976	10:30	58.85	1060	
	521	168 Oak Creek #6		U1	12/4/1976	2:45	12/6/1976	6:14	51.48	1060	
	521	168 Oak Creek #6	176	D1	12/6/1976	15:25	12/7/1976	5:10	13.75	3440	
-	521	168 Oak Creek #6		U1	12/11/1976	1:14	12/12/1976	3:22	26.13	1060	
- [-	521	168 Oak Creek #6	176	D1	12/12/1976	14:15	12/13/1976	5:30	15.25	3440	
	521	168 Oak Creek #6	226	D1	12/14/1976	16:30	12/15/1976	3:00	10.5	250	
-	521	168 Oak Creek #6		U1	12/16/1976	1:36	12/17/1976	0:10	22.56	1060	
	521	168 Oak Creek #6	151	D1	12/17/1976	16:45	12/18/1976	9:05	16.33	3440	·
	521	168 Oak Creek #6	51	D1	12/17/1976	16:45	12/18/1976	9:05	16.33	3440	
	521	168 Oak Creek #6	151	D1	12/18/1976	10:30	12/19/1976	0:45	14.25	3440	
	521	168 Oak Creek #6	151	D1	12/21/1976	14:30	12/22/1976	17:05	26.58	3440	
	521	168 Oak Creek #6		MO	12/24/1976	0:02	12/24/1976	1:14	1.2	4301	
	521	168 Oak Creek #6		PO	12/24/1976	11:19	12/31/1976		180.68	1999	
	521	168 Oak Creek #6		PO	1/1/1977	0:09	1/30/1977	22:36	718.45	1999	
	521	168 Oak Creek #6	201	D1	1/30/1977	22:36	2/1/1977	22:00	47.4	3440	
_	521	168 Oak Creek #6		U1	2/1/1977	2:02	2/1/1977	2:53	0.85	4301	
_	521	168 Oak Creek #6	206	D1	2/5/1977	7:40	2/5/1977	16:45	9.08	360	
S	521	168 Oak Creek #6	161	D1	2/5/1977	7:40	2/6/1977	14:15	30.58	3999	
WEPCO	521	168 Oak Creek #6	161	D1	2/6/1977	3:30	2/6/1977	14:15	10.75	360	
<u>ر</u> ر	521	168 Oak Creek #6	170	D1	2/8/1977	11:15	2/8/1977	20:25	9.16	1455	
	521	168 Oak Creek #6		U1	2/11/1977	22:37	2/13/1977	23:29	48.86	1060	
40043	521	168 Oak Creek #6		U1	2/19/1977	1:58	2/21/1977	0:03	46.08	1060	
3	521	168 Oak Creek #6		U1	2/22/1977	20:51	2/24/1977	12:55	40.06	1080	
	521	168 Oak Creek #6	191	D1	3/3/1977	12:00	3/3/1977	14:30	2.5	1850	
	521	168 Oak Creek #6		U1	3/5/1977	1:25	3/7/1977	6:16	52.85	1060	
L_	521	168 Oak Creek #6	200	D1	3/7/1977	18:30	3/8/1977	8:00	13.5	250	

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ļ	521		Creek #6		U1	3/11/1977	22:40	3/14/1977	3:59	53.31	1060	
	521	168 Oak	Creek #6	191	D1	3/14/1977	6:15	3/14/1977	9:16	3.01	1040	
	521	168 Oak	Creek #6		U1	3/14/1977	9:16	3/16/1977	5:50	44.56	1040	
- []	521	168 Oak	Creek #6		U1	4/3/1977	7:58	4/6/1977	4:12	68.23	1005	
Γ	521	168 Oak	Creek #6	216	D1	4/11/1977	6:15	4/11/1977	10:45	4.5	3999	
- 1	521	168 Oak	Creek #6		U1	5/7/1977	0:45	5/9/1977	3:38	50.88	1100	
- 1"	521		Creek #6	205	D1	5/18/1977	6:55	5/18/1977	17:00	10.08	1486	
Ī	521	168 Oak	Creek #6	205	D1	5/19/1977	5:45	5/19/1977	10:50	5.08	1486	
- 1	521		Creek #6	11-	U1	5/19/1977	22:20	5/20/1977	3:10	4.83	1060	
- 1	521	168 Oak		180	D1	5/24/1977	0:01	5/24/1977	4:40	4.65	3441	
1.	521		Creek #6	195	D1	5/25/1977	14:30	5/26/1977	17:30	27	3440	
-	521		Creek #6	-	U1	5/28/1977	0:18	5/30/1977	15:19	63.01	1040	
- 1	521		Creek #6		U1	6/11/1977	1:18	6/14/1977	2:20	73.03	1060	
- }	521		Creek #6	1	U1	6/14/1977	23:55	6/15/1977	5:17	5.36	1060	
1	521		Creek #6	11	U1	6/15/1977	23:59	6/17/1977	4:49	28.83	1040	
-	521	168 Oak		200	D1	6/25/1977	10:40	6/26/1977	8:00	21.33	3999	
-	521		Creek #6	221	D1	7/4/1977	23:00	7/5/1977	23:00	24	3999	
	521	168 Oak	Creek #6	1	U1	7/7/1977	12:34	7/11/1977	2:56	86.36	1000	
	521	168 Oak	Creek #6	210	D1	7/14/1977	0:30	7/14/1977	12:00	11.5	1999	
-	521	168 Oak	Creek #6	156	D1	7/16/1977	2:15	7/16/1977	3:00	0.75	1400	
-	521	168 Oak	Creek #6		U1	7/26/1977	18:36	7/27/1977	0:01	5.41	8560	
-	521	168 Oak		1	U1	7/31/1977	0:36	7/31/1977	20:08	19.53	1060	
Γ.	521	168 Oak	Creek #6		U1	8/1/1977	23:51	8/2/1977	1:44	1.88	4609	
- [521	168 Oak	Creek #6	190	PD	8/5/1977	1:00	8/5/1977	3:15	2.25	1999	
- 1	521	168 Oak		1	ับ1	8/11/1977	0:13	8/12/1977	15:49	39.59	1060	-
-	521		Creek #6	200	D1	8/18/1977	8.30	8/19/1977	11:54	27.4	1486	
	521		Creek #6	196	D1	8/26/1977	7 30	8/26/1977	14:30	7	250	
	521		Creek #6	'	Մ1	8/27/1977	0.15	8/29/1977	19:10	66.91	1060	
	521		Creek #6	1 :	ับ1	9/9/1977	23:32	9/12/1977	4:48	53.26	1060	
	521		Creek #6	150	D1	9/18/1977	2:30	9/18/1977	6:50	4.33	1455	
	521		Creek #6		U1	9/18/1977	6:50	9/18/1977	23:58	17.13	1455	
Ī	521	168 Oak	Creek #6		U1	9/24/1977	1:48	9/26/1977	4:50	51.03	1040	
Ī	521		Creek #6		U1	9/28/1977	21:46	9/29/1977	6:29	8.71	340	
	521	168 Oak	Creek #6	210	D1	10/14/1977	8:30	10/14/1977	12:30	4	3999	
F	521	168 Oak	Creek #6		U1	10/16/1977	9:11	10/22/1977	5:47	140.6	1005	
-	521	168 Oak	Creek #6	201	D1	11/17/1977	9:45	11/18/1977	23:46	38.01	1060	
	521	168 Oak	Creek #6		U1	11/18/1977	23:46	11/21/1977	8:07	56.35	1060	
4	521		Creek #6		U1	11/25/1977	21:13	11/27/1977	1:23	28.16	1060	
E	521	168 Oak	Creek #6	191	D1	12/6/1977	10:50	12/7/1977	6:55	20.08	3440	
WEPCO	521	168 Oak	Creek #6	176	D1	12/11/1977	18:45	12/12/1977	12:00	17.25	3440	
	521		Creek #6	175	D1	12/13/1977	17:20	12/14/1977	10:00	16.66	3440	
40044	521		Creek #6	190	D1	12/18/1977	17:50	12/19/1977	8:40	14.83	3440	
)44	521		Creek #6	ᠠ	U1	12/23/1977	0:33	12/24/1977	3:30	26.95	1060	
_	521		Creek #6	196	D1	1/2/1978	18:45	1/3/1978	7:30	12.75	3440	
	521		Creek #6	201	D1	1/4/1978	8:00	1/4/1978	13:45	5.75	3999	
1	521		Creek #6	1 ==-+	U1	1/4/1978	17:30	1/5/1978	23:40	30.16	1000	A ADMINISTRAÇÃO DE LA CONTRACTOR DE LA C
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<u> </u>	1000 1 0 - 1 10	1	150	. =			2 421			
52			PO	1/7/1978	1:13	2/28/1978	_6:13	1253	1999	
52		.	U1	2/28/1978	8:43	3/2/1978	4:10	43.45	4099	
52		191	D1	3/7/1978	8:30	3/10/1978	13:00	76.5	3999	
52	21 168 Oak Creek #6		U1	3/10/1978	21:48	3/11/1978	13:30	15.7	8560	
52	21 168 Oak Creek #6	201	D1	3/16/1978	21:40	3/17/1978	6:25	8.75	3999	
52	· -+	186	D1	3/18/1978	0:01	3/20/1978	4:30	52.48	3999	
52		1	U1	3/20/1978	19:05	3/20/1978	20:58	1.88	340	
52		+-+	U1	3/21/1978	13:22	3/23/1978	4:47	39.41	1040	
52	······································		U1	3/23/1978	20:15	3/26/1978	19:04	70.81	4640	
52		176	<u>D1</u>	3/27/1978	20:01	3/28/1978	15:45	19.73	3440	·
52		211	D1	3/30/1978	16:00	3/30/1978	23:00	13.73	360	
52		201	D1	4/3/1978	9:30	4/3/1978	15:35	6.08	3999	
52		151	D1	4/16/1978	18:45	4/17/1978	9:30	14.75	340	
		201	D1	4/17/1978		4/17/1978				
52		201			9:30		16:00	6.5	340	
52	+=+		<u>U1</u>	4/18/1978	22:00	4/19/1978	6:06	8.1	4269	
52		101	D1	4/18/1978	22:00	4/19/1978	6:06	8.1	340	
52		201	D1	4/19/1978	6:06	4/19/1978	16:30	10.4	3440	
52		101	D1	4/22/1978	7:00	4/22/1978	9:45	2.75	340	
52			U1	4/24/1978	0:45	4/24/1978	19:58	19.21	1080	
52		201	D1	4/28/1978	7:35	4/28/1978	16:30	8.91	360	
52	21 168 Oak Creek #6		U1	5/11/1978	13:10	5/14/1978	11:58	70.8	1060	,
52	21 168 Oak Creek #6	210	D1	5/16/1978	7:45	5/16/1978	9:30	1.75	360	
52	21 168 Oak Creek #6		U1	5/23/1978	9:29	5/24/1978	12:05	26.6	1080	
52	····	235	D1	5/25/1978	3:00	5/25/1978	7:30	4.5	3999	
52	·	219	D1	6/4/1978	21:50	6/5/1978	4:45	6.91	3999	
52		1	U1	6/6/1978	13:06	6/8/1978	7:43	42.61	1000	
52		139	D1	6/22/1978	10:35	6/23/1978	9:45	23.16	1455	
52		1	U1	7/1/1978	0:57	7/5/1978	1:12	96.25	1060	
52		76	D1	7/5/1978	13:45	7/6/1978	1:30	11.75	340	
52		156	D1	7/7/1978	20:01	7/10/1978	22:00	73.98	1455	
52		120	D1	7/10/1978	22:00	7/14/1978	14:30	88.5	340	
52		181	D1	7/10/1978		7/14/1978			3440	
		191	+		10:15		22:03	35.8	3999	
52			D1	7/19/1978	9:00	7/20/1978	2:30	17.5		
52		190	D1	7/20/1978	7:00	7/23/1978	16:20	81.33	3999	
52		140	D1	7/22/1978	15:00	7/23/1978	16:20	25.33	3440	
52		201	D1	7/24/1978	7:30	7/28/1978	10:10	98.66	3440	
52		166	D1	7/26/1978	8:15	7/27/1978	3:00	18.75	3999	
52	· · · ·	100	D1	7/30/1978	23:00	8/4/1978	17:00	114	340	
52 52 52 52			U1	8/2/1978	21:16	8/4/1978	5:04	31.8	1080	
52		211	D1	8/8/1978	12:18	8/14/1978	4:53	136.58	1455	
5 _ 52			U1	8/12/1978	0:40	8/14/1978	4:53	52.21	1060	
	· - ! ! !	239	D1	8/17/1978	8:30	8/18/1978	2:45	18.25	3440	
52			U1	8/19/1978	0:22	8/21/1978	2:36	50.23	1060	
7 52			U1	8/25/1978	23:49	8/28/1978	1:29	49.66	1060	
52	21 168 Oak Creek #6	196	D1	8/31/1978	18:00	8/31/1978	19:10	1.16	3999	
52			U1	9/2/1978	0:21	9/5/1978	6:37	78.26	1060	
			 			<u> </u>	3.5.1			

					, 						
521	168	Oak Creek #6	182	D1	9/6/1978	21:25	9/7/1978	13:30	16.08	3440	
521	168	Oak Creek #6	202	D1	9/7/1978	13:30	9/7/1978	16:00	2.5	3999	
		Oak Creek #6	187	D1	9/8/1978	6:30	9/8/1978	8:30	2	3999	
		Oak Creek #6	217	D1	9/13/1978	4:20	9/14/1978	13:13	32.88	3999	
		Oak Creek #6	222	PD	9/15/1978	10:30	9/16/1978	0:34	14.06	8550	
		Oak Creek #6	— 	U1	9/16/1978	0:34	9/18/1978	3:45	51.18	1060	
		Oak Creek #6	232	D1	9/20/1978	10:45	9/20/1978	13:00	2.25	360	
		Oak Creek #6	232	U1	9/22/1978		9/26/1978	6:14	78.41	1060	
						23:49					
		Oak Creek #6		U1	9/30/1978	1:12	10/2/1978	12:23	59.18	1060	
		Oak Creek #6	219	D1	10/2/1978	16:30	10/7/1978	20:45	124.25	1400	
		Oak Creek #6		U1	10/3/1978	23:17	10/4/1978	11:24	12.11	1400	<u> </u>
		Oak Creek #6		<u>U1</u>	10/14/1978	0:34	10/16/1978	10:34	58	1060	
		Oak Creek #6	214	D1	10/18/1978	10:00	10/18/1978	19:20	9.33	3999	
		Oak Creek #6	239	PD	10/26/1978	7:30	11/1/1978	11:00	147.5	620	
		Oak Creek #6	194	D1	10/26/1978	7:30	10/26/1978	10:20	2.83	250	
	168	Oak Creek #6	189	D1	10/26/1978	21:30	10/26/1978	22:30	1	3999	
		Oak Creek #6	209	D1	10/28/1978	8:30	10/29/1978	21:15	36.75	3999	
		Oak Creek #6		U1	11/4/1978	0:03	11/7/1978	3:07	75.06	1060	
		Oak Creek #6	206	D1	11/8/1978	9:00	11/8/1978	22:30	13.5	250	
		Oak Creek #6	151	D1	11/9/1978	13:30	11/11/1978	10:30	45	1060	
		Oak Creek #6		PO	11/11/1978	10:30	12/26/1978	1:21	1094.85	1999	
		Oak Creek #6	210	D1	11/26/1978	1:00	11/26/1978	4:15	3.25	1400	
		Oak Creek #6	166	D1	12/26/1978	16:45	12/26/1978	19:30	2.75	340	
		Oak Creek #6	70	D1	1/5/1979	0:01	1/8/1979	12:45	84.73	340	
		Oak Creek #6	39	D1	1/5/1979	4:00	1/8/1979	16:00	84	3999	
		Oak Creek #6	- 39 -	U1	1/9/1979	16:14	1/11/1979	17:05	48.85	1060	
		Oak Creek #6	201	D1	1/12/1979	0:01	1/15/1979	15:40	87.65	1999	
			201		1/12/1979	15:26	1/13/1979	0:44	33.3	1040	
		Oak Creek #6		<u>U1</u>	4						
		Oak Creek #6	120	D1	1/15/1979	18:15	1/16/1979	17:00	22.75	3999	
		Oak Creek #6	120	D1	1/20/1979	5:30	1/20/1979	11:30	6	3999	
		Oak Creek #6		U1	1/21/1979	1:04	1/22/1979	2:12	25.13	1040	
		Oak Creek #6		U1	1/25/1979	23:23	1/28/1979	19:55	68.53	1040	
		Oak Creek #6	190	D1	2/3/1979	4:00	2/5/1979	8:03	52.05	3999	· · · · · · · · · · · · · · · · · · ·
·-·		Oak Creek #6	80	D1	2/20/1979	0:30	2/20/1979	22:30	22	3440	
		Oak Creek #6	80	D1	2/21/1979	8:40	2/22/1979	10:00	25.33	3440	
		Oak Creek #6	231	D1	2/22/1979	10:00	2/22/1979	22:44	12.73	8560	
		Oak Creek #6		U1_	2/22/1979	22:44	2/26/1979	3:06	76.36	1060	
		Oak Creek #6		U1	3/2/1979	0:33	3/4/1979	5:28	52.91	1060	
521	168	Oak Creek #6	175	D1	3/5/1979	8:20	3/31/1979	24:00:00	639.66	8560	
521	168	Oak Creek #6	150	D1	3/16/1979	3:30	3/17/1979	16:00	36.5	3440	
521	168	Oak Creek #6	.	U1	3/19/1979	22:23	3/22/1979	6:07	55.73	1060	
		Oak Creek #6	140	D1	3/23/1979	23:30	3/24/1979	4:20	4.83	3310	
		Oak Creek #6		U1	3/31/1979	23:31	4/1/1979	5:47	6.26	4640	
		Oak Creek #6	136	D1	4/1/1979	11:00	4/1/1979	19:30	8.5	3999	
		Oak Creek #6	89	D1	4/1/1979	11:00	4/1/1979	19:30	8.5	3999	
		Oak Creek #6	64	D1	4/29/1979	19:50	4/30/1979	5:30	9.66	3999	

			- 1.0. 1.00									,
	21		Oak Creek #6	93	D1	5/1/1979	17:00	5/1/1979	21:30	4.5	340	
	21		Oak Creek #6		U1	5/4/1979	9:28	5/6/1979	23:26	61.96	1060	
5	21	168	Oak Creek #6	73	D1	5/13/1979	7:10	5/13/1979	14:00	6.83	3999	
	21	168	Oak Creek #6		U1	5/18/1979	23:07	6/7/1979	8:38	465.51	8560	
	21	168	Oak Creek #6	209	D1	6/13/1979	0:01	6/16/1979	3:30	75.48	8560	
	21	168	Oak Creek #6	149	D1	6/14/1979	3:30	6/23/1979	16:27	228.95	8560	
1 - 5	21	168	Oak Creek #6		U1	6/14/1979	20:57	6/15/1979	3:35	6.63	1060	
5	21	168	Oak Creek #6	59	D1	6/21/1979	5:05	6/21/1979	16:15	11.16	340	
1	21		Oak Creek #6		U1	6/23/1979	16:27	6/26/1979	4:18	59.85	8560	
	21	+	Oak Creek #6		U1	7/6/1979	19:46	7/8/1979	23:06	51.33	1060	
1	21	168	Oak Creek #6	186	D1	7/20/1979	10:25	7/20/1979	22:16	11.85	3440	
	21		Oak Creek #6		U1	7/20/1979	22:16	7/23/1979	6:26	56.16	1060	
	21	168	Oak Creek #6	170	D1	7/29/1979	10:30	7/30/1979	2:13	15.71	8560	
	21		Oak Creek #6	100	D1	7/30/1979	2:13	7/31/1979	0:46	22.55	8560	
5	21		Oak Creek #6		U1	7/31/1979	0:47	8/5/1979	13:29	132.7	1999	
	21		Oak Creek #6	200	D1	8/5/1979	13:29	9/1/1979	13:40	648.18	8560	
	21		Oak Creek #6	 +	U1	8/22/1979	23:07	8/23/1979	13:23	14.26	1060	
	21		Oak Creek #6		МО	9/1/1979	5:15	9/1/1979	6:02	0.78	4301	
	21		Oak Creek #6		MO	9/1/1979	7:06	9/1/1979	8:29	1.38	4301	
	21		Oak Creek #6		PO	9/1/1979	13:40	12/15/1979	3:35	2533.91	1999	
	21		Oak Creek #6	114	D1	12/15/1979	3:35	12/17/1979	4:00	48.41	3310	
	21		Oak Creek #6		PO	12/19/1979	3:16	12/19/1979	3:44	0.46	9720	
	21		Oak Creek #6	206	D1	12/21/1979	4:00	12/27/1979	18:30	158.5	3440	
	21		Oak Creek #6	131	D1	12/27/1979	22:00	12/28/1979	0:45	2.75	3410	
	21		Oak Creek #6		МО	12/31/1979	0:15	12/31/1979	6:15	6	4301	
	21		Oak Creek #6	151	D1	1/5/1980	19:50	1/6/1980	1:00	5.16	3440	
	21		Oak Creek #6		U1	1/6/1980	7:49	1/9/1980	14:29	78.66	1005	
	21		Oak Creek #6	161	D1	1/12/1980	1:45	1/13/1980	12:55	35.16	1400	
	21		Oak Creek #6	190	D1	1/17/1980	23:00	1/18/1980	18:50	19.83	3440	
	21		Oak Creek #6		U1	1/26/1980	0:30	1/28/1980	2:09	49.65	4269	
	21		Oak Creek #6	225	D1	1/30/1980	3:40	1/30/1980	14:25	10.75	3999	<u> </u>
-	21		Oak Creek #6	223	U1	2/11/1980	2:28	2/11/1980	3:38	1.16	4400	
	21		Oak Creek #6		U1	2/15/1980	0:35	2/19/1980	19:12	114.61	1060	
	21		Oak Creek #6	160	D1	2/21/1980	14:40	2/21/1980	21:15	6.58	3440	
	21		Oak Creek #6	170	D1	2/22/1980	23:30	2/23/1980	14:00	14.5	3440	
	21		Oak Creek #6	90	D1	3/7/1980	13:30	3/9/1980	6:00	40.5	340	,
	21		Oak Creek #6	90	U1	3/8/1980	2:45	3/8/1980	3:18	0.55	9900	
	21		Oak Creek #6	70	D1	3/11/1980	10:15	3/11/1980	13:30	3.25	3999	
·	21		Oak Creek #6	60	D1	3/18/1980	17:50	3/11/1980	5:00	35.16	340	
e	21		Oak Creek #6	175	D1	3/20/1980	5:00	3/20/1980	2:20	21.33	3440	
j - ₹	21		Oak Creek #6	- 1/3	U1	3/29/1980	0:34	3/21/1980	8:35	56.01	1060	
	21		Oak Creek #6		U1	4/18/1980	4:06	4/22/1980	6:35	98.48	1060	
_ :	21		Oak Creek #6	220	D1	4/23/1980	3:15	4/23/1980	19:00	15.75	1999	
	21		Oak Creek #6	.220	U1	5/1/1980	9:34	5/5/1980	8:30	94.93	1040	
	21		Oak Creek #6	-	U1	5/6/1980	15:35	5/13/1980	19:39	172.06	1000	and the second of the second o
			Oak Creek #6		U1	5/16/1980					~···	
:	21	100	Odk Cieek #6		UI	2/10/1980	17:25	5/19/1980	9:06	63.68	1000	

504	100	O-1: O1: #0	405	IDD	0404000	0.00	0444000	40.45	05.05	0440	
521		Oak Creek #6	165	PD	6/13/1980	8:00	6/14/1980	19:15	35.25	3440	
521		Oak Creek #6	60	D1	6/17/1980	21:45	6/18/1980	4:15	6.5	340	
521		Oak Creek #6		U1	6/24/1980	12:49	6/26/1980	7:40	42.85	1060	
521	168	Oak Creek #6	146	D1	7/1/1980	16:10	7/2/1980	1:45	9.58	3440	
521		Oak Creek #6	175	D1	7/12/1980	0:30	7/12/1980	8:35	8.08	3440	
521	168	Oak Creek #6	200	D1	7/14/1980	2:45	7/14/1980	11:50	9.08	1060	
521	168	Oak Creek #6		U1	7/19/1980	0:01	7/19/1980	6:34	6.55	1400	
521	168	Oak Creek #6	131	D1	7/19/1980	6:34	7/19/1980	13:15	6.68	3440	
521		Oak Creek #6		U1	7/19/1980	13:15	7/19/1980	16:35	3.33	3440	
521		Oak Creek #6	170	D1	7/19/1980	16:35	7/20/1980	15:50	23.25	3440	
521		Oak Creek #6	210	D1	7/30/1980	9:00	7/30/1980	13:55	4.91	3999	
521		Oak Creek #6		U1	8/7/1980	22:51	8/8/1980	6:04	7.21	1400	
521		Oak Creek #6		U1	8/9/1980	18:59	8/15/1980	6:28	131.48	1040	
521		Oak Creek #6		U1	8/15/1980	22:39	8/17/1980	22:15	47.6	1060	
521		Oak Creek #6	175	D1	8/24/1980	2:45	8/25/1980	14:26	35.68	3440	
521		Oak Creek #6	225	D1	8/27/1980	2:20	8/27/1980	16:15	13.91	3999	
521		Oak Creek #6	90	D1	9/5/1980	10:00	9/6/1980	2:45	16.75	340	
521		Oak Creek #6	30	U1	9/13/1980	3:07	9/15/1980	4:11	49.06	1060	
		Oak Creek #6		U1	9/20/1980	0:48	9/22/1980	4:36	51.8	1060	
521										3440	
521		Oak Creek #6	175	D1	10/1/1980	19:00	10/2/1980	7:30	12.5		
521		Oak Creek #6	149	PD	10/4/1980	17:50	10/18/1980	5:15	323.41	620	
521		Oak Creek #6	69	D1	10/4/1980	18:00	10/5/1980	15:45	21.75	620	
521	168	Oak Creek #6	69	D1	10/8/1980	14:30	10/9/1980	1:30	11	340	
521		Oak Creek #6	69	D1	10/10/1980	13:45	10/10/1980	16:15	2.5	340	
521		Oak Creek #6	69	_ D1	10/11/1980	4:30	10/11/1980	12:30	8	340	
521		Oak Creek #6	69	D1	10/12/1980	10:35	10/12/1980	13:15	2.66	340	
521		Oak Creek #6	50	D1	10/14/1980	10:00	10/14/1980	16:25	6.41	340	
521		Oak Creek #6	50	D1	10/15/1980	1:00	10/18/1980	5:15	76.25	340	
521		Oak Creek #6		U1	10/17/1980	23:24	10/17/1980	23:59	0.58	9999	
521		Oak Creek #6		PO	10/18/1980	5:14	11/16/1980	23:29	714.25	1999	
521	168	Oak Creek #6	175	D1	11/16/1980	23:30	11/23/1980	10:25	154.91	3440	
521		Oak Creek #6		U1	11/23/1980	10:25	11/24/1980	21:27	35.03	3440	
521		Oak Creek #6	165	D1	11/24/1980	21:27	12/3/1980	11:00	229.55	3440	
521	168	Oak Creek #6		U1	12/5/1980	22:22	12/8/1980	1:07	50.75	1060	
521	168	Oak Creek #6	188	D1	12/9/1980	8:00	12/9/1980	10:00	2	1850	
521	168	Oak Creek #6	235	D1	12/9/1980	10:00	12/9/1980	12:30	2.5	1850	
521	168	Oak Creek #6	175	D1	12/10/1980	16:30	12/11/1980	22:20	29.83	3440	
521	168	Oak Creek #6	175	PD	12/17/1980	21:30	12/18/1980	8:00	10.5	1999	
521	168	Oak Creek #6	185	D1	12/23/1980	11:00	12/24/1980	4:30	17.5	3440	
521		Oak Creek #6	140	D1	12/29/1980	19:30	12/31/1980	3:00	31.5	5890	
521		Oak Creek #6	70	D1	12/31/1980	3.00	12/31/1980	17:15	14.25	340	
521		Oak Creek #6	226	D1	1/1/1981	0:01	1/16/1981	23:38	383.61	3440	
521		Oak Creek #6	175	D1	1/1/1981	17:20	1/2/1981	8:19	14.98	3440	
521		Oak Creek #6		U1	1/2/1981	8:19	1/2/1981	13:06	4.78	3440	A CONTRACTOR OF THE CONTRACTOR
521		Oak Creek #6	150	D1	1/2/1981	13:06	1/2/1981	23:30	10.4	3440	,,, , ,
521		Oak Creek #6	150	D1	1/3/1981	15:02	1/3/1981	19:00	3.96	1999	.,
221	100	Can Clock #0	130	101	1/3/1901	13.02	1/0/1301	13.00	3.30	1000	<u></u>

	521	168	Oak Creek #6	150	D1	1/9/1981	23:00	1/10/1981	21:00	22	3440	
ļ	521		Oak Creek #6	+	U1	1/16/1981	23:38	1/19/1981	6:05	54.45	8560	
J	521		Oak Creek #6	226	D1	1/19/1981	6:05	2/21/1981	23:50	809.75	3440	
1	521		Oak Creek #6	150	PD	1/23/1981	21:30	1/24/1981	5:00	7.5	3440	
i	521		Oak Creek #6	198	D1	2/6/1981	8:30	2/6/1981	23:59	15.48	8580	
	521		Oak Creek #6		U1	2/6/1981	23:59	2/10/1981	11:38	83.65	1060	
	521		Oak Creek #6		MO	2/20/1981	23:50	2/22/1981	17:15	41.41	3110	
	521		Oak Creek #6		U1	2/22/1981	17:15	2/23/1981	19:49	26.56	4500	
1.	521		Oak Creek #6		U 1	2/24/1981	6:00	3/2/1981	3:52	141.86	1060	
ŀ	521		Oak Creek #6		U1	3/3/1981	23:12	3/5/1981	8:44	33.53	1060	
} -	521		Oak Creek #6		U1	3/6/1981	22:22	3/7/1981	6:35	8.21	1060	
[521		Oak Creek #6	175	D1	3/8/1981	21:03	3/9/1981	8:30	11.45	3440	
1	521		Oak Creek #6	95	D1	3/28/1981	23:00	4/1/1981	5:00	78	340	
	521		Oak Creek #6	95	D1	4/1/1981	9:00	4/1/1981	17:45	8.75	620	
	521		Oak Creek #6		U1	4/2/1981	12:17	4/16/1981	22:09	345.86	1060	,
	521		Oak Creek #6	175	D1	4/21/1981	20:45	4/22/1981	15:30	18.75	3440	
	521		Oak Creek #6	150	D1	4/23/1981	2:30	4/23/1981	23:50	21.33	9130	
-	521		Oak Creek #6	175	D1	4/24/1981	7:30	4/24/1981	23:59	16.48	340	
} -	521		Oak Creek #6		U1	5/2/1981	23:35	5/3/1981	10:02	10.45	8560	
-	521		Oak Creek #6	225	D1	5/3/1981	10:02	5/9/1981	1:59	135.95	3440	
-	521		Oak Creek #6		U1	5/9/1981	1:59	5/11/1981	7:05	53.1	1060	
1	521		Oak Creek #6		U1	5/19/1981	19:40	5/21/1981	23:14	51.56	9720	
-	521		Oak Creek #6	225	D1	5/21/1981	23:14	5/24/1981	0:02	48.8	3440	
	521		Oak Creek #6		MO	5/24/1981	0:02	6/6/1981	21:27	333.41	840	
	521	168	Oak Creek #6	170	PD	6/6/1981	21:27	6/11/1981	23:48	122.35	3440	
-	521	168	Oak Creek #6		U1	6/9/1981	9:34	6/10/1981	8:05	22.51	3440	
Г	521	168	Oak Creek #6		U1	6/11/1981	23:48	6/12/1981	8:38	8.83	8560	
-	521	168	Oak Creek #6	150	PD	6/12/1981	8:38	6/14/1981	2:00	41.36	3440	
	521	168	Oak Creek #6	165	PD	6/14/1981	2:00	6/16/1981	2:00	48	3440	
į –	521	168	Oak Creek #6	100	D1	6/17/1981	4:00	6/17/1981	15:00	11	8560	
	521	168	Oak Creek #6	165	PD	6/18/1981	12:00	6/26/1981	19:40	199.66	3440	
	521	168	Oak Creek #6		U1	6/27/1981	0:27	6/29/1981	6:21	53.9	1040	· ·
-	521	168	Oak Creek #6		NC	6/30/1981	1:00	6/30/1981	11:45	10.75	1040	
	521	168	Oak Creek #6	170	D1	7/6/1981	21:30	7/7/1981	7:15	9.75	3440	
	521	168	Oak Creek #6	190	D1	7/13/1981	9:00	7/19/1981	10:30	145.5	9650	
	521	168	Oak Creek #6	191	D1	7/19/1981	10:30	7/20/1981	15:15	28.75	3440	
-	521		Oak Creek #6		U1	7/28/1981	23:33	8/2/1981	0:36	97.05	1060	
_	521		Oak Creek #6	170	D1	8/2/1981	0:36	8/3/1981	7:30	30.9	3440	
VΕ	521		Oak Creek #6	170	D1	8/3/1981	7:30	8/4/1981	2:00	18.5	3440	
PC	521		Oak Creek #6		U1	8/17/1981	22:08	8/21/1981	11:46	85.63	1040	
ŏ,	521		Oak Creek #6		U1	8/27/1981	9:35	8/27/1981	19:33	9.96	1060	
WEPCO 40049	521		Oak Creek #6		MO	9/5/1981	0:45	9/8/1981	5:31	76.76	3621	
049	521		Oak Creek #6	180	D1 D1	9/9/1981	6:30	9/10/1981	6:00	23.5	1850	
•	521		Oak Creek #6	180		9/21/1981	5:40	9/21/1981	21:00	15.33	3999	
	521		Oak Creek #6		U1	9/25/1981	21:51	9/29/1981	22:15	96.4	1040	
	521	168	Oak Creek #6	87	D1	9/29/1981	22:15	10/3/1981	15:25	89.16	1850	

													
1.	521		Oak Creek #6	175		D1	10/3/1981	15:25	10/3/1981	17:30	2.08	3440	
1	521	168	Oak Creek #6	90		D1	10/3/1981	17:30	10/4/1981	9:00	15.5	3440	
1	521	168	Oak Creek #6	175		D1	10/4/1981	9:00	10/5/1981	1:00	16	3440	
- '	521	168	Oak Creek #6	-		U1	10/5/1981	10:49	10/11/1981	10:33	143.73	1040	
1	521	168	Oak Creek #6			U1	10/11/1981	10:40	10/17/1981	18:33	151.88	4520	
	521	168	Oak Creek #6			U1	10/23/1981	14:18	10/26/1981	5:44	63.43	1040	
1	521	168	Oak Creek #6			PO	11/6/1981	22:05	11/6/1981	23:07	1.03	9999	
	521	168	Oak Creek #6			PO	11/7/1981	4:44	12/20/1981	21:06	1072.36	1999	
	521		Oak Creek #6			U1	12/21/1981	3:00	12/24/1981	12:58	81.96	1040	,
	521	168	Oak Creek #6	221		D1	12/28/1981	17:00	12/28/1981	21:50	4.83	3999	
1	521	168	Oak Creek #6	120		D1	12/28/1981	21:45	12/30/1981	9:00	35.25	1040	
ļ	521		Oak Creek #6	170		D1	12/30/1981	9:00	12/31/1981		39	1040	
-	521		Oak Creek #6	000*	75	D1	1/1/1982	0:01	1/9/1982	6:00	197.98	1799	SUPERHEATER, HIGH TEMPERATURE
				1									
1	521	168	Oak Creek #6	000*	66	D1	1/2/1982	12:30	1/3/1982	10:00	21.5	4261	TURBINE CONTROL, PROBLEM VALVES
-	521	168	Oak Creek #6	000*	110		1/3/1982	10:00	1/9/1982	6:00	140		63 MILL, REPLACE TORN BELT
	521		Oak Creek #6	000*	111		1/5/1982	7:00	1/6/1982	15:40	32.66		TURBINE BFP REPAIR
													TURBINE CONTROL VALVE CAM
1	521	168	Oak Creek #6			U3	1/9/1982	5:57	1/9/1982	21:30	15.55		7.SPLACEMENT
	521		Oak Creek #6	000*	200		1/11/1982	3:00	1/15/1982	7:00	100	1850	BOILER, SILICA HIGH
	-							··					TURBINE, CONTROLS SWINGING
1										'			BADLY ABOVE 200MW-NEED OUTAGE
-	521	168	Oak Creek #6	000*	200	D1	1/15/1982	7:00	1/27/1982	12:30	293.5		FOR READJUSTMENT
								· · ··· }					MILLS, WET AND FROZEN COAL
	521	168	Oak Creek #6	000*	120	D1	1/19/1982	15:40	1/19/1982	22:00	6.33	340	PREVENTING MILL CAPACITY
													WATER ENTERED PRECIPITATOR
-	521	168	Oak Creek #6			U1	1/21/1982	10:40	1/26/1982	13:34	122.9	8560	CAUSING ASH REMOVAL PROBLEMS
													61/62 PRIMARY FAN, MTR BRGS HIGH
1	521	168	Oak Creek #6	000*	143	D1	1/27/1982	12:30	1/28/1982	15:30	27	260	TEMP-PULLED COOLERS TO CLEAN
1													PRECIPITATOR, CHANGING TERTIARY
1								i			ſ		COLLECTOR BAGS FOULED WITH
	521	168	Oak Creek #6	000*	100	D1	1/27/1982	21:40	1/28/1982	17:16	19.6		MOISTURE
									-				REPLACE BOILER WATER BECAUSE OF
-1	521	168	Oak Creek #6	1		U1	1/28/1982	17:15	1/29/1982	20:15	27		HIGH SILICA
Γ.	521	168	Oak Creek #6	•		U1	1/31/1982	1:21	2/1/1982	7:20	29,98	1060	REPAIR REHEATER LEAK IN 1 CELL
***													HIGH SILICA IN BOILER WATER-
	521	168	Oak Creek #6	000*	160	D1	2/3/1982	7:00	2/3/1982	9:00	2		OPENED LARGE BLOWDOWN
€ ``													#61 PRIMARY FAN, FAN BEARING
ಸ ರ			-	-]	j .		ļ			}		FAILURE BEARINGS BEING SCRAPPED
WEDCO 40050	521	168	Oak Creek #6	000*	185	D1	2/3/1982	9:00	2/4/1982	3:00	18		AND REINSTALLED
… 4	`							7		-			#61 PRIMARY AIR FAN, FAN BRNG
3	,			Ì				}			ļ		FAILURE BRNGS BEING SCRAPPED
5	521	168	Oak Creek #6	000*	200	D1	2/4/1982	3:00	2/5/1982	9:00	30		AND REINSTALLED
•				1		[#62 AIR PREHEATER MOTOR DRIVE
	521	168	Oak Creek #6	000*	132	D1	2/5/1982	17:30	2/5/1982	19:30	2	265	COIL FAILURE REPLACE COIL

Г						· · · ·	T .			1			CONVECTION SUPERHEATER, TUBE
	- 1								1				RUPTURE #1 AND #4 CELLS-REPAIR
	521	168	Oak Creek #6			U1	2/7/1982	19:22	2/11/1982	22:06	98.73	1020	LEAKS
-	52.1	100	Oak Oleek #0			- 1	2111902	19.22	211/1302		30.73	1020	CLEAN FIRE COAL OUT OF 61 & 62
	521	160	Oak Creek #6			U2	2/13/1982	1:46	2/14/1982	23:33	45.78	240	PULV FUEL BINS
1	32.1		Oak Oleek #0			<u> </u>	2/13/1902	1.40	2/14/1902	20.00	45.76		1 & 7 PULV FUEL FEEDER, PLUGGED
								1		1			FEEDERS CAUSING REHEAT TEMP
- 1	521	169	Oak Creek #6	000*	165	D1	2/20/1982	16:45	2/21/1982	15:15	22.5	260	PROBLEMS
1	ایک	100	Oak Oleek #0	1000	103	<u> </u>	2/20/1902	10.40	2/21/1902		22.5	300	TRANSFERING PULVERIZED COAL TO
- 1	521	168	Oak Creek #6	000*	150	D2	3/1/1982	16:15	3/1/1982	17:30	1.25	340	UNIT 5
-	<u> </u>	_100	Oak Olock #0	- 1000	100	<u> </u>	0/1/1302	10.13	0/1/1902		1.23		REPAIR PULVERIZED FUEL LEAK AT
1	521	168	Oak Creek #6			U1	3/4/1982	13:47	3/8/1982	5:41	87.9	360	BURNERS.
-							1						REHEAT LEAK NORTH SIDE ELEV 45
	521	168.	Oak Creek #6			U1	3/9/1982	21:55	3/10/1982	6:34	8.64		REPAIR FROM OUTSIDE
F	521		Oak Creek #6			U1	3/20/1982	22:44	3/21/1982	6:13	7.48		REPAIR REHEATER LEAK
-							†						REMOVE SLAG FROM FURNACE
	521	168	Oak Creek #6			U2	3/27/1982	21:42	3/28/1982	20:40	22.96	1130	ВОТТОМ
-	521		Oak Creek #6			PO	4/4/1982	1:29	4/4/1982	9:24	7.91		PRECIP GROUNDS
-	521		Oak Creek #6			U1	4/4/1982	20:52	4/7/1982	15:15	66.38		REHEAT TUBE LEAK
-	521		Oak Creek #6			U1	4/11/1982	2:08	4/15/1982	14:00	107.86		BOILER, REPAIR WATER TUBE LEAK
1													ELECTROSTATIC PRECIPITATOR
1	521	168	Oak Creek #6	000*	220	D1	4/19/1982	2:00	4/21/1982	5:00	51	8550	FOULING
1:-				1			.				·		PULVERIZED COAL FEEDER
									!				F.: OBLEMS CAUSING HIGH OPACITY IN
1	521	168	Oak Creek #6	000*	200	D1	4/22/1982	2:00	5/3/1982	1:00	263	250	STACK.
-					,				•	•	"		PULVERIZED COAL FEEDER
			i										PROBLEMS CAUSING HIGH OPACITY IN
	521	168	Oak Creek #6	000*	230	D1	5/3/1982	1.00	5/3/1982	12:00	11		STACK
Г				- [•			•	·	:]	·	PRECIPITATOR, TWO FIELDS OUT AND
	ļ								i	İ			POOR PERFORMANCE ON OTHER
-	521	168	Oak Creek #6	000*	230	D1	5/3/1982	12:00	5/23/1982	3:32	471.53	8560	RECTIFIERS
													PULVERIZER COAL FEEDERS,
1	}												CONTROL OF COAL FLOW IMPAIRED-
	521	168	Oak Creek #6	000*	200	D1	5/5/1982	7:00	5/5/1982	14:15	7.25	250	SET CLEARANCE
1-										Ţ			REPAIR DAMAGE FROM 62
	521	168	Oak Creek #6			U1	5/14/1982	22:24	5/15/1982	12:09	13.75	250	PULVERIZED FEEDER FIRE
													#62 PULVERIZED COAL FEEDER BEING
WEPCO 40051	521	168	Oak Creek #6	000*	175	D1	5/17/1982	9:00	5/23/1982	3:32	138.53		REPLACED
Ę			-										61 PRIMARY AIR FAN, REPAIR
6			• .										COOLING PROBLEMS ON INBOARD
4	521	168	Oak Creek #6	000*	80	D2	5/18/1982	_23:00	5/19/1982	4:30	5.5		MTR BRNG
35			,				1			1	ĺ		BOILER AND PRECIPS, REHEAT LEAK
													ONE AND FOUR CELLS ALSO INSP
	521	168	Oak Creek #6			U1	5/20/1982	19:42	5/23/1982	3:32	55.83	1060	PRECIP FOR GROUNDS
										}			PRECIPITATOR, REMOVE BROKEN
L	521	168	Oak Creek #6			U1	5/25/1982	22:24	5/26/1982	6:20	7.93	8560	WIRE

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-			,				,						
1													FIELD 1-2D B FIELD OUT OTHER FIELDS
1.	521		Oak Creek #6	000*	240		6/1/1982	2:15	7/15/1982	13:45	1067.5		LOW CURRENT
1.	521	168	Oak Creek #6			U1	6/10/1982	23:24	6/17/1982	7:49	152.41	1060	BOILER, REPAIR REHEAT LEAKS
				1				ŀ		1			OVER HEATED MOTOR BEARING ON
1.	_521	168	Oak Creek #6	000	190	D1	6/18/1982	8:00	6/24/1982	6:20	142.33	260	#62 PRIMARY AIR FAN
-						ļ							
				1				İ			1		BOILER, INTERMEDIATE SUPERHEAT
	521	168	Oak Creek #6			U1	6/20/1982	20:50	6/24/1982	6:20	81.5	1040	TUBE ON NUMBER ONE DIVISION WALL
1	521		Oak Creek #6	000*	110		6/24/1982	6:20	7/1/1982	4:30	166.16	1470	62 I.D. FAN MOTOR FAILURE
	521	168	Oak Creek #6	000*	110	D1	6/24/1982	6:20	7/1/1982	4:30	166.16	1470	62 I.D. FAN MOTOR FAILURE
								1]		HIGH MOTOR BEARING TEMPS ON 61 &
	521	168	Oak Creek #6	000.	230	D1	7/1/1982	4:30	7/13/1982	2:00	285.5	1599	62 PRIMARY AIR FANS
						}		1	1	1	[61 PRIMARY AIR FAN, REPLACE
- I	521	168	Oak Creek #6	000*	140	D1	7/7/1982	18:00	7/8/1982	8:00	14		OUTBOARD MOTOR BEARING
													61 PRIMARY AIR FAN, REPAIR
	521	168	Oak Creek #6	000*	200	PD	7/10/1982	5:00	7/13/1982	2:00	69	260	OUTBOARD MOTOR BEARING
Γ													LOW CURRENT AND POWER USAGE
				1		Į	1				}		ON PRECIPS CAUSING OPACITY
1	521	168	Oak Creek #6	000*	197	D1	7/15/1982	13:45	7/20/1982	14:00	120.25		PROBLEMS
													PRECIP FIELDS, CLEAN BUSHINGS ON
-	521	168	Oak Creek #6	000*	90	PD	7/17/1982	7:30	7/17/1982	13:45	6.25		ALL WEAK FIELDS
													PRECIPITATOR FIELDS, LOW CURRENT
											1		CAUSES VOLTAGE DROP AND OPACITY
- (521	168	Oak Creek #6	000*	230	D1	7/20/1982	14:00	7/24/1982	6:00	88		PROBLEMS
ľ	521	168	Oak Creek #6	000*	150	D1	7/24/1982	7:00	7/25/1982	0:48	17.79	540	REHEAT TUBE RUPTURED
1													REPAIR REHEAT TUBE LEAK NORTH
-	521	168	Oak Creek #6			U1	7/25/1982	0:48	7/28/1982	9:14	80.43	540	EAST CORNER ELEV 67
ı	521		Oak Creek #6			RS	8/20/1982	0:04	8/24/1982	5:00	100.93		Reserve Shutdown
	521	168	Oak Creek #6	000*	210	D1	9/6/1982	1:42	10/2/1982	0:26	622,73	8560	PRECIPITATOR UNDER VOLTAGE
	521		Oak Creek #6	000*	210	D1	9/6/1982	1:42	10/2/1982	0:26	622.73		PRECIPITATOR UNDER VOLTAGE
Ī	521		Oak Creek #6			U1	9/15/1982	2:42	9/20/1982	14:02	131.33		BOILER, REPAIR REHEAT LEAK
													GENERATOR, TEST TURBINE OVER
	521	168	Oak Creek #6			U1	10/1/1982	18:48	10/1/1982	19:39	0.85		SPEED TRIPS
	521	168	Oak Creek #6			PO	10/2/1982	0:26	11/25/1982	6:26	1302	1800	BOILER, ANNUAL OUTAGE
1-						ļ <u>-</u>							REHEAT LEAK NORTH WALL
	521	168	Oak Creek #6			U1	11/25/1982	15:16	11/26/1982	20:30	29.23		SUPERHEAT LEAK #1 DIV WALL
				 									BOILER, SUPERHEAT TUBE LEAK #1
۶							1						DIVISION WALL-TOOK UNIT OUT FOR
ੜੋ	521	168	Oak Creek #6		İ	U2	11/28/1982	16:21	11/30/1982	4:35	36.23	,	REPAIRS
WEPCO	521		Oak Creek #6	000*	175		12/1/1982	15:05	12/2/1982	1:00	9.91		HIGH SILICA
	521		Oak Creek #6	000*	175		12/1/1982	15:05	12/2/1982	1:00	9.91		HIGH SILICA
4006	521		Oak Creek #6	000*	210		12/2/1982	1:00	12/3/1982	8:00	31		HIGH SILICA
3		_:		- +	<u> </u>		 						PRECIP FIELDS OUT CAUSING STACK
	521	168	Oak Creek #6	000*	95	D1	12/3/1982	8:00	12/3/1982	23;53	15.88		EMMISSION PROBLEM.
					-==		1						PRECIP FIELDS OUT, CLEAR
1	5211	168	Oak Creek #6	1		U2	12/3/1982	23:53	12/4/1982	18:06	18.21		GROUNDS.
L	751	100	Can Cicch #0		1	<u> </u>	12/0/1902	20.00	12/4/1002	10,00	10.21	0000	411001100.

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												BOIL AIR CURREY HIGH CURRETTENES
521	160	Oak Creek #6	000*	225	D1	10/7/1000	4.45	10/0/1000	1.45	24	1450	BOIL AIR SUPPLY, HIGH SUPHT TEMPS
521	108	Odk Cleak #0	1000	223	<u> </u>	12/7/1982	1:45	12/8/1982	1:45	24	1450	DUE TO CLEAN BOILER TUBES.
504	400	O-Is Crook #6			1.14	40/47/4000	00.54	40/40/4000	40.00	00.00	4040	H2 LEAKS ON HI-LO SPEED
521	168	Oak Creek #6			U1	12/17/1982	22:54	12/18/1982	19:32	20.63		GENERATOR.
504	400	0 1. 01. #0				10/04/1000		100111000	04.45	40.70		REPAIR H2 LEAKAGE ON HIGH AND
521	1	Oak Creek #6		ļ	<u>U1</u>	12/24/1982	2:29	12/24/1982	21:15	18.76		LOW SPEED GENERATORS
521	168	Oak Creek #6			U2	12/31/1982	0:41	12/31/1982	8:24	7.71	8560	CLEAR PRECIP GROUNDS.
504	400	0-1, 0	0001	205		4/0/4000	0.50	1/0/1000	40.00	0.40	050	68 PULV FDR DRIVE SPROCKET
521	168	Oak Creek #6	000	225	יטן	1/8/1983	2:50	1/8/1983	12:00	9.16		REPLACEMENT 62 PULVERIZER FEEDER MOTOR
521	160	Oak Creek #6	000*	235	D4	1/11/1000	20.20	1/10/1000	10:20	20		
521	100	Oak Cleek #0	1000	233	<u> </u>	1/11/1983	22:30	1/12/1983	18:30	20	410	REPLACEMENT 56 A FIELD OUT ON PRECIPITATORS
521	168	Oak Creek #6	000*	235	D1	1/15/1983	1:45	1/15/1983	7:30	5.75	8560	BECAUSE OF WIRE GROUND
ا عد	100	Oak Oleek #0		_200	<u> </u>	1/13/1903		1/13/1903		3.73	0300	STACK EMISSIONS DUE TO LOW
521	168	Oak Creek #6	000*	245	D1	1/21/1983	11:30	1/23/1983	0:45	37.25	8550	PRECIPITATOR VOLTAGE
Y	- 100	Out Orock #0			<u> </u>	1	11.50	1720/1000	0.40			REPLACE WORN SPROCKET ON 62
521	168	Oak Creek #6	000*	230	D1	1/26/1983	4:30	1/27/1983	13:30	33	250	PULVERIZED COAL FEEDER
		Out Orock #5	- 000		<u> </u>	172011000		172771000	10.00			LOW PRECIPITATOR VOLTAGE
521	168	Oak Creek #6	000*	240	D1	1/28/1983	14:20	1/29/1983	5:30	15.16	8550	CAUSING STACK OPACITY
			1000			W20,10001						REPAIR #2 FORCED DRAFT FAN
521	168	Oak Creek #6	000*	185	D1	2/2/1983	2:20	2/2/1983	9:00	6.66	1400	BEARING
		1										PRECIPITATOR FAILURE-USED
			1 1									RAPPING PROCEDURE TO CLEAN
521	168	Oak Creek #6	000*	100	D1	2/17/1983	8:15	2/17/1983	12:14	3.98	8430	PLATES
											~	GROUNDS IN PRECIPITATOR-CLEARED
521	168	Oak Creek #6			U1	2/17/1983	12:14	2/18/1983	4:24	16.16	8430	GROUNDS
												REPLACE 63 PULVERIZED COAL
521	168	Oak Creek #6	000*	235	D1	2/22/1983	1:30	2/24/1983	18:30	65	250	FEEDER
												63 PULVERIZED COAL FEEDER
521	168	Oak Creek #6	000*	235	D1 _	2/26/1983	22:20	2/27/1983	1:30	3,16		PROBLEM
	!							Ţ				A FLYASH TERTIARY COLLECTOR
521	168	Oak Creek #6	000*	90	D1	2/26/1983	19:00	2/26/1983	22:20	3.33		PAGS BEING REPLACED
			·				•		İ	-		63 PULVERIZED COAL FEEDER
521	168	Oak Creek #6	000*	235	D1	2/26/1983	1:00	2/26/1983	19:00	18		PROBLEM
						}		}	İ	Į		A FLYASH SYSTEM TERTIARY
521	168	Oak Creek #6	000*	80	D1	2/27/1983	1:30	2/27/1983	6:00	4.5		COLLECTOR PROBLEM
								1				63 PULVERIZED COAL FEEDER
521		Oak Creek #6	000*	235		2/27/1983	6:00	3/4/1983	0:01	114.01		PROBLEM
521	L	Oak Creek #6	000.	230		3/5/1983	17:50	3/12/1983	0:08	150.3		63 PULVERIZED FEEDER PROBLEM
521	168	Oak Creek #6			U3	3/12/1983	0:08	3/18/1983	20:15	164.11	1040	REHEAT AND SUPERHEAT LEAKS
:							ļ				•	BOILER SLAG CONDITION CAUSING
								0.04.4.0			=00	EXCESSIVELY HIGH BOILER STEAM
521	168	Oak Creek #6	000*	_235	D1	3/21/1983	1:00	3/21/1983	8:00	7		TEMPS
1	4.00	0.1.0 1.10					20.55	4/04:000		45.5		REPAIR 7B HEATER SIGHT GLASS
521	168	Oak Creek #6	000*	150	D1	4/5/1983	22:00	4/6/1983	8:10	10.16	680	LEVEL VALVE LEAK

												
	Ì		į i						i			MILL VENTAGE FOULED PRECIP
1					Ì	1			1	- 1		PLATES. DROPPED LOAD AND RAPPED
521	168	Oak Creek #6	000*	200	D1	4/7/1983	14:00	4/7/1983	15:30	1.5	8550	PLATES
						T				-		REPAIR 7B HTR GAUGE GLASS STEAM
521	168	Oak Creek #6	000*	150	D3	4/9/1983	22:45	4/10/1983	5:05	6.33	3522	SIDE
521		Oak Creek #6	000*	150		4/11/1983	1:00	4/11/1983	3:55	2.91		REPAIR 7A HEATER GAUGE GLASS
					 	ļ. — <u>— — — — — — — — — — — — — — — — — —</u>					<u> </u>	REPAIR BOILER REHEAT LEAK AND
521	168	Oak Creek #6			U2	4/20/1983	22:51	4/25/1983	3:55	101.06	1070	SUPERHEAT LEAK
<u></u>		Ouk Glock #6			<u></u>	1				101.00	1070	STACK EMISSIONS-PRECIPITATOR
521	168	Oak Creek #6	000-	240	D1	5/5/1983	8:15	5/11/1983	0:01	135.76	8560	PROBLEMS
	100	Our Olcer #0	- 000	240	<u> </u>	3/3/1300		3/11/1303/	0.01	100.70	0300	REPAIR HEAD LEAK 5B FEEDWATER
521	160	Oak Creek #6	000*	170	D2	5/14/1983	0:30	5/15/1983	2:00	25.5	2441	HEATER
321	100	Oak Cleek #0		170	D3	3/14/1903	0.30	5/15/1903	2.00	25.5	3441	INEXTER
1								İ				INTERNAL LEAKAGE IN OR FEEDWATER
504	400	0-1-0	0001	476	D4	E454000	0.00	5454000	40.00	امد	0440	INTERNAL LEAKAGE IN 6B FEEDWATER
521		Oak Creek #6	000*	175	4	5/15/1983	2:00	5/15/1983	16:00	14		HEATER-CHECKED OUT OK
521	168	Oak Creek #6	000*	220	<u>D1</u>	5/20/1983	7:00	5/21/1983	5:00	22	9630	HIGH STACK OPACITY
1								İ		ļ		ELECTROSTATIC PRECIPITATOR
521	168	Oak Creek #6	000*	210	D1	5/23/1983	12:20	5/24/1983	1:00	12.66	8560	PROBLEMS
	}											ELECTROSTATIC PRECIPITATOR
521	168	Oak Creek #6	000*	225	D1	5/24/1983	1:00	5/24/1983	7:00	6	8550	FOULING
1 .								1				B FEEDWATER HEATERS 7B EXTEM.
			1		•							HIGH LEVEL ALARM AND 6B HEAD
521	168	Oak Creek #6	000*	200	D1	5/27/1983	23:30	5/28/1983	3:00	3.5	3499	DRAIN LEAK
												REPAIR HEAD DRAIN VALVE ON 6B,
					1			ĺ		1		REPAIR JO-BEL VALVE ON 7B
521	168	Oak Creek #6	000*	200	PD	5/30/1983	1:00	5/30/1983	19.00	18	3431	FEEDWATER HEATERS
			-		<u> </u>							ELECTROSTATIC PRECIPITATOR
521	168	Oak Creek #6	000*	235	D1	6/1/1983	1:30	6/2/1983	8:30	31	8560	PROBLEMS
521		Oak Creek #6	000*	235		6/3/1983	2:00	6/6/1983	19:00	89		PRECIPITATOR PROBLEMS
521		Oak Creek #6	000.	140		6/17/1983	22:00	6/18/1983	3:05	5.08		62 FD FAN BEARING LEAK REPAIRS
521	100	Oak Cieek #6	000	140	103	0/17/1903	22.00	0/10/1903	3,05	5.06	1400	
504	100	Cali Canali #C	000*	100	n.	0/00/1000	0.45	0/00/4000	0.00	10.75	0550	PRECIPITATOR EFFICIENCY LOW-
521	108	Oak Creek #6	000,	190	וטו	6/29/1983	9:15	6/30/1983	2:00	16.75	8000	CAUSING STACK EMISSIONS
504	400	0-1-0	000+	476	D4	7/0/4000	0.05	7/0/4000	5.00	0.75	0500	65A HP FW HTR SHELL DRN LEAK -
521	168	Oak Creek #6	000*	175	וטן	7/3/1983	2:35	7/3/1983	5:20	2.75	3503	WELD CRACKED
-	400	0-1-01-40	0001	005	D4	7/40/4000	44.00	7/00/4000	40.40	400.40	0500	PRECIPITATOR PERFORMANCE
521	168	Oak Creek #6	000*	225	וטו	7/18/1983	14:00	7/26/1983	10:10	188.16	8560	CAUSING OPACITY
]			İ	1			** 40700"
												EXCESSIVE STACK EMISSIONS
521	168	Oak Creek #6	000*	210	D1	7/26/1983	10:10	7/27/1983	1:30	15.33	8560	CAUSED BY PRECIPITATOR PROBLEMS
]_		_ 1		_ [1		PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	225		7/27/1983	1:30	7/28/1983	9:15	31.75		CAUSING OPACITY
521	L	Oak Creek #6	000*		D1	7/28/1983	9:15	7/28/1983	17:00	7.75		63 MILL PULVERIZER PLUGGED
521	168	Oak Creek #6	000*	235	D1	7/30/1983	0:01	8/11/1983	6:00	293.98		PRECIPITATOR PERFORMANCE
										T		61 & 62 MILLS OUT UNAVAILABLE TO
					[1	ŀ				TRANSFER FROM UNIT 5 DUE TO
521	168	Oak Creek #6	000*	90	D1	8/11/1983	6:00	8/12/1983	2:00	20	310	OUTAGE.

1			T			 				· · · · · · · · · · · · · · · · · · ·		POOR PRECIPITATOR PERFORMANCE
						}						
												CAUSING EXCESSIVE STACK
521	168	Oak Creek #6	000.	225	PU	8/12/1983	2:00	8/14/1983	1:00	47	8560	EMISSIONS
					_				1			61, 62, AND 63 MILL SYSTEMS OUT OF
521		Oak Creek #6	000*		D1	8/14/1983	1:00	8/16/1983	13:15	60.25		SERVICE
521	168	Oak Creek #6	000*	225	~~~~~~	8/16/1983	20:20	8/17/1983	3:58	7.63	8560	PRECIPTATOR PERFORMANCE
521		Oak Creek #6	000*	70		8/16/1983	16:00	8/16/1983	20:20	4.33		BALANCE 61 MILL EXHAUST FAN
521	168	Oak Creek #6	000*	225	D1	8/16/1983	13:15	8/16/1983	16:00	2.75	8560	PRECIPITATOR PERFORMANCE
												LINE 862 OCB BO OIL LEAK AFTER
521	168	Oak Creek #6	•		U1	8/17/1983	3:58	8/17/1983	6:30	2.53	3611	LIGHTING
521	168	Oak Creek #6			U1	8/17/1983	6:31	8/25/1983	3:01	188.5	1060	REHEATER LEAKS
												BOILER CONDITIONS-UNABLE TO
1 1										1		CONTROL BOILER TEMPERATURES-
521	168	Oak Creek #6	000*	200	D2	8/27/1983	1:45	8/28/1983	2:30	24.75	1999	LACK OF SLAG
												BOILER CONDITIONS UNABLE TO
	j									1		CONTROL BOILER TEMPERATURES,
521	168	Oak Creek #6	000*	225	D2	8/28/1983	2:30	9/5/1983	4:00	193.5	1999	LACK OF SLAG
												LOW COAL LEVELS-61 & 62 MILLS OUT
521	168	Oak Creek #6	000*	51	D1	9/5/1983	4:00	9/6/1983	2:00	22	310	OF SERVICE
TT												
521	168	Oak Creek #6			U1	9/6/1983	19:49	9/10/1983	8:39	84.83	1020	CONVECTION WATERWALL TUBE LEAK
521	168	Oak Creek #6	000*	225	D1	9/12/1983	1:30	9/17/1983	1:45	120.25	1999	SUPERHEAT TEMPERATURE CONTROL
521		Oak Creek #6	-		U1	9/20/1983	2:23	9/25/1983	14:36	132.21		GENERATOR LOCKOUT
					·							RADIANT SUPERHEATER TUBE
521	168	Oak Creek #6	. •		U1	9/25/1983	15:40	9/27/1983	11:30	43.83	1140	FAILURE
521	168	Oak Creek #6	000*	200	D1	9/28/1983	1:45	9/29/1983	7:00	29.25	1850	HIGH SILICA IN BOILER WATER
521	168	Oak Creek #6	000*	225	D1	9/29/1983	7:00	10/1/1983	1:30	42.5	530	SUPERHEAT TEMPERATURE CONTROL
521	168	Oak Creek #6	000*	240	D1	10/1/1983	1:30	10/4/1983	2:30	73	530	SUPERHEAT TEMPERATURE CONTROL
521		Oak Creek #6	000*	225		10/7/1983	9:10	10/8/1983	4:30	19.33		PRECIPITATOR PERFORMANCE
521	168	Oak Creek #6	000*	200	<u> </u>	10/8/1983	9:00	10/9/1983	2:00	17		PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	220	D1	10/9/1983	2:00	10/9/1983	12:15	10.25		PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	225		10/12/1983	1:30	10/12/1983	9:00	7.5		PRECIPITATOR PERFORMANCE LOW
						<u> </u>						SUPERHEAT TUBE RUPTURE-
521	168	Oak Creek #6	000*	170	D1	10/12/1983	9:00	10/13/1983	13:41	28.68	1150	OPERATING AT REDUCED PRESSURE
521		Oak Creek #6			PO	10/13/1983	13:41	10/30/1983	12:55	407.23		PLANNED OUTAGE FOR INSPECTIONS
521		Oak Creek #6	000*	200		10/31/1983	1:30	11/1/1983	2:00	24.5		HIGH SILICA IN BOILER WATER
~ <u>~</u> .				_===					=====			#8 PULV FDR OUT OF SERVICE-DRIVE
521	168	Oak Creek #6	000*	200	D1	11/1/1983	2:00	11/2/1983	0:15	22.25	360	COUPLING REPLACEMENT.
- *:-!									3.10			SILICA HIGH HAD TO REDUCE BLR
521	168	Oak Creek #6	000*	190	D1	11/2/1983	10:50	11/2/1983	14:15	3.41		PRESSURE.
JE1	130	Can Oleen #U	000	130	<u> </u>	- 11/2/1903	10.50	1 1121 1303			1030	SILICA INCREASING HAD TO REDUCE
521	169	Oak Creek #6	000*	153	D1	11/2/1983	14:15	11/3/1983	2:00	11.75	1050	BLR PRESSURE.
521	100	Oak Cleek #0	UUU	153	וטו	1 1/2/ 1963	14.15	11/3/1963	2:00	11./5	1000	DER FREGOURE.

		,										<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>
521	160	Oak Creek #6	000*	190	D1	11/4/1000	17:00	11/4/1000	00.45	0.75		68 PULV COAL FEEDER OUT OF
			000*	230	L	11/4/1983	17:00	11/4/1983		3.75		SERVICE CHAIN FELL OFF
521		Oak Creek #6	000*		· · · · · · · · · · · · · · · · · · ·	11/9/1983	8:55	11/15/1983		136,58		PRECIPITATOR PERFORMANCE
521	168	Oak Creek #6	000*	210	וטו	11/17/1983	12:30	11/17/1983	18:30	6		#63 PULV COAL FDR-CHAIN FELL OFF
ļ	1											EVEN PULV FUEL FEEDER MAIN
1										1		CONTRACTOR COIL BURNT OUT NO
521		Oak Creek #6	000*	125		11/23/1983	15:15	11/24/1983	0:45	9.5	350	REPLACEMENT
521		Oak Creek #6	000*		PD	11/24/1983	3:00	11/24/1983	3:55	0.91		CHANGE OIL ON 62 FD FAN
521		Oak Creek #6	000*	218		11/26/1983	8:30	11/26/1983	21:30	13	8550	PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	235		11/26/1983	21:30	11/27/1983	12:15	14.75	8550	PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	225		11/28/1983	7:18	11/28/1983	7:35	0.28	360	#66 PULV COAL FDR OUT
521		Oak Creek #6	000*	130		11/28/1983	7:35	11/28/1983	9:45	2.16	8550	PRECIPITATOR PERFORMANCE
521	168	Oak Creek #6	000*	225		11/28/1983	9:45	11/28/1983	13:25	3.66	360	#66 PULV COAL FDR OUT
521	168	Oak Creek #6	000*	198	D1	12/1/1983	15:40	12/1/1983	18:00	2.33	250	63 FEEDER DRIVE SPROCKET REPAIR
												63 FEEDER DRIVE ADJ CHAIN
521	168	Oak Creek #6	000*	198	D2	12/1/1983	21:30	12/2/1983	0:29	2.98		REPOSITION MOTOR
						1			i			WATERBLASTING SLAG IN ASH PIT -#4
521	168	Oak Creek #6	000*	100	D1	12/1/1983	1:00	12/7/1983	5:40	148.66		CELL
521		Oak Creek #6	000*	235		12/2/1983	9:00	12/5/1983	23:00	86		PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	200		12/5/1983	23:00	12/6/1983	6:00	7		63 PULV COAL FOR OUT FOR REPAIR
521		Oak Creek #6	000*	235		12/6/1983	6:00	12/6/1983	6:40	0.66		PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	200		12/6/1983	12:00	12/6/1983	16:00	4		PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	235		12/6/1983	16:00	12/7/1983	1:00	9		PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	235		12/7/1983		12/7/1983	10:00	4.33		PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*	235		12/1/1983	5:40 2:00	12/12/1983	7:30	5.5		PRECIPITATOR PERFORMANCE
				235			·					
521		Oak Creek #6	000*	235		12/14/1983	1:45	12/16/1983	1:45	48		PRECIPITATOR PERFORMANCE
521		Oak Creek #6	000*			12/16/1983	1:45	12/29/1983	7:30	317.75		PRECIPITATOR FIELD OUT
521	168	Oak Creek #6	000*	215	וטו	12/29/1983	7:30	12/31/1983	5:45	46.25		PRECIPITATOR FIELDS OUT
			:									61 PULV FDR PLUGGED, EXTENDS
521	168	Oak Creek #6	000*	165	D1	12/31/1983	5:45	12/31/1983	24:00:00	18.25		INTO '84. SEE EVENT NO. 1.
					}					į.		61 PULV FDR PLUGGED. EVENT
												STARTED IN '83 EVENT NO 93. ACTUAL
521		Oak Creek #6	000*	165		1/1/1984	0:00	1/1/1984	6:00	6	250	STARTIME 12/31/83 05/45
521	168	Oak Creek #6	000*	215	D1	1/1/1984	6:00	1/4/1984	3:38	69.63		PRECIP FEILDS OUT.
521	168	Oak Creek #6			U1	1/4/1984	3:38	1/9/1984	22:44	139.1	1060	REHEAT LEAK.
521	168	Oak Creek #6	000*	200	D1	1/10/1984	1:30	1/11/1984	1:15	23.75	1850	HIGH BLR WATER SILICA
521	168	Oak Creek #6	000*	225		1/11/1984	1:15	1/12/1984	1:45	24.5	530	HIGH SUPERHEAT TEMP
521	168	Oak Creek #6	000*	240	D1	1/12/1984	1:45	1/12/1984	23:48	22.05	530	HIGH SUPERHEAT TEMP
521	168	Oak Creek #6			U2	1/12/1984	23:40	1/15/1984	15:09	63.48	1060	REHEAT LEAKS
521	168	Oak Creek #6	000*	200	D1	1/16/1984	1:15	1/17/1984	1:30	24.25	530	HIGH SUPERHEAT TEMP
521	168	Oak Creek #6	000*	230	D1	1/17/1984	1:30	1/19/1984	1:25	47.91	530	HIGH SUPERHEAT TEMPS
521	168	Oak Creek #6	000*	220		1/20/1984	9:35	1/21/1984	15:35	30	250	PULVERIZED FEEDERS
521		Oak Creek #6		1	U1	1/25/1984	9:46	1/30/1984	11:56	122.16	1080	ECONOMIZER
521	+	Oak Creek #6	000*	225		1/31/1984	2:15	2/1/1984	2:00	23.75	530	HIGH SUPERHEAT TEMPERATURES
521		Oak Creek #6	000*	240	·	2/1/1984	2:00	2/2/1984	1:50	23.83	· · - · —	HIGH SUPERHEAT TEMPERATURES
3Z I												

Г												ELECTROSTATIC PRECIPITATOR
ı	521	168	Oak Creek #6	000*	240	D1 2/3/19	84 1:30	2/7/1984	14:00	108.5	9560	PROBLEMS
- -	521			000	235				0:01	14.51		PRECIP PERFORM.
-			Oak Creek #6	000*	230							
-	521		Oak Creek #6						2:00	25.98		PRECIP PREFORMANCE
ļ.	521		Oak Creek #6	000*	235					5.75		ELECTROSTATIC PRECIP PROBLEMS
]	521		Oak Creek #6	000*	190					51.91		BURNERS #66 PULV FDRS
	521		Oak Creek #6	000*	235				1:45	14.08		ELECTROSTATIC PRECIP PROBLEMS
_	521		Oak Creek #6	000*	240				15:30	85.75		ELECTROSTATIC PRECIP PROBLEMS
]	521		Oak Creek #6			U1 2/14/19			11:42	116.2		CONVECTION LEAK
	521		Oak Creek #6	000*	200 [1:29	25.98		HIGH SUPERHEAT TEMPERATURES
	521		Oak Creek #6	000*	235 l				20:00	18.5		HIGH SUPERHEAT TEMPERATURES
L	521		Oak Creek #6	000*	220 [84 20:01	2/22/1984	21:49	25.8		ELECTROSTATIC PRECIP PROBLEMS
L	521	168	Oak Creek #6		l l	U1 2/22/19	84 21:49	2/23/1984	6:00	8.18	8560	ELECTROSTATIC PRECIP PROBLEMS
1	Ì			1			1			1		
L	521		Oak Creek #6			U1 2/23/19			8:00	2		OTHER TURB INST & CONT PROBLEMS
	521	168	Oak Creek #6	000*	220 [84 1:35	2/24/1984	10:00	8.41		HIGH SUPERHEAT TEMPERATURES
	521	168	Oak Creek #6	000*	230 [D1 2/24/19	84 10:00	2/25/1984	7:56	21.93	530	HIGH SUPERHEAT TEMP
- [521	168	Oak Creek #6	000*	70 [D1 2/25/19	84 7:56	2/25/1984	16:50	8.89	880	FLYASH HANDLING
	521	168	Oak Creek #6	000*	240 [D1 2/25/19	84 16:50	2/27/1984	7:55	39.08	530	HIGH SUPERHEAT TEMP
[521	168	Oak Creek #6	000*	190 [D1 2/27/19	84 7:55	2/27/1984	8:35	0.66	880	FLYASH HANDLING
-1-	521	168	Oak Creek #6	000*	208 [D1 3/26/19	84 7:00	3/26/1984	11:28	4.46	8560	ELECTROSTATIC PRECIP PROBLEMS
	521	168	Oak Creek #6	000*	185 [D1 3/26/19	84 11:28	3/28/1984	7:05	43.61	8560	ELECTROSTATIC PRECIP PROBLEMS
1	521	168	Oak Creek #6	000*	215			3/28/1984	8:50	1.75	8560	ELECTROSTATIC PRECIP PROBLEMS
	521	168	Oak Creek #6	000*	185 [D1 3/28/19	84 8:5C	3/29/1984	16:00	31.16	8560	ELECTROSTATIC PRECIP PROBLEMS
	521	168	Oak Creek #6	000*	230	D1 3/29/19	84 16:00	3/30/1984	20:30	28.5	1060	RED PRESS RHTR LEAK
	521	168	Oak Creek #6		l	U1 3/30/19	84 20:30	4/6/1984	6:05	153.58		REPAIR REHEAT LEAKS
	521	168	Oak Creek #6	000*	230	D1 4/7/19	84 1:00	4/9/1984	1:00	48		HIGH SUPERHEAT TEMPS
	521	168	Oak Creek #6	000*	200 [D1 4/16/19	9:00	4/16/1984	11:00	2	410	BURNER PROB 63 PULV COAL FDR
	521	168	Oak Creek #6	000*	235 [D1 4/16/19	84 11:00	4/17/1984	14:00	27	590	DESUPERHTR/ATTEMPERATOR VLVS
	521	168	Oak Creek #6	000*	155 [D4 4/17/19	84 21:00	4/17/1984	23:38	2.63	3441	OTHER HI PRESSURE HTR PROBLEMS
-	521	168	Oak Creek #6	000*	205 [D1 4/23/19	84 7:30	4/23/1984	12:40	5.16	410	BURNER PROBLEMS
	521	168	Oak Creek #6		F	PO 4/24/19	84 23:38	4/25/1984	1:10	1.53	4460	TURBINE OVERSPEED TRIP TEST
	521		Oak Creek #6	000*	220 [D1 4/25/19	84 4:50	4/25/1984	16:30	11.66	410	BURNER PROBLEMS
- [-	521		Oak Creek #6	000*	220 [D1 4/26/19	84 13:00	4/28/1984	2:32	37.53	8560	ELECTROSTATIC PRECIP PROBLEMS
-	521		Oak Creek #6	-	F	PO 4/28/19			16:54	2222.36	1800	ANNUAL OUTAGE
-	521		Oak Creek #6	000*	125 [7/30/1984	10:40	17.76	1850	BOILER WATER COND.
_	521	168	Oak Creek #6	000*	70 [14:10	27.5	1850	BOILER WATER CONDITION
_	521		Oak Creek #6	000*	60 [18:46	28.6		HYDROGEN SEALS
ξ.	521		Oak Creek #6	•		U3 8/1/19	84 18:46		16:00	45.23		HYDROGEN SEAL
Ř.	521		Oak Creek #6	•		U3 8/3/19		8/4/1984	14:25	22.4		REHEAT LEAK
ວ່	521	168	Oak Creek #6	000*	125 I				10:00	19.58	1850	BOILER WATER CONDITION
40	521		Oak Creek #6	000*	170				15:00	29		OTHER AIR SUPPLY PROBLEMS
WEPCO 40057	521		Oak Creek #6	000*	80 [18:30	3.5		OPERATOR ERROR
7	521		Oak Creek #6	000*	180				21:00	26.5		BOILER WATER CONDITION
	521		Oak Creek #6	000.	220 [23:00	50		CLN FURN-LO MIN LOAD
	521		Oak Creek #6	000.	225			† · ← · · · · · · · · · · · · · · · · ·	5:05	30.08		CLN FURN-LO MIN LOAD
٠									3.30	33.30		Land the second

,						,	· · · · · · · · · · · · · · · · · · · 				
521	+	Oak Creek #6		U1	8/11/1984	5:05	8/11/1984	22:41	17.6	1080	ECONOMIZER
521	168	Oak Creek #6	000*	150 D1	8/11/1984	22:41	8/12/1984	8:30	9.81	1850	BOILER WATER CONDITION
521	168	Oak Creek #6	000*	100 D1	8/12/1984	8:30	8/12/1984	13:55	5.41	3412	FDWTR PUMP STEAM TURBINE
521	168	Oak Creek #6	000*	120 D1	8/12/1984	13:55	8/12/1984	21:00	7.08		BOILER WATER CONDITION
521	168	Oak Creek #6	000*	225 D1	8/12/1984	21:00	8/13/1984	10:40	13.66		CLN FURN-LO MIN LOAD
521		Oak Creek #6	000*	185 D1	8/13/1984	10:40	8/14/1984	2:00	15.33		CLN FURN-LO MIN LOAD
521		Oak Creek #6	000*	200 D1	8/14/1984	2:00	8/15/1984	2:00	24		CLN FURN-LO MIN LOAD
521		Oak Creek #6	000*	215 D1	8/15/1984	2:00	8/16/1984	5:45	27.75		CLN FURN-LO MIN LOAD
521		Oak Creek #6	000*	180 D1	8/16/1984	5:45	8/16/1984	17:00	11.25		BOILER WATER CONDITION
521		Oak Creek #6	000*	225 D1	8/16/1984	17:00	8/19/1984	22:00	77		CLN FURN-LO MIN LOAD
521		Oak Creek #6	000*	210 D1	8/19/1984	22:00	8/20/1984	4:58	6.96		ID FAN MTRS & DRIVES
521		Oak Creek #6	- 000	U1	8/20/1984	4:58	8/24/1984	15:36	106.63		ECONOMIZER TUBE LEAK
521		Oak Creek #6	000*	150 D1	8/25/1984	1:00	8/26/1984	1:00	24		CLN FURN
521		Oak Creek #6	000*	200 D1	8/26/1984	1:00	8/26/1984	23:30	22.5		CLN FURN-LO MIN LOAD
521		Oak Creek #6	000*	225 D1	8/26/1984	23:30	8/27/1984	5:59	6,48		CLN FURN-LO MIN LOAD
521		Oak Creek #6	000	²²³ U1	8/27/1984	5:59	8/30/1984				
i	+		000*					3:57	69.96		ECONOMIZER LEAK
521	+	Oak Creek #6	000*	150 D1	8/30/1984	3:57	8/31/1984	1:30	21.55		BOILER WATER CONDITION
521	+	Oak Creek #6	000*	200 D1	8/31/1984	1:30	9/1/1984	4:10	26.66		CLN FURN
521		Oak Creek #6	000*	90 D1	9/1/1984	4:10	9/2/1984	4:50	24.66		FLYASH HANDLING
521		Oak Creek #6	000•	200 D1	9/2/1984	4:50	9/3/1984	4:15	23.41		CLEAN FURNACE
521		Oak Creek #6	000*	225 D1	9/3/1984	4:15	9/5/1984	4:15	48		CLEAN FURNACE
521		Oak Creek #6	000*	140 D1	9/6/1984	10:45	9/9/1984	9:24	70.65		D FAN MOTORS & DRIVES
521	+	Oak Creek #6	*	U1	9/9/1984	9:24	9/9/1984	10:46	1.36		D FAN MOTORS & DRIVES
521		Oak Creek #6	•	U1	9/9/1984	10:46	9/9/1984	19:05	8.31		OTHER EXCITOR PROBLEMS
521		Oak Creek #6	000.	80 D1	9/9/1984	19:05	9/10/1984	1:00	5.91		BOILER WATER CONDITION
521	168	Oak Creek #6	000*	125 D1	9/10/1984	1:00	9/10/1984	10:20	9.33	1850	BOILER WATER CONDITION
521	168	Oak Creek #6	000*	140 D1	9/10/1984	10.20	9/10/1984	14:45	4.41	1470	D FANS MTRS & DRIVES
521	168	Oak Creek #6	000*	120 D1	9/10/1984	14:45	9/10/1984	17:45	3	410	OTHER BURNER PROBLEMS
521	168	Oak Creek #6	000	140 D1	9/10/1984	17:45	9/17/1984	2:32	152.78	1470 1	D FANS MTRS & DRIVES
521		Oak Creek #6	•	Ü1	9/17/1984	2:32	9/18/1984	5:50	27.3	1080	ECON LEAK
521		Oak Creek #6	000*	80 D1	9/18/1984	5:50	9/18/1984	19:00	13.16		BLR WATER CONDITION
	1										D FANS MOTORS & DRIVES D
521	168	Oak Creek #6	000*	140 D1	9/18/1984	19:00	9/22/1984	9:00	86		SHAFT.
521		Oak Creek #6	000*	140 D1	9/22/1984	9:00	9/30/1984	2:30	185.5		D FAN MOTOR & DRIVE
521		Oak Creek #6	000*	195 D1	10/3/1984	9:30	10/3/1984	10:00	0.5		OTHER BURNER PROBLEMS
521	+	Oak Creek #6	000*	145 D1	10/3/1984	10:36	10/18/1984	17:00	366.4		NDUCED DRAFT FAN
<u> </u>		Oak Creek #6	000.	110 D1	10/18/1984	17:00	10/18/1984	22:25	5.41		OTHER BURNER PROBLEMS
<u> </u>		Oak Creek #6	000*	150 D1	10/18/1984	22:25	10/19/1984	16:45	18.33		NDUCED DRAFT FANS
		Oak Creek #6	000	140 D1	10/19/1984	16:45	10/19/1984	11:53	115.13		NDUCED DRAFT FANS
		Oak Creek #6	000*	225 D1	11/2/1984	18:00	11/2/1984	19:00	115.13		OTHER BURNER PROBLEMS
521		Oak Creek #6	000	210 D1							OTHER BURNER PROBLEMS - 67 FDR
	+		000		11/14/1984	20:00	11/15/1984	1:30	5.5		
521 521 521 521		Oak Creek #6		U1	11/21/1984	19:17	11/25/1984	22:18	99.01		GENERATING TUBE OTHER PULVERIZER PROBLEMS
521		Oak Creek #6	000*	74 D1	11/26/1984	7:00	11/26/1984	16:00	9		
		Oak Creek #6	000*	165 D1	11/26/1984	16:00	11/26/1984	23:00	7		BOILER WATER CONDITION
521		Oak Creek #6	000*	230 D1	11/26/1984	23:00	11/27/1984	19:00	20		BOILER WATER CONDITION
521	168	Oak Creek #6	[000*]	170 D1	11/27/1984	19:00	11/28/1984	1:00	6	410	OTHER BURNER PROBLEMS

_															· · · · · · · · · · · · · · · · · · ·
	1												}		GENERATING TUBE RUPTURE IN
	521	168	Oak	Creek #6				J1	11/28/1984		11/30/1984			1005	BOILER CONVECTION SECTION.
- [521	168	Oak	Creek #6	000	• 1	80 C) 1	12/2/1984	7:45	12/2/1984	14:15	6.5	1850	BOILER WATER CONDITION
[521	168	Oak	Creek #6	000	* 1	95 C	01	12/3/1984	8:00	12/4/1984	6:30	22.5	410	OTHER BURNER PROBLEMS
	521	168	Oak	Creek #6	000	• 2	34 C	01	12/5/1984		12/10/1984	1:30	104.41	1900	CLN FURN
-	521			Creek #6	000		60 E	01	12/12/1984		12/12/1984	22:00	5	310	MILL PROBLEMS
-	521			Creek #6	000		77 C		12/29/1984		12/30/1984		29.33		OTHER 4160 VOLT PROBLEMS
	521			Creek #6	000		90 C		1/11/1985		1/12/1985	5:30	6.31		PULVERIZED COAL BIN
-	521			Creek #6	000		50 C		1/12/1985		1/13/1985		20.75		OTHER BURNER PROBLEMS
	521			Creek #6	000		25 E		1/14/1985		1/15/1985		34.25		OTHER BURNER PROBLEMS
	521		L	Creek #6	000		00 [1/17/1985		1/18/1985		38.81		UNKNOWN-INVESTIGATING
- {	521			Creek #6				J2	1/18/1985		1/19/1985		11.51		FIRST REHEAT TUBE LEAKS
	521			Creek #6	000	* -	30 [1/20/1985		1/22/1985		51		UNKNOWN INVESTIGATING
	521			Creek #6	000			10	1/22/1985		1/29/1985		159		MAINTENANCE OUTAGE
-	· }									· 					
	521			Creek #6				J1	1/29/1985	بالانسانية والتراجيسينان	1/31/1985		60		FLYASH HANDLING
	521			Creek #6				SF		24:00:00	2/1/1985		13.5		LUBE OIL SYS VLVS & PIPING
	521			Creek #6	000		35 C		2/4/1985		2/4/1985		3.43		OTHER BURNER PROBLEMS
	521		~~	Creek #6	000		90 C		2/5/1985		2/6/1985		7.5		OTHER BURNER PROBLEMS
ļ <u>.</u>	521			Creek #6	000		30 C		2/6/1985		2/11/1985	7:30	119.5		OTHER BURNER PROBLEMS
-	521			Creek #6	000		^0 [2/11/1985		2/11/1985	9:35	2.08		OTHER BURNER PROBLEMS
	521			Creek #6	000		30 E	01	2/11/1985		2/14/1985	23:00	84.5		OTHER BURNER PROBLEMS
	521	168	Oak	Creek #6	000		20 C		2/15/1985	7:00	2/17/1985	3:15	44.25		OTHER BURNER PROBLEMS
- 1	521	168	Oak	Creek #6	000	* 2	40 E)1	2/21/1985		2/21/1985	22:00	3		OTHER BURNER PROBLEMS
	521	168	Oak	Creek #6	000	*	85 C	01	2/25/1985	11:30	2/26/1985	19:02	31.53	1150	2ND SUPERHTR SLAG BUILD UP
	521	168	Oak	Creek #6				J1	2/26/1985		3/2/1985				GENERATING TUBE
[_	521	168	Oak	Creek #6			- 5	SF	3/2/1985	23:00	3/4/1985	9:58	34.96		OTHER SLAG REMOVAL PROBLEMS
-	521			Creek #6	000	. 2	20 C	01	3/5/1985	20:00	3/6/1985	4:00	8	410	OTHER BURNER PROBLEMS
	521	168	Oak	Creek #6	000	* 2	20 [D1	3/6/1985	8:00	3/9/1985	5:15	69.25	410	OTHER BURNER PROBLEMS
	521	168	Oak	Creek #6	000	•	80 C	D1	3/9/1985	5:15	3/9/1985	10:30	5.25	9290	WET COAL-MILL PROBLEMS
-	521			Creek #6	000)*	80 E	01	3/10/1985	4:00	3/10/1985	15:15	11.25	9290	WET COAL-MILL PROBLEMS
-	521			Creek #6	000		220 E		3/11/1985		3/12/1985				OTHER BURNER PROBLEMS
-	521			Creek #6		 -		J1	3/27/1985		4/1/1985		110.08		REHEATER LEAKS
	521			Creek #6				3F	4/1/1985		4/1/1985		6.68		OTHER EXCITER PROBLEMS
-	521			Creek #6	000)* 1	70 E		4/2/1985		4/2/1985		3.36		BOILER WATER CONDITION
-		100	Jun	Oldok #0	1000	<u>- - </u>		-		0.00	7,21000	10,00	0.00		
I	521	168	Oak	Creek #6	Ì		lı.	ا 1ل	4/13/1985	23:04	4/29/1985	0:35	361.51	4520	GEN WINDINGS BSHNGS & TERMINALS
	521			Creek #6	000	* 5	200		5/7/1985		5/7/1985				OTHER BURNER PROBLEMS
_	521			Creek #6	000		200 [5/8/1985		5/8/1985		4.25		OTHER BURNER PROBLEMS
<u> </u>				Creek #6	000		240 E		5/8/1985		5/10/1985		43.08		OPACITY FOS STM UNIT
즉 -	521					-					5/15/1985		106.31		GENERATING TUBE
.	521			Creek #6		. 		<u>40</u>	5/10/1985				7.83		"B" SET HI PRESS HTRS
EPCO	521			Creek #6	000		50 [5/15/1985		5/16/1985	3:50			
40	521			Creek #6	000	[,]	80		5/16/1985	.d. = - · · · · · · · · · · · · · · · · · ·	5/16/1985		14.48		GENERATING TUBES-RED PRESS
40059	521			Creek #6				ON	5/16/1985		5/18/1985		42.21		CONVECTION PASS WALL
9	521			Creek #6	000		57 [5/21/1985	· [5/21/1985		5.25		HEATER LEVEL CONTROL
	521			Creek #6	000		220 [5/24/1985		5/24/1985	1 1			OTHER BURNER PROBLEMS
_	521	168	Oak	Creek #6	000)* 2	238 [21	5/28/1985	9:45	5/29/1985	3:00	17.25	8560	ELECTROSTATIC PRECIP PROBLEMS

r				1 1		T= :		1					
_	521		Oak Creek #6	000.	210		5/29/1985	10:54	5/30/1985	2:45	15.85		OTHER BURNER PROBLEMS
L	521		Oak Creek #6	000*	200		5/30/1985	9:30	5/31/1985	20:42	35.2		OTHER BURNER PROBLEMS
	521	168	Oak Creek #6			U1	5/31/1985	20:42	6/1/1985	4:50	8.13	410	OTHER BURNER PROBLEMS
-	521	168	Oak Creek #6	000*	150	PD	6/1/1985	4:50	6/1/1985	18:00	13.16		B SET HI PRESS FDWTR HTRS
	521	168	Oak Creek #6	000*	200	D1	6/1/1985	18:00	6/5/1985	7:00	85		OTHER BURNER PROBLEMS
	521	168	Oak Creek #6	000*	70	D1	6/5/1985	7:00	6/5/1985	15:35	8.58		PULVERIZER MILLS
T	521		Oak Creek #6	000*	200	D1	6/5/1985	15:35	6/6/1985	11:05	19.5		OTHER BURNER PROBLEMS
	521		Oak Creek #6	000*	130		6/8/1985	7:00	6/8/1985	16:05	9.08		61 ID FAN LIQUID RHEOSTAT
	521		Oak Creek #6	000*	210		6/14/1985	9:57	6/16/1985	6:00	44.05		ELECTROSTATIC PRECIPITATOR PROB
- 1 "	521		Oak Creek #6	000*	150		6/16/1985	6:00	6/16/1985	14:25	8.41	3441	OTHER HIGH PRESS HTR PROBLEMS
P -	521		Oak Creek #6	000*	187		6/17/1985	15:30	6/18/1985	8:50	17.33		ELECTROSTATIC PRECIP PROBLEMS
	521		Oak Creek #6	000*	150		6/20/1985	4:00	6/21/1985	4:00	24		OTHER HI PRESS HTR PROBLEMS
	521		Oak Creek #6	000*	215		6/21/1985	9:38	6/21/1985	22:35	12.95		ELECTROSTATIC PRECIP PROBLEMS
	521		Oak Creek #6			МО	6/21/1985	22:35	6/26/1985	8:05	105.5		SECOND REHEATER
	521		Oak Creek #6			SF	6/26/1985	8:05	6/27/1985	0:58	16.88		OTHER MAIN STEAM SYS PROBLEMS
	521		Oak Creek #6	000*	90		6/28/1985	11:20	6/28/1985	13:55	2.58		PULVERIZER MILLS
	521		Oak Creek #6	000*	200		7/1/1985	13:00	7/1/1985	18:00	2,30		DRUM SAFETY VALVES
-	521		Oak Creek #6	000*	200		7/1/1985	13:26	7/1/1985	8:34	67.13		DRUM SAFETY VALVES
	521		Oak Creek #6	000*		D1	7/5/1985	8:34	7/5/1985	21:32	12.96		PULVERIZER MOTORS AND DRIVES
	521	100	Oak Creek #6	000		<u> </u>	1/3/1963	0.34	7/3/1963	21.32	12.90	300	POLVERIZER MOTORS AND DRIVES
	504	100	Oak Crack #6				7/5/4005	21:32	7/6/1005	15.45	10.01	900	REPAIR LEAKING DRUM SAFETY VLVS
-	521		Oak Creek #6			MO_RS	7/5/1985		7/6/1985	15:45	18.21		
-	521	100	Oak Creek #6			<u> </u>	7/6/1985	15:45	7/7/1985	17:13	25.46		Reserve Shutdown
,	504	100	Oals Craals #6	000*	105	D4	7/14/1985	10:00	7/14/1985	13:07	2.11	4750	OTHER CEN CUTPL & METERING PROP
	521		Oak Creek #6	000*		D1	8/1/1985	7:30	8/2/1985	1:30	3.11		OTHER GEN CNTRL & METERING PROB
	521		Oak Creek #6	000*	235		8/6/1985	11:30	8/6/1985	14:00	2.5		INVESTIGATING UNKNOWN
\vdash	521		Oak Creek #6				· + ·						
ļ	521		Oak Creek #6	000*		D1	8/6/1985	14:00	8/7/1985	0:01	10.01		PULVERIZER MILLS
-	521		Oak Creek #6	000*	220		8/7/1985	6:50	8/7/1985	18:30	11.66		OTHER BURNER PROBLEMS
	521		Oak Creek #6	000*		D1	8/7/1985	18:30	8/8/1985	20:30	26		PULVERIZER MILLS
_	521		Oak Creek #6	000*		D1	8/15/1985	12:17	8/16/1985	2:00	13,71		PULVERIZER MILLS
- -	521		Oak Creek #6	000*	180		8/20/1985	16:45	8/20/1985	17:25	0.66		OTHER BURNER PROBLEMS
_	521		Oak Creek #6	000*	195		8/20/1985	17:25	8/20/1985	19:25	2		OTHER BURNER PROBLEMS
1_	521		Oak Creek #6			U1	9/2/1985	13:27	9/3/1985	3:04	13.61		MAINTENANCE ERROR
- -	521		Oak Creek #6	000*	125	+	9/6/1985		9/7/1985	8:00	17		MILL PROBLEMS
	521	168	Oak Creek #6			МО	9/14/1985	22:57	9/21/1985	4:24	149.45		SECOND REHEATER
	521		Oak Creek #6	000*	75	D1	9/21/1985	14:00	9/22/1985	2:01	12.01		PULVERIZED FUEL BIN
	521	168	Oak Creek #6			U1	9/22/1985	2:01	9/23/1985		45.98		GENERATING TUBE
-	521	168	Oak Creek #6			RS	9/23/1985	24:00:00	9/26/1985	16:09	64.15		Reserve Shutdown
_	521	168	Oak Creek #6	000*	50	D1	9/27/1985	3:40	9/27/1985	5:30	1.83	360	FEEDER PROBLEM
<u> </u>	521	168	Oak Creek #6	000*		D1	9/27/1985	5:30	9/27/1985	17:30	12	290	PULVERIZER REDUCED CAPACITY
ָ ס	521	168	Oak Creek #6	000*	90	D1	9/27/1985	17:30	9/28/1985	4:40	11.16	410	OTHER BURNER PROBLEMS
oʻ i	521	168	Oak Creek #6	000*	200		9/28/1985		9/29/1985	5:00	24.33		OTHER BURNER PROBLEMS
WEPCO 40060	521	168	Oak Creek #6	000*	140	D1	9/29/1985	5:00	9/30/1985	2:00	21	3412	STEAM BOILER FEED PUMP
₹	521	168	Oak Creek #6	•		D1	9/30/1985	11:25	10/1/1985	1:30	14.08	410	OTHER BURNER PROBLEMS
-	521		Oak Creek #6	000	230		10/1/1985	9:00	10/5/1985	9:30	96.5	410	OTHER BURNER PROBLEMS
	521		Oak Creek #6	000*	230		10/5/1985	9:30	10/7/1985	1:45	40.25		OTHER BURNER PROBLEMS

521	168 C	ak (Creek #6	000.	14	0 D1		10/7/1985	1:45	10/	7/1985	5:05	3.33	3661	4160 VOLT CIRCUIT BREAKER
521			Creek #6	000		0 D1	+	10/7/1985			7/1985	11:59			OTHER BURNER PROBLEMS
521			Creek #6			U1		10/7/1985			2/1985	16:04	124.08		SECOND SUPERHEATER
521			Creek #6	000*	12	0 D1		0/14/1985			5/1985	3:00			PULVERIZER MILLS
521			Creek #6	000*		0 D1		0/15/1985 0/15/1985			5/1985	14:26			PIJLVERIZER MILLS
521	+- -		Creek #6	000*		0 D1		0/13/1985 0/16/1985			6/1985	10:08	2.13		PULVERIZER MILLS
521			Creek #6		14	U1		0/18/1985 0/18/1985			3/1985	10:31	108.2		GENERATING TUBES
521		–	Creek #6	000-	22	0 PD		0/16/1965	4		5/1985 5/1985	14:30	7.5		BURNERS
521	1		Creek #6	000		D D1		11/4/1985	L		4/1985	19:00	1.33		OTHER BURNER PROBLEMS
- Je!!	100	an C	JIGGK #U	- 000	+ 13	<u> </u>		11/4/1500	17.40	11/2	+/ 1903	19.00	1,00	410	OTTER BONNEN FROBLEWS
521	168 C	ak (Creek #6	000*	19	D1	1	1/11/1985	16:36	11/12	2/1985	19:00	26.4	4262	CONTROL PROBLEM #1 INTERCEPT VV
521			Creek #6	000*		0 D1		1/12/1985			5/1985	2:50	79.83		OTHER BURNER PROBLEMS
521	·		Creek #6	000*		0 D1		1/16/1985			7/1985	2:45	23.91		OTHER BURNER PROBLEMS
521			Creek #6	000*		D1		1/17/1985			7/1985	5:00	2.25		OTHER BURNER PROBLEMS
521			Creek #6	000		D D1		1/17/1985			7/1985	14:45	9.75		OTHER BURNER PROBLEMS
521			Creek #6	000*		D1		1/17/1985			3/1985	8:15	17.5		OTHER BURNER PROBLEMS
521			Creek #6	000*		5 D1		1/18/1985			3/1985	12:00	3.75		OTHER BURNER PROBLEMS
521			Creek #6	-		U1		1/18/1985		+	0/1985	8:31	36.51		ECONOMIZER TUBE FAILURE
521			Creek #6			U1		1/20/1985			0/1985	14:43	6.2		OPERATOR ERROR
521			Creek #6	000*	21	5 D1		1/22/1985			2/1985	17:20	5.26		SERVICE WATER PUMPS & MOTORS
521			Creek #6	000*		D1		1/22/1985	 		7/1985	23:31	126.18		OTHER BURNER PROBLEMS
521			Creek #6			МО		1/27/1985			0/1985	10:24	58.88		GENERATING TUBE LEAK
521			Creek #6	000*	14	D1		12/3/1985			3/1985	14:00	5.5		HEATER LEVEL CONTROL
521			Creek #6	000.		D1	_ +	12/4/1985			1/1985	15:15	2.83		OTHER BURNER PROBLEMS
521			reek #6	000.		D1		12/4/1985			5/1985	1:30	4.5		LOW PRESS TURBINE SHAFT-TEST
521			Creek #6	000.		D1		12/5/1985			5/1985	9:57	19.95		SUPERHEATER LEAK
521			Creek #6			PO		12/6/1985				24:00:00	614.05		ANNUAL OUTAGE
T					+	- · <u> </u>		12/0/1000			., .000	21.00.00		1000	ANNUAL OUTAGE. EVENT STARTED
521	168 O	ak C	Creek #6			PO	ļ	1/1/1986	0:01	3/17	7/1986	6:16	1806.25	1800	12/06/85 @ 9:57 AM.
521			Creek #6	000*	18	D1		3/18/1986			9/1986	4:00	26		SILICA-BLR WATER CONDITION
521			Creek #6	000*		D D1		3/19/1986			9/1986	10:00	6		PULV EXHAUSTER FAN
521	168 O	ak C	Creek #6	000*		5 D1		3/19/1986			0/1986	2:30	16.5		PULVERIZER EXHAUSTER FAN
521			Creek #6	000*		D1		3/20/1986			1/1986	1:00	22.5		SILICA BLR WATER CONDITION
521	168 O	ak C	Creek #6	000*	17	D2		3/21/1986			2/1986	23:59	28.98	1850	BOILER WATER CONDITION
521	168 O	ak C	Creek #6	000*	19	D1		3/24/1986			5/1986	11:50	23.33	4262	INTERCEPT VALVE
521	168 O	ak (Creek #6	000*		D D1		3/25/1986			5/1986	17:30	5.66	3644	PROTECTION DEVICES
521	168 O	ak (Creek #6	000	14	D1		3/25/1986	17:30		5/1986	20:45	3.25	3441	HI PRESS FOWTR HEATER
521			Creek #6	000*		D1		3/25/1986			0/1986	8:14	107.48		INTERCEPT VALVE
WE 521 521 521 0 521	168 O	ak C	Creek #6	•	7	U1		3/30/1986	8:14	*·- ··	1/1986	11:26	123.2	9910	MAINTENANCE ERROR
521	168 O	ak C	Creek #6	000*	16	5 D1	1	4/5/1986		4/11	1/1986	19:35	147.58	4262	INTERCEPT VALVE
5 521			Creek #6	000	11	7 D1		1/10/1986	18:15		0/1986	21:30	3.25		OTHER PULV. PROBLEMS
521			Creek #6	•	T	MO		1/11/1986			1/1986	6:25	58.83		INTERCEPT VALVE
521 521 521			Creek #6	000	6	D1		1/14/1986		4	1/1986	14:10	3.16	340	61 & 63 MILL FUEL PMP PROBLEM
521	168 O	ak (Creek #6	000		D1		1/20/1986)/1986	17:25	13.41	410	OTHER BURNER PROBLEMS
521	168 O	ak (Creek #6	000*	20	D1		5/5/1986	7:50		71986	10:00	2.16	3412	FEEDPUMP STEAM TURBINE

Г	··						T						LOW BY TEST COM
- 1	504	400	0-1-01-10	000	005	DD	E1014000	- 00	5404000	4.00	20.5	00=0	LOW BTU TEST COAL OLD BEN
	521		Oak Creek #6	000*	225		5/6/1986	7:30	5/10/1986		89.5	9250	
- [.	521		Oak Creek #6	000	225		5/10/1986	5:00	5/10/1986		10.5		67 PULV COAL FDR
-	521		Oak Creek #6	000*	225		5/20/1986	10:35	5/20/1986		11.41		DRUM SAFETY VALVE
	521		Oak Creek #6	000*	170	·	5/20/1986	22:20	5/22/1986		35.83		HI PRESSURE HTR TUBE LEAKS
	521		Oak Creek #6	*		U1	6/5/1986	3:34	6/5/1986		1		HYDRAULIC SYSTEM FILTERS
.	521		Oak Creek #6			U1	6/11/1986	6:45	6/15/1986		92.16		ECONOMIZER LEAK
	521		Oak Creek #6	*		U1	6/15/1986	2:55	6/20/1986		133.08		WATER WALL LEAK
	521		Oak Creek #6	000*	180		6/26/1986	14:50	6/26/1986		3		ID FANS HIGH MOTOR TEMP
	521		Oak Creek #6	000*	200		6/26/1986	17:50	6/27/1986		8.33	410	C THER BURNER PROBLEMS
	521		Oak Creek #6	000*		D1	7/8/1986	14:00	7/8/1986		4	9270	WET GREEN COAL
- I	521		Oak Creek #6	000*	190		7/16/1986	10:10	7/16/1986	23:45	13.58		OTHER BURNER PROBLEMS
	521		Oak Creek #6	000*	218		7/24/1986	13:10	7/25/1986	21:00	31.83		OTHER BURNER PROBEMS
_	521		Oak Creek #6	000*	158		7/25/1986	21:00	7/27/1986		30	410	OTHER BURNER PROBLEMS
	521	168	Oak Creek #6	•		MO	8/1/1986	22:45	8/4/1986	7:56	57.18	1590	STACK INSPECTION
	521	168	Oak Creek #6	000*	175	D1	8/14/1986	3:45	8/14/1986	11:30	7.75	410	OTHR BURNER PROBS #68 PULV FDR
	521	168	Oak Creek #6	000*	180	PD	8/16/1986	1:30	8/16/1986	19:30	18	260	PRIMARY AIR FAN
	521		Oak Creek #6	•		U1	8/17/1986	8:18	8/17/1986	16:25	8.11	4600	EXCITER MOTOR - L.S.
Γ.	521	168	Oak Creek #6	•		U1	8/20/1986	23:05	8/31/1986	4:37	245.53	1005	GENERATING TUBE
	521	168	Oak Creek #6	000*	200	D1	9/1/1986	14:25	9/4/1986	15:00	72.58	260	#62 PRIMARY AIR FAN
-	521	168	Oak Creek #6	000*	190	D1	9/4/1986	15:00	9/9/1986	20:50	125.83	260	#61 PRIMARY AIR FAN
Γ.	521	168	Oak Creek #6	000*	225	D1	9/10/1986	10:30	9/12/1986	2:00	39.5	410	OTHER BURNER PROBLEMS
-	521	168	Oak Creek #6	000*	60	D1	9/15/1986	22:30	9/16/1986	10:50	12.33	340	LOW COAL LEVELS,62-63 MILLS OUT
-	521	168	Oak Creek #6	000.	150	D1	9/16/1986	10:50	9/17/1986	2:00	15.16	340	LOW COAL LEVELS
	521	168	Oak Creek #6	000*	220	D1	9/21/1986	2:00	9/24/1986	9:00	79	9250	LOW BTU COAL
-	521	168	Oak Creek #6	000*	200	D1	9/24/1986	9:00	9/28/1986	16:00	103	9250	LOW BTU COAL
-	521	168	Oak Creek #6	-		U1	9/30/1986	22:49	10/2/1986	5:42	30.88	1080	ECONOMIZER LEAK
													OTHER FEEDWATER SYSTEM
1	521	168	Oak Creek #6	*	170	D1	10/11/1986	20:25	10/12/1986	10:00	13.58	3499	PROBLEMS
	521	168	Oak Creek #6	•	220		10/15/1986	10:30	10/16/1986	7:15	20.75		LOW BTU COAL
"	521	168	Oak Creek #6			МО	10/25/1986	20:46	10/26/1986	4:43	7.95	220	PULV SYS-CYCLONE SEPARATOR
	521		Oak Creek #6			Ū1	11/8/1986	7:38	11/8/1986	19:40	12.03		PULVERIZER SYSTEM
T-	521		Oak Creek #6			МО	11/13/1986	3:51	11/16/1986	7:55	76.06		REHEAT STEAM PROBLEM
	521		Oak Creek #6	•	140		11/19/1986	12:20	11/20/1986	2:15	13.91		PULVERIZER COAL LEAK
-	521		Oak Creek #6		150		11/20/1986	9:45	11/21/1986	4:00	18.25		PULVERIZER COAL LEAK
 	521		Oak Creek #6			D1	11/21/1986	4:00	11/24/1986	16:55	84.91		PULVERIZED COAL LEAK
-	521		Oak Creek #6		175		12/2/1986	21:50	12/3/1986	4:30	6.66		OTHER HP HEATER PROBLEMS
-	521		Oak Creek #6	1	175		12/4/1986	2:00	12/4/1986	6:23	4.38		OTHER HP HEATER PROBLEMS
1	J. 1		Out Older #0				124,1300						ANNUAL OUTAGE. OUTAGE
WEBCO	521	168	Oak Creek #6			PO	12/24/1986	23:38	12/31/1986	24.00.00	168.36	1800	CONTINUES INTO 1987.
	521		Oak Creek #6	 		PO	1/1/1987	0:01	2/7/1987	10:23	898.36		ANNUAL OUTAGE, STARTED 12/24/86.
	521		Oak Creek #6	000*	175	1	2/9/1987	2:30	2/9/1987	9:45	7.25		SILICA-RETURNING TO SERV
40063	521		Oak Creek #6	000*	120		2/9/1987	9:45	2/9/1987	23:00	13.25		STEAM FEEDWATER PUMP
2	521		Oak Creek #6	000*	180		2/9/1987			8:45			PA FAN
•			Oak Creek #6					23:00	2/10/1987		9.75		PRIMARY AIR FAN
	521			000*	_ <u>2</u> 10		2/10/1987	8:45	2/11/1987	5:00	20.25		
_	521	168	Oak Creek #6	000*	210	וטו	2/12/1987	17:30	2/13/1987	6:05	12.58	410	OTHER BURNER PROBLEMS

						T						
521		Oak Creek #6			PO	2/14/1987	21:13	2/14/1987	21:58	0.75		RESV SHUTDOWN-TURB OVRSPD TEST
521		Oak Creek #6	000.	210		2/16/1987	6:30	2/16/1987	18:00	11.5		OTHER BURNER PROBLEMS
521	168	Oak Creek #6	000*	230	D1	2/17/1987	9:25	2/18/1987	18:00	32.58	9250	LOW BTU COAL
521		Oak Creek #6	000*	120	D1	2/19/1987	1:30	2/19/1987	11:00	9.5	3412	STEAM FEEDWATER PUMP
521	168	Oak Creek #6	000*	50	D1	2/19/1987	11:00	2/19/1987	13:30	2.5	310	MILL PROBLEMS
521	168	Oak Creek #6	000.	120	D1	2/19/1987	13:30	2/19/1987	17:00	3.5		STEAM GENERATOR PUMP
521	168	Oak Creek #6			MO	2/20/1987	1:44	2/23/1987	6:15	76.51	4293	CONTROL OIL LEAK AT STOP VV
521	168	Oak Creek #6	000*	210	D1	2/24/1987	18:05	2/24/1987	19:30	1.41	250	PULVERIZER FDRS
521	168	Oak Creek #6			U2	2/25/1987	0:01	3/2/1987	20:56	140.91	1090	STEAM DRUM FEEDER TUBE
521	168	Oak Creek #6	000*	160	D1	3/6/1987	20:20	3/6/1987	22:40	2.33	340	LOW COAL LEVELS
521	168	Oak Creek #6			PO	3/8/1987	3:41	3/8/1987	8:57	5.26		TEST HS OVERSPEED STOP
521		Oak Creek #6	000*	170		3/9/1987	8:50	3/9/1987	9:50	1		PRECIP PROBLEMS
521	168	Oak Creek #6	000*	235		4/8/1987	11:45	4/8/1987	17:00	5.25		SILICA
521	168	Oak Creek #6			U2	4/14/1987	18:42	4/18/1987	15:54	93.2		FIRST SUPERHEATER
521	168	Oak Creek #6	000*	90	D1	4/22/1987	15:15	4/22/1987	16:20	1.08	250	PULVERIZER FDR
521	168	Oak Creek #6	000*	120		4/24/1987	10:48	4/24/1987	12:30	1.7		STEAM BLR FEED PMP
521	168	Oak Creek #6	000*	210	PD	4/24/1987	23:20	4/25/1987	6:30	7.16	260	PRIMARY AIR FAN
521	168	Oak Creek #6			NC	5/10/1987	8:45	5/10/1987	15:15	6.5	260	PRIMARY AIR FAN
521	168	Oak Creek #6	•		U1	5/11/1987	7:14	5/12/1987	8:40	25.43	1080	ECON LEAK
521	168	Oak Creek #6	000*	225	D1	5/14/1987	7:17	5/14/1987	7:55	0.63	410	OTHER BURNER PROBLEMS
521	168	Oak Creek #6			NC	5/16/1987	5:30	5/16/1987	11:00	5.5	260	PRIMARY AIR FAN
521	168	Oak Creek #6			NC	5/16/1987	11:00	5/16/1987	14:00	3	260	PRIMARY AIR FAN
521	168	Oak Creek #6	000*	200	D1	5/18/1987	11:45	5/18/1987	13:00	1.25	340	66 PULV FUEL FDR
521	168	Oak Creek #6			NC	5/31/1987	16:30	5/31/1987	19:45	3.25	260	PRIMARY AIR FAN
521	168	Oak Creek #6			NC	6/2/1987	22:20	6/3/1987	6:00	7.66	1470	61 ID FAN INSP OF CPLG
521	168	Oak Creek #6	000*	150	D1	6/3/1987	15:43	6/3/1987	21:55	6.2	1480	61 ID FAN RHEOSTAT RPR
521	168	Oak Creek #6			NC	6/6/1987	23:25	6/7/1987	6:50	7.41		PRIMARY AIR FAN
521	168	Oak Creek #6	000*	225	PD	6/9/1987	15:00	6/9/1987	17:00	2	260	PA FAN #61
521	168	Oak Creek #6			NC	6/9/1987	17:00	6/10/1987	15:45	22.75		PA FAN #61
521	168	Oak Creek #6	*		U2	6/10/1987	15:45	6/29/1987	14:16	454.51		FLYASH HANDLING
521	168	Oak Creek #6	000*	150		7/2/1987	2:10	7/2/1987	6:30	4.33		FLYASH HANDLING SYSTEM.
521	168	Oak Creek #6	000*	230		7/7/1987	13:15	7/7/1987	16:00	2.75		LOW BTU COAL
521	168	Oak Creek #6	*		U2	7/13/1987	23:57	7/16/1987	0:43	48.76		GENERATING TUBES
521	168	Oak Creek #6			NC	7/23/1987	22:00	7/24/1987	5:20	7.33		ID FAN PROBLEMS
521	168	Oak Creek #6	•		МО	7/27/1987	23:20	7/29/1987	3:43	28.38		DRUM FEEDER TUBE
521	168	Oak Creek #6	*		U2	7/29/1987	18:34	7/31/1987	11:07	40.55		DRUM FEEDER TUBE
521	168	Oak Creek #6	000*	92		8/1/1987	11:50	8/1/1987	13:45	1.91		#8 BURNER FIRE IN WINDBOX
521		Oak Creek #6	000*	166		8/1/1987	13:45	8/1/1987	23:00	9.25		#8 BURNER PULV FUEL LEAKS
521		Oak Creek #6	000*	175		8/2/1987	13:00	8/3/1987	9:00	20		4B FEEDWATER HEATER
521		Oak Creek #6	000*	125		8/6/1987	14:30	8/6/1987	17:25	2.91		MILL PROBLEMS 62 MILL EXHAUSTER
521		Oak Creek #6		L	U2	8/10/1987	19:54	8/12/1987	8:07	36.21		BURNER WINDBOX FIRES
_521		Oak Creek #6	000*	225		8/15/1987	12:00	8/16/1987	21:45	33.75		LOW BTU
521		Oak Creek #6	000*	220		8/17/1987	10:00	8/19/1987	22:50	60.83		LEAK IN PULV FUEL PIPE
521		Oak Creek #6	*		MO	8/19/1987	22:50	8/23/1987	3:00	76.16		OTHER BURNER PROBLEMS
521	168	Oak Creek #6	•		RS	8/23/1987	3:00	8/23/1987	5:45	2.75	0	Reserve Shutdown

521	168	Oak Creek #6			NC	8/24/1987	21:00	8/25/1987	6:55	9.91	3441	OTHER HI PRESS HTR PROBLEMS
521	168	Oak Creek #6			NC	8/25/1987	22:20	8/26/1987	6:00	7.66	410	OTHER BURNER PROBLEMS
521	168	Oak Creek #6			NC	8/29/1987	6:05	8/29/1987	14:06	8.01	260	PRIMARY AIR FAN
521		Oak Creek #6		j	NC	9/2/1987	22:30	9/3/1987	7:05	8.58		PA FAN.
521		Oak Creek #6		230	D1	9/5/1987	10:15	9/5/1987	11:30	1.25		OPACITY PROBLEMS.
521		Oak Creek #6		170		9/5/1987	11:30	9/5/1987	17:10	5.66		ID FAN MOTOR.
521		Oak Creek #6			NC	9/9/1987	23:15	9/10/1987	2:27	3.2		ID FAN.
521		Oak Creek #6		185		9/17/1987	15:30	9/17/1987	20:00	4.5		BURNER PROBLEMS.
521		Oak Creek #6		1	NC	9/19/1987	22:30	9/20/1987	7:45	9.25		FD FANS.
521		Oak Creek #6		 -	RS	9/25/1987	22:52	9/28/1987	2:53	52.01		Reserve Shutdown
521		Oak Creek #6		200		9/28/1987	9:55	9/28/1987	21:00	11.08		HIGH SILICA.
521		Oak Creek #6		220		10/11/1987	18:55	10/11/1987	20:55	2		68 PULV FUEL FDR OUT OF SERVICE
521		Oak Creek #6			U1	10/26/1987	17:18	10/30/1987	23:00	101.7		GENERATING TUBE
521		Oak Creek #6			U2	10/30/1987	23:01	11/2/1987	10:10	59.15		FLYASH SILO
521		Oak Creek #6		190		12/9/1987	6:45	12/14/1987	16:45	130		4160V CONDUCTOR FAILURE
321	100	Oak Oleek #0		130	9'	123/130/	0.43	12 17/1307	10.43		3002	THE THE PROPERTY AND A PARTY OF THE PARTY OF
521	168	Oak Creek #6	000*	215	D1	12/19/1987	8:00	12/20/1987	3:00	19	410	OTHER BURNER PROB(PLUGGED FDR)
521		Oak Creek #6		100		1/5/1988	13:15	1/6/1988	0:01	10.76		ASH FOULING APPETURE
521	·	Oak Creek #6		180		1/6/1988	0:01	1/6/1988	14:10	14.15		/ SH FOULING APPETURE
521		Oak Creek #6		1-100	MO	1/12/1988	22:00	1/15/1988	12:00	62		ASH FOULING APPETURE
521		Oak Creek #6			МО	1/15/1988	12:00	1/18/1988	1:00	61		SIDE & REAR WALL REHEAT LEAKS
521		Oak Creek #6		185		1/22/1988	7:27	1/22/1988	11:05	3.63		61 PA FAN MOTOR
521		Oak Creek #6		230		2/9/1988	17:30	2/9/1988	21:45	4.25		LOW BTU COAL
521		Oak Creek #6		185		2/11/1988	11:08	2/11/1988	11:58	0.83		OTHER BURNER PROBLEMS
521		Oak Creek #6		100	RS	2/19/1988	20:55	2/22/1988	3:18	54.38		Reserve Shutdown
521		Oak Creek #6		 -	U2	2/23/1988	14:25	2/25/1988	3:33	37.13		WATER TUBE LEAK
521		Oak Creek #6		 	NC	3/1/1988	8:20	3/1/1988	12:15	3.91		OTHER BURNER PROBLEMS
521		Oak Creek #6		230		3/14/1988	8:05	3/14/1988	20:20	12.25		OTHER BURNER PROBLEMS
521		Oak Creek #6		230		3/15/1988	13:30	3/16/1988	1:55	12.41		OTHER BURNER PROBLEMS
521		Oak Creek #6		235	<u></u>	3/16/1988	18:20	3/17/1988	4:30	10.16		OTHER BURNER PROBLEMS
521		Oak Creek #6		220		3/17/1988	4:30	3/18/1988	21:45	41.25		4160V CONDUCTOR FAILURE
521		Oak Creek #6		220	U2	3/20/1988	20:16	3/24/1988	12:41	88.41		GENERATING TUBE FAILURE
521		Oak Creek #6			U2	4/5/1988	7:10	4/7/1988	11:25	52.25		GENERATING TUBE FAILURE
521		Oak Creek #6			SF	4/7/1988	11:25	4/8/1988	0:29	13.06		OTHER HYDRAULIC SYS PROBLEMS
521		Oak Creek #6		170		4/18/1988	6:45	4/18/1988	7:20	0.58		GENERATING TUBE LEAK
		Oak Creek #6		1/0	U3	4/19/1988		··	16:00	70.69		ECONOMIZER TUBE LEAK
52 <u>1</u> 521	+	Oak Creek #6			RS	4/22/1988	17:18 16:00	4/22/1988 4/24/1988	18:09	50.15		Reserve Shutdown
		+		 	PO							ANNUAL OUTAGE
521		Oak Creek #6		125		5/12/1988	10:51	7/8/1988	22:32 23:50	1379.68 36.33		FORCE DRAFT FAN MOTOR
521		Oak Creek #6				7/13/1988	11:30	7/14/1988				HIGH SILICA
521 521 521		Oak Creek #6		192		7/16/1988	9:00	7/16/1988	21:40	12.66		OVERSPEED TRIP TEST
ا عد ح		Oak Creek #6			PO	7/17/1988	1:40	7/17/1988	2:31	0.85		
521	1	Oak Creek #6		210		7/26/1988	10:10	7/26/1988	16:45	6.58		HIGH SILICA
521		Oak Creek #6			PO	7/30/1988	0:08	7/30/1988	3:02	2.9		TURB GOVERNING SYSTEM
521	1	Oak Creek #6		220	+ ···· — ··	7/30/1988	10:30	7/30/1988	19:30	9		HIGH SILICA
521		Oak Creek #6		115		8/3/1988	11:40	8/3/1988	22:15	10.58		FORCE DRAFT FAN MOTOR
521	168	Oak Creek #6	j <u>'</u>	230	D1	8/4/1988	11:03	8/5/1988	0:01	12.96	310	PULVERIZER MILLS

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- 1_	521		Creek #6			МО	8/11/1988	2:03	8/14/1988	12:40	82.61		REMOVE STEAM STRAINER SCREENS
- 1	521		Creek #6			SF	8/14/1988	12:40	8/16/1988	11:30	46.83	1005	WTR TUBE LEAK
- 1	521	168 Oak	Creek #6			SF	8/16/1988	11:30	8/17/1988	4:27	16.95	4301	TURB GOVERNOR SYSTEM
- 1"	521	168 Oak	Creek #6	•	186	D1	9/12/1988	18:45	9/12/1988	22:30	3.75	250	PULVERIZER FEEDERS
	521	168 Oak	Creek #6	1		NC	10/2/1988	7:30	10/2/1988	14:00	6.5	3441	B SET HIGH PRESSURE HEATERS
	521	168 Oak	Creek #6	+		MO	10/15/1988	4:44	10/15/1988	14:30	9.76		ECONOMIZER PIPING
1	521	168 Oak	Creek #6	•		SF	10/15/1988	14:30	10/16/1988	19:10	28.66	4611	HYDROGEN COOLERS
1	521	168 Oak	Creek #6	•		U2	10/18/1988	4:53	10/20/1988	1:48	44.91		DRUM FEEDER TUBE
	521	168 Oak	Creek #6	•		U2	10/24/1988	5:05	10/28/1988	2:11	93.1		DRUM FEEDER TUBE
- 1	521	168 Oak	Creek #6	000*	190	D1	11/1/1988	19:15	11/1/1988	20:30	1.25		PULVERIZED FEEDERS
	521	168 Oak	Creek #6	000*	120	D1	11/4/1988	14:10	11/4/1988	16:15	2.08		MILL PROBLEM
]	521	168 Oak	Creek #6			NC	11/6/1988	6:30	11/6/1988	10:45	4.25	3441	B-SET HIGH PRESSURE HTRS
1	521		Creek #6			NC	11/13/1988	7:00	11/13/1988	18:00	11		A-SET HIGH PRESSURE HTRS
- 1	521		Creek #6	•		U2	11/26/1988	18:14	12/1/1988	13:35	139.35		SECOND SUPER HTR TUBE FAILURE
-	521		Creek #6	000*	230	D1	12/6/1988	8:00	12/9/1988	23:39	87.65		BURNER WIND BOX FIRE
-	521	168 Oak	Creek #6	1.		МО	12/9/1988	23:39	12/11/1988	23:50	48.18	400	BURNER WINDBOX FIRE
Γ.	521	168 Oak	Creek #6			NC	1/20/1989	18:45	1/22/1989	9:00	38.25		65B FEED WATER HTR HEAD LEAK
-	521	168 Oak	Creek #6			NC	2/12/1989	7:30	2/12/1989	18:17	10.78	3441	6A HTR DRAIN PIPE LEAK
ļ	521	168 Oak	Creek #6	•		МО	2/12/1989	18:17	2/13/1989	10:41	16.4	3441	HI PRESS HTR DRAIN VALVING
	521		Creek #6	1-		МО	2/17/1989	19:58	2/20/1989	6:15	58.28		GENERATING TUBE FAILURE
	521		Creek #6	•		SF	2/20/1989	6:15	2/20/1989	12:45	6.5	799	OTHER PIPING SYS PROBLEMS
-	521		Creek #6	•	220	D1	2/21/1989	7:30	2/21/1989	18:20	10.83		HIGH BOILER SILICA
	521		Creek #6	*		U1	2/23/1989	16:34	2/23/1989	21:30	4.93		TURB VALVE CONTROL
	521		Creek #6	•		SF	2/23/1989	21:30	2/24/1989	7:30	10		GENERATING TUBE FAILURE
	521		Creek #6	•		PO	2/24/1989	7:30	3/3/1989	12:13	172.71	1800	PLANNED OUTAGE
	521		Creek #6	• 1	185		3/15/1989	20:30	3/15/1989	23:00	2.5		PULV COAL FEEDERS
1-	521		Creek #6	•	220		3/16/1989	15 20	3/16/1989	23:30	8.16	250	PULVERIZED COAL FEEDERS
- 1-	521		Creek #6	•	•	MO	3/17/1989	21:54	3/19/1989	16:13	42.31		SECOND REHEATER
- 1	521		Creek #6	•	195	D1	3/20/1989	16:45	3/20/1989	23:00	6.25		HIGH BOILER SILICA
-	521		Creek #6	•		U2	3/31/1989	9:10	4/3/1989	8:08	70.96	1005	GENERATING TUBE
- ''''	521		Creek #6		'	MO	5/5/1989	17:29	5/7/1989	8:42	39.21	1510	FLUE GAS DUCT
1.	521		Creek #6	•		U2	5/7/1989	13:34	5/10/1989	9:57	68.38	1040	PRIMARY SUPERHEATER
	521	168 Oak	Creek #6	•		SF	5/10/1989	9:57	5/13/1989	20:40	82.71	1040	PRIMARY SUPERHEATER
Ī	521	168 Oak	Creek #6		200	D1	5/15/1989	7:00	5/17/1989	3:00	44		BOILER CONDITIONS
[521	168 Oak	Creek #6	•	235	D1	5/24/1989	13:30	5/25/1989	2:35	13.08		BOILER CONDITIONS
	521	168 Oak	Creek #6	•	215	D1	5/30/1989	15:30	5/31/1989	1:00	9.5		OTHER CONTROL PROBLEMS
	521		Creek #6	•	220		5/31/1989	6:30	5/31/1989	7:55	1.41		PULVERIZED COAL FDRS
_	521		Creek #6	•	220		5/31/1989	8:30	6/1/1989	2:30	18		PULVERIZED COAL FDR
WEPCO	521		Creek #6	•		U2	6/4/1989	19:34	6/8/1989	10:06	86.53		GENERATING TUBE FAILURE
P	521		Creek #6	•	80	D1	6/14/1989	9:11	6/14/1989	11:45	2.56		OTHER MILL PROBLEMS
00	521	168 Oak	Creek #6	•		U2	6/26/1989	8:26	6/29/1989	14:17	77.85		GENERATING TUBE FAILURE
40065	521		Creek #6			RS	6/29/1989	14:17	7/4/1989	22:11	127.9		Reserve Shutdown
6	521	168 Oak	Creek #6			U1	7/5/1989	3:55	7/5/1989	4:43	0.8		TURBINE THROTTLE TRIP
O.	521	168 Oak	Creek #6		220		7/6/1989	15:00	7/8/1989	5:00	38		BOILER CONDITIONS
	521	168 Oak	Creek #6		140		7/8/1989	5:00	7/8/1989	18:30	13.5		FEEDWATER PIPING
	521	168∤Oak	Creek #6			NC	8/6/1989	2:00	8/6/1989	13:00	11	3441	OTHER HP HTR PROBLEMS

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	521			Creek #6			NC _	8/9/1989	16:40	8/9/1989	17:00	0.33		62 PULV FUEL FDR SHEER PIN
- 1	521	168	Oak	Creek #6	*	190	D1	9/5/1989	13:58	9/5/1989	17:40	3.7	250	PULVERIZER FEEDER
	521	168	Oak	Creek #6	•		U1	9/6/1989	13:11	9/6/1989	16:43	3.53	9910	MAINTENENACE ERROR
	521	168	Oak	Creek #6			SF	9/6/1989	16:43	9/6/1989	19:12	2.48	3149	LOSS OF VACUUM
-	521			Creek #6	•	190	D1	9/8/1989	11:00	9/8/1989	21:34	10.56		SECOND SUPERHEAT
	521			Creek #6			МО	9/8/1989	21:34	9/11/1989	7:23	57.81		SECOND SUPERHEAT
	521			Creek #6	•	175		9/12/1989	7:00	9/13/1989	19:37	36.61		FIRST SUPERHEATER
	521			Creek #6			PO	9/13/1989	19:37	12/31/1989		2644.38		PLANNED MAINTENANCE OUTAGE
	- 72	100	Oak	Oleek #0			<u> </u>	3/10/1303		1201/1303	24.00.00	2044.00	1000	PLANNED MAINT.OUTAGE STARTED
- 1	521	169	Oak	Creek #6			РО	1/1/1990	0:01	4/9/1990	7:40	2359.64	1900	9/13/89
	521			Creek #6		160		4/9/1990	8:36	4/13/1990	2:16	89.66		COMBUSTION CONTROLS TESTING
	521		<u> </u>	Creek #6			U1	4/13/1990	2:16	4/13/1990	3:01	0.75		TURBINE CONTROLS
						160								
	521			Creek #6				4/13/1990	3:01	4/15/1990	22:15	67.23		COMBUSTION CONTROLS TESTING
١.	521			Creek #6		80		4/15/1990	22:15	4/17/1990	8:00	33.75		COMBUSTION CONTROLS
	521			Creek #6		160		4/17/1990	8:00	4/18/1990	17:00	33		COMBUSTION CONTROLS TESTING
	521			Creek #6		210		4/18/1990	13:00	4/23/1990	7:00	114	<u>1710</u>	COMBUSTION CONTROLS TESTING
	521			Creek #6			<u>U1</u>	4/25/1990	1:26	4/25/1990	2:26	1		COMBUSTION CONTROLS
	521			Creek #6			SF	4/25/1990	2:26	4/25/1990	5:40	3.23	4810	GENERATOR OUTPUT BREAKER
	521			Creek #6			SF	4/25/1990	6:00	4/25/1990	8:00	2		FEEDWATER CONTROLS
	521			Creek #6			SF	4/25/1990	8:00	4/25/1990	13:19	5.31		GENERATOR OUTPUT BREAKER
_	521			Creek #6			U1	4/27/1990	21:08	4/28/1990	2:30	5.36		#61 & #62 ID FAN TRIPPED
L	521			Creek #6	•		U1	4/28/1990	2:30	4/28/1990	6:00	3.5		OTHER ID FAN PROBLEMS
L	521	168	Oak	Creek #6			MO	4/30/1990	23:49	5/4/1990	12:22	84.55		SO3 INJECTION SYSTEM
1_	521	168	Oak (Creek #6	*	160		5/7/1990	8:30	5/7/1990	15:30	7		COMBUSTION CONTROL TESTING
<u> </u>	521			Creek #6	•		U1	5/7/1990	16:07	5/7/1990	16:59	0.86		COMBUSTION CONTROL DROP
L	521	168	Oak	Creek #6	*		MO	5/8/1990	23:26	5/9/1990	11:05	11.65		REPAIR LP HOOD RUPTURE DISCS
	521	168	Oak (Creek #6		220	D1	5/13/1990	18:55	5/15/1990	0:59	30.06		PULV FUEL & AIR PIPING
	521	168	Oak	Creek #6	•		U1	5/15/1990	0:59	5/15/1990	3:32	2.55	4261	TURB CONTROL VALVES
	521	168	Oak	Creek #6	•		SF	5/15/1990	3:43	5/15/1990	7:04	3.35	1710	COMBUSTION CONTROLS
Γ-	521	168	Oak	Creek #6	*		U1	5/18/1990	15:35	5/18/1990	16:44	1.15	9910	MAINTENANCE ERROR
	521	168	Oak	Creek #6	•		U1	5/19/1990	6:35	5/19/1990	8:11	1.6	1710	COMBUSTION CONTROLS
	521	168	Oak	Creek #6	•		U2	5/19/1990	11:48	5/21/1990	10:42	46.9		FIRST SUPERHEATER
-	521			Creek #6	•		U1	5/23/1990	19:54	5/23/1990	20:52	0.96	1710	COMBUSTION CONTROLS
ļ · ·	521			Creek #6			SF	5/23/1990	20:52	5/23/1990	21:47	0.91		OPERATOR ERROR
	521			Creek #6	•		U1	5/24/1990	13:50	5/24/1990	17:23	3.55		COMBUSTION CONTROLS
-	521			Creek #6		80	D1	5/26/1990	10:50	5/26/1990	14:45	3.91		ID FAN #2 TRIPPED
-	521			Creek #6	 -		U1	6/1/1990	23:56	6/2/1990	2:15	2.31		COMBUSTION CONTROLS
-	521			Creek #6			U1	6/5/1990	21:22	6/10/1990	6:00	104.63		SUPERHEATER SECOND
<u></u>	521			Creek #6			U1	6/10/1990	20:57	6/10/1990	22:12	1.25		#62 & #61 FANS TRIPPED
EP ·	521			Creek #6			МО	6/16/1990	2:24	6/25/1990	7:00	220.6		BOILER TUBE MODIFICATIONS
WEPCO	521			Creek #6	-		MO	6/25/1990	7:00	6/25/1990	18:23	11.38		COMBUSTION CONTROLS
<u>,</u>	521		I	Creek #6		210		6/29/1990	13:15	6/29/1990	23:59	10.73		WET COAL
40066				Creek #6			U1	6/30/1990	0:18	6/30/1990	2:20	2.03		COMBUSTION CONTROLS
8	521							7/3/1990		7/3/1990	18:30	5.58		COMBUSTION CONTROLS
	_521			Creek #6		225	D1		12:55					
	521			Creek #6			U1	7/3/1990	18:30	7/3/1990	19:25	0.91		#62 ID FAN
L	521	168	Oak	Creek #6			U1	7/3/1990	19:53	7/3/1990	20:18	0.41	1710	COMBUSTION CONTROLS

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521	168 Oak Cree		•		U1_	7/3/1990	22:54	7/3/1990	23:47	0.88	1710 COMBUSTION CONTROLS
521	168 Oak Cree	k #6	<u> • </u>		SF	7/3/1990	23:47	7/4/1990	3:40	3.88	3430 START-UP FAILURE
521	168 Oak Cree	k #6	•	225	D1	7/4/1990	3:40	7/5/1990	2:45	23.08	1710 COMBUSTION CONTROLS
521	168 Oak Cree	k #6	•		U1	7/5/1990	2:45	7/5/1990	3:18	0.55	1700 FEEDWATER CONTROLS
521	168 Oak Cree	k #6	•		U2	7/5/1990	14:04	7/6/1990	7:30	17.43	4299 OTHER HYDRAULIC SYS PROBLEMS
521	168 Oak Cree	k #6	•		RS	7/6/1990	7:30	7/9/1990	4:44	69.23	0 Reserve Shutdown
521	168 Oak Cree	k #6			NC	7/28/1990	4:45	7/28/1990	11:45	7	3660 61/62 ID FANS
521	168 Oak Cree	k #6	1		NC	7/28/1990	14:45	7/28/1990	23:30	8.75	310 PULVERIZER MILL PROBLEM
521	168 Oak Cree		-	100		8/9/1990	7:20	8/9/1990	15:40	8.33	410 OTHER BURNER PROBLEMS
521	168 Oak Cree	k #6	•	200		8/9/1990	15:40	8/10/1990	15:00	23.33	410 OTHER BURNER PROBLEMS
521	168 Oak Cree		•	225		8/10/1990	15:00	8/10/1990	22:46	7.76	410 OTHER BURNER PROBLEMS
521	168 Oak Cree	k #6	+ .		RS	8/10/1990	22:46	8/11/1990	17:00	18.23	0 Reserve Shutdown
521	168 Oak Cree		1.		RS	8/11/1990	17:00	8/12/1990	20:16	27.26	0 Reserve Shutdown
521	168 Oak Cree	k #6	4	$\overline{}$	U1	8/15/1990	3:32	8/15/1990	4:21	0.81	1710 COMBUSTION CONTROLS
521	168 Oak Cree	k #6	•		Ŭ1	8/16/1990	6:35	8/16/1990	8:27	1.86	1470 62 ID FAN TRIP
521	168 Oak Cree	k #6			NC	8/17/1990	4:21	8/17/1990	6:44	2.38	1475 62 ID FAN CONTROLS
521	168 Oak Cree	k #6	*	132	D1	8/17/1990	17:30	8/18/1990	19:50	26.33	250 63 MILL FEEDER BELT
521	168 Oak Cree	k #6			NC	8/20/1990	15:30	8/21/1990	7:00	15.5	200 63 MILL EXH FAN VIB
521	168 Oak Cree				NC	8/24/1990	22:17	8/26/1990	12:45	38.46	200 61 MILL-REPLACE "A" EXH FAN
521	168 Oak Cree	k #6	•		Ú1	8/26/1990	12:45	8/26/1990	14:11	1.43	1470 61 ID FAN TRIP
521	168 Oak Cree	k #6	•		SF	8/26/1990	14:11	8/26/1990	15:26	1.25	9900 START UP FAILURE
521	168 Oak Creel	k #6			NC	8/26/1990	15:26	8/27/1990	8:30	17.06	200 61 MILL-REPLACE "A" EXH FAN
521	168 Oak Creel	k #6		165	D2	8/31/1990	9:45	8/31/1990	22:14	12.48	310 MILL PROBLEM
521	168 Oak Creel	k #6	•		RS	8/31/1990	22:14	9/3/1990	12:00	61.76	0 Reserve Shutdown
521	168 Oak Creel	k #6	•	Ì	MO	9/3/1990	12:00	9/4/1990	8:41	20.68	3131 AIR EJECTOR PIPING & VLVS
521	168 Oak Creel	k #6	•		U1	9/4/1990	15:43	9/4/1990	16:43	1	1700 FEEDWATER CONTROLS
521	168 Oak Creel	k #6	•	Į.	SF	9/4/1990	16:43	9/4/1990	20:52	4.15	380 LIGHT-OFF SYSTEMS
521	168 Oak Creel	k #6			NC	9/5/1990	21:00	9/6/1990	4:00	7	3441 OTHER HP HTR PROBLEM
521	168 Oak Creel	k #6	•		U1	9/7/1990	3:50	9/7/1990	4:36	0.76	1710 COMBUSTION CONTROLS
521	168 Oak Creel	k #6	•		Ū1	9/7/1990	15:25	9/7/1990	15:56	0.51	3250 CIRC WTR STEM INSTRUMNTS & CTRL
521	168 Oak Creel	k #6	•		U1	9/7/1990	21:22	9/7/1990	21:49	0.45	1710 COMBUSTION CONTROLS
521	168 Oak Creel	k #6	•		Ū1	9/8/1990	2:49	9/8/1990	4:26	1.61	1710 COMBUSTION CONTROLS
521	168 Oak Cree		•	140	D1	9/8/1990	14:00	9/10/1990	8:38	42.63	3440 FFEDWATER HTR TUBE LEAK
521	168 Oak Cree		•		U1	9/10/1990	11:39	9/10/1990	12:19	0.66	3849 OTHER SERVICE AIR PROBLEMS
521	168 Oak Creel	k #6	•		Ū1	9/10/1990	22:54	9/10/1990	23:20	0.43	1710 COMBUSTION CONTROLS
521	168 Oak Creel	k #6	•	140	D2	9/12/1990	22:30	9/14/1990	4:04	29.56	3440 FDWTR HTR TUBE LEAK
521	168 Oak Creel	k #6	•		U1	9/14/1990	4:04	9/14/1990	4:47	0.71	1475 62 ID FAN CONTROLS
521	168 Oak Creel		•	140	D2	9/14/1990	4:47	9/15/1990	16:30	35.71	3440 HI PRESSURE HTR TUBE LEAK
521	168 Oak Creel				NC	9/16/1990	4:45	9/16/1990	19:20	14.58	340 OTHER PULV PROBLEMS
521 521 521 521 521 521 521	168 Oak Creel	k #6	•	225	D1	9/21/1990	10:30	9/21/1990	19:00	8.5	250 PULVERIZER FEEDER
521	168 Oak Cree		•		U1	9/22/1990	21:54	9/22/1990	23:00	1.1	1480 OTHER ID FAN PROBLEMS
521	168 Oak Creel		•		SF	9/22/1990	23:00	9/23/1990	6:25	7.41	4309 OTHER TURB INSTRU & CTRL PROBLM
521	168 Oak Cree	k #6	1	80		9/24/1990	7:03	9/24/1990	9:30	2.45	1475 62 ID FAN CONTROLS
	168 Oak Cree	k #6	L. T		NC	9/24/1990	22:45	9/25/1990	6:55	8.16	1475 ID FAN CONTROLS
521	168 Oak Creel	k #6			NC	9/25/1990	23:45	9/26/1990	5:15	5.5	1475 ID FAN CONTROLS
521	168 Oak Cree	k #6			NC	9/28/1990	21:50	9/29/1990	5:20	7.5	350 PULVERIZER FUEL & AIR PIPING

F01	1000-1-0		1	<u> </u>	0/00/4000	5.00	0/00/4000	14.45	2.41		VID #441 00 VIET 01 0
521	168 Oak Creek #6			VC	9/29/1990	5:20	9/29/1990		6.41		ID FAN CONTROLS
521	168 Oak Creek #6			VC	9/29/1990	11:45	9/30/1990		18.25		PULVERIZER FUEL & AIR PIPING
521	168 Oak Creek #6			J1	10/1/1990	19:51	10/1/1990		2.9		ID FAN CONTROLS
521	168 Oak Creek #6			SF	10/1/1990	22:45	10/4/1990		54.35		LP TURBINE TURNING GEAR & MTR
521	168 Oak Creek #6			<u>J1</u>	10/4/1990	6:32	10/4/1990		0.98	9900	OPERATOR ERROR
521	168 Oak Creek #6	•		U1	10/4/1990	18:53	10/4/1990	20:21	1.46	1475	#61 ID FAN CONTROLS
521	168 Oak Creek #6		t	J1	10/4/1990	22:58	10/4/1990	23:34	0.6	1475	ID FAN CONTROLS
521	168 Oak Creek #6	3	Į	J1	10/5/1990	6:15	10/5/1990	7:56	1.68	1475	ID FAN CONTROLS
521	168 Oak Creek #6		105 [D1	10/5/1990	7:56	10/5/1990		5.15	1475	ID FAN CONTROLS
521	168 Oak Creek #6			VC	10/5/1990	20:30	10/6/1990	5:30	9		PULVERIZER FUEL & AIR PIPING
521	168 Oak Creek #6			VC	10/6/1990	5:30	10/6/1990	8:24	2.9		FEEDWATER PUMP STEAM TURBINE
521	168 Oak Creek #6			J1	10/6/1990	8:24	10/6/1990		0.8		PULVERIZER CONTROL SYSTEMS
521	168 Oak Creek #6			VC	10/6/1990	9:12	10/6/1990	10:53	1.68		ID FAN CONTROLS
521	168 Oak Creek #6			J1	10/6/1990	10:53	10/6/1990	12:06	1.21		CONTROL VALVE PROBLEM
521	168 Oak Creek #6			VC	10/6/1990	12:06	10/6/1990	14:55	2.81		ID FAN CONTROLS
521	168 Oak Creek #6			J1	10/6/1990	14:55	10/6/1990	15:52	0.95		ID FAN CONTROLS
521	168 Oak Creek #6			NC	10/6/1990	15:52	10/7/1990	5:00	13.13		FEEDWATER PUMP STEAM TURBINE
521	168 Oak Creek #6			VC	10/7/1990	10:30	10/7/1990	14:50	4.33		ID FAN CONTROLS
521	168 Oak Creek #6			J1	10/8/1990	6:32	10/8/1990		0.53		ID FAN CONTROLS
521	168 Oak Creek #6			J1	10/8/1990	11:25	10/8/1990		0.58		ID FAN CONTROLS
521	168 Oak Creek #6		220 [10/9/1990	8:00	10/9/1990		5		CONDENSER TUBE FOULING
	168 Oak Creek #6			VC	10/9/1990				3.66		ID FAN CONTROLS
521 521	168 Oak Creek #6			VC	10/11/1990	0:55	10/11/1990	4:35 14:20	3.00		
521	100 Oak Creek #0	<u> </u>		VC	10/11/1990	12:20	10/11/1990	14:20		4299	OTHER HYDRAULIC SYS PROBLEMS
521	168 Oak Creek #6	<u>.</u>		J1	10/13/1990	7:35	10/13/1990	8:09	0.56	1710	COMBUSTION/STEAM CONDITION CTRL
521	168 Oak Creek #			VC	10/13/1990	20:20	10/14/1990		11.91		OTHER HTR PROBLEMS
<u> </u>				NC NC	10/13/1990	19:00					OTHER HTR PROBLEMS
521	168 Oak Creek #6						10/19/1990		1.88		
521	168 Oak Creek #6			J1	10/19/1990	20:53	10/19/1990		0.73		COMBUSTION CONTROLS
521	168 Oak Creek #6			NC	10/19/1990	21:37	10/22/1990		56.88		OTHER PULVERIZER PROBLEMS
521	168 Oak Creek #		150		10/22/1990	6:30	10/24/1990	12:00	53.5		OTHER PULVERIZER PROBLEMS
521	168 Oak Creek #6			NC	10/24/1990	12:00	10/25/1990		19		OTHER PULVERIZER PROBLEMS
521	168 Oak Creek #6			NC	11/10/1990	6:00	11/11/1990	15:40	33.66		OTHER PULVERIZER PROBLEMS
521	168 Oak Creek #6			NC	11/11/1990	15:40	11/12/1990		13.33		OTHER AIR HEATER PROBLEMS
521	168 Oak Creek #	5		NC	11/12/1990	20:40	11/13/1990	6:15	9.58	265	OTHER AIR HEATER PROBLEMS
				-		Í			ļ		
521	168 Oak Creek #		120 [12/4/1990	18:10	12/4/1990	19:45	1.58		CONDENSER TUBE FOULING TUBE SID
521	168 Oak Creek #			NC	12/7/1990	22:16	12/8/1990	12:00	13.73		OTHER PULVERIZER PROBLEMS
521	168 Oak Creek #6	3 *		J1	12/14/1990	15:58	12/14/1990	19:19	3.35		MAINTENANCE ERROR
521	168 Oak Creek #6			J1	12/14/1990	21:49	12/17/1990	12:00	62.18		FIRST SUPERHEATER
521	168 Oak Creek #			J1	12/17/1990	12:00	12/18/1990		17.6		HYDROGEN COOLERS HEAD LEAK
521 521 521 521 521 521	168 Oak Creek #6	6 000°	220 [12/20/1990	14:00	12/21/1990		32.63		UNIT COND. (HIGH SUPERHT TEMP
521	168 Oak Creek #6	3		RS	12/21/1990	22:38	12/26/1990	7:30	104.86		Reserve Shutdown
521	168 Oak Creek #6	3 •	1	MO	12/26/1990	7:30	12/30/1990	20:45	109.25	4261	CONTROL VALVE REPAIR
521	168 Oak Creek #6			RS	12/30/1990	20:45	12/31/1990		27.25		Reserve Shutdown
521	168 Oak Creek #			RS	1/1/1991	0:01	1/1/1991	5:06	5.08		Reserve Shutdown
, 521	168 Oak Creek #6		200 [1/2/1991	7:00	1/2/1991	17:00	10		UNIT CONDITIONS
تتتا	. 55 5 5.551. "			- :							

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521	168	Oak Creek #6	*	225		1/2/1991	17:00	1/3/1991	10:00	17		UNIT CONDITIONS
521	168	Oak Creek #6	*	235	1	1/3/1991	10:00	1/3/1991	23:30	13.5	1999	UNIT CONDITIONS
521	168	Oak Creek #6	*	220		1/7/1991	8:15	1/8/1991	0:01	15.76		WET COAL
521	168	Oak Creek #6			NC	1/12/1991	22:05	1/13/1991	2:22	4.28	340	OTHER PULVERIZER PROBLEMS
521	168	Oak Creek #6	•		U1	1/19/1991	6:07	1/19/1991	8:26	2.31	1799	OTHER CONTROL PROBLEMS
521	168	Oak Creek #6		-	U1	1/19/1991	8:42	1/19/1991	9:24	0.7	1799	OTHER CONTROL PROBLEMS
521	168	Oak Creek #6			NC	2/2/1991	21:00	2/3/1991	12:15	15.25	310	PULVERIZER PROBLEM
521	168	Oak Creek #6			NC	2/3/1991	12:15	2/3/1991	13:40	1.41	1470	ID FAN MOTOR
521	168	Oak Creek #6		1	NC	2/3/1991	13:40	2/4/1991	0:01	10.35	310	PULVERIZER PROBLEM
521	168	Oak Creek #6	•	160	D1	2/11/1991	6:10	2/12/1991	7:45	25.58	310	PULVERIZER PROBLEM
521	168	Oak Creek #6	•	160	D1	3/19/1991	6:15	3/19/1991	11:00	4.75	· 280	PULVERIZER FIRE
521	168	Oak Creek #6	•		RS	3/24/1991	6:14	3/24/1991	7:24	1.16	0	Reserve Shutdown
521	168	Oak Creek #6	•	215		3/25/1991	11:12	3/25/1991	12:07	0.91	1799	BLR CONTROL PROBLEMS
521	168	Oak Creek #6	•		RS	3/29/1991	4:20	4/1/1991	5:00	72.66	0	Reserve Shutdown
521	168	Oak Creek #6	000*	150	D1	4/2/1991	7:15	4/2/1991	7:40	0.41	1710	COMBUSTION CONTROLS
521	168	Oak Creek #6	000*	170		4/7/1991	18:45	4/8/1991	2:30	7.75	335	PULVERIZER LUB OIL SYSTEM
521		Oak Creek #6			RS	4/20/1991	2:43	4/22/1991	1:25	46.7		Reserve Shutdown
521	168	Oak Creek #6	000*	150		6/15/1991	7:00	6/17/1991	14:30	55.5		PULVERIZER LUBE OIL SYSTEM
521		Oak Creek #6			U1	6/22/1991	1:22	6/22/1991	4:26	3.06		OPERATOR ERROR
521		Oak Creek #6		 -	U1	6/22/1991	4:42	6/22/1991	8:30	3.8	4260	MAIN STOP VALVES
521	168	Oak Creek #6		T	U1	6/23/1991	0:12	6/23/1991	1:04	0.86	1710	COMBUSTION/STM CONDITION CTRLS
521		Oak Creek #6		107		7/31/1991	13:22	7/31/1991	14:55	1.55		FORCED DRAFT FAN MOTORS
521		Oak Creek #6		 	NC	8/3/1991	5:15	8/4/1991	20:50	39.58		61 MILL PULVERIZER
521		Oak Creek #6			RS	8/5/1991	22:45	8/12/1991	5:20	150.58		Reserve Shutdown
521	168	Oak Creek #6		 -	SF	8/12/1991	5:20	8/12/1991	9:48	4.46		FEEDWTR PUMP DRIVE MTR
521		Oak Creek #6		T	SF	8/12/1991	9:48	8/12/1991	22:20	12.53		ROTOR SHAFT
521		Oak Creek #6		180		8/13/1991	3:50	8/13/1991	19:00	15.16	270	62 MILL AIR INLET DAMPER
521	168	Oak Creek #6	000			9/19/1991	6:00	9/19/1991	8:50	2.83	1710	COMBUSTION CONTROLS
521		Oak Creek #6			NC	9/29/1991	0:01	9/29/1991	20:00	19.98		PULVERIZER LUBE OIL SYSTEM
521		Oak Creek #6		1	PO	10/4/1991	16:08	11/9/1991	10:54	858.76		PLANNED MAINTENANCE OUTAGE
521		Oak Creek #6		1	PO	11/9/1991	11:24	11/9/1991	12:29	1.08		OTHER HP FDWTR HTR PROBLEMS
521		Oak Creek #6		1	U1	12/2/1991	11:25	12/5/1991	7:46	68.35		GENERATING TUBE
521		Oak Creek #6		150		12/10/1991	14:35	12/10/1991	20:35	6		63 MILL AUX AIR FAN
521		Oak Creek #6			U1	1/5/1992	21:31	1/5/1992	22:30	0.98		HEATER LEVEL CONTROL
521		Oak Creek #6		180		2/3/1992	8:00	2/4/1992	12:15	28.25		OTHER PULVERIZER PROBLEMS
521		Oak Creek #6			RS	2/11/1992	0:21	2/11/1992	6:13	5.86		Reserve Shutdown
521		Oak Creek #6		+	U1	2/21/1992	1:34	2/21/1992	2:10	0.6		COMBUSTION CONTROLS
521		Oak Creek #6		180		2/24/1992	6:30	2/24/1992	10:00	3.5		OTHER PULVERIZER PROBLEMS
521	h	Oak Creek #6				3/2/1992	17:15	3/2/1992	22:00	4.75		OTHER PULVERIZER PROBLEMS
521		Oak Creek #6			NC	3/4/1992	23:00	3/6/1992	12:10	37.16		OTHER PULVERIZER PROBLEMS
521 521 521		Oak Creek #6		180		3/6/1992	12:10	3/8/1992	0:01	35.84		OTHER PULVERIZER PROBLEMS
521	1	Oak Creek #6		130	NC	3/6/1992	12:10	3/8/1992	0:01	35.84		OTHER PULVERIZER PROBLEMS
521		Oak Creek #6		-	NC	3/8/1992	0:01	3/9/1992	5:00	28.98		O HER PULVERIZER PROBLEMS
521		Oak Creek #6			RS	3/21/1992	3:04	3/21/1992	4:18	1.23		Reserve Shutdown
521		Oak Creek #6		-	NC	4/5/1992	5:00	4/5/1992	18:00	13		OTHER ID FAN PROBLEMS
521		Oak Creek #6			U1	4/9/1992	9:12	4/9/1992	10:15	1.04		FEEDWATER REGULATING VALVE
		GON WU			<u> </u>	+10/100E	0.14	1,0,1002	.0.10	1.04	J-100	

<u> </u>	460		10			110	4/4.4/4.000	0.04	444 444 000				
521		Oak Creek				NC	4/14/1992	0:01	4/14/1992	3:30	3.48	1420 FD FAN D	
521		Oak Creek		000*	178		4/14/1992	6:30	4/14/1992	8:45	2.25		ZED FUEL & AIR PIPING
521		Oak Creek		*		U1	4/20/1992	11:06	4/23/1992	7:51	68.75	1005 GENERAT	
521	168	Oak Creek	ŧ6	*		U1	5/7/1992	6:21	5/11/1992	0:16	89.91	1005 GENERAT	ING TUBE
521	168	Oak Creek	ŧ6	000*	220	D1	5/12/1992	7:00	5/13/1992	0:01	17.01	1999 UNIT CON	IDITIONS HI SPRHT TMPS
521	168	Oak Creek	ŧ6	000*	235	D1	5/13/1992	0:01	5/14/1992	0:01	24	1999 UNIT CON	IDITIONS HI SPRHT TMPS
521	168	Oak Creek	ŧ6	•		U1	5/16/1992	14:31	5/16/1992	15:40	1.15	1710 COMBUTS	SION CONTROLS
521	168	Oak Creek	ŧ6	000*	220	D1	6/1/1992	8:15	6/1/1992	11:30	3.25	250 PULVERIZ	ER FEEDER
52		Oak Creek		•		U1	6/13/1992	6:58	6/13/1992	8:38	1.66		MANAGEMENT SYSTEM
52		Oak Creek		*		U1	6/13/1992	18:31	6/14/1992	10:13	15.7		NCY GEN TRIP DEVICE
521		Oak Creek		000*	150		6/14/1992	10:13	6/14/1992	16:06	5.88		URE HTR TUBE LEAKS
521		Oak Creek		•		U1	6/14/1992	16:06	6/14/1992	17:35	1.48	3502 HTR LEVE	
521		Oak Creek		000*	150		6/14/1992	17:35	6/15/1992	11:10	17.58		URE HTR TUBE LEAKS
521	-1	Oak Creek		•		U1	6/18/1992	16:53	6/18/1992	21:51	4.96		OTECTIVE DEVICES
521		Oak Creek		*		U1	6/19/1992	1:13	6/19/1992	2:06	0.88		MANAGEMENT SYSTEM
521		Oak Creek				RS	6/22/1992	20:06	7/6/1992	1:07	317.01	0 Reserve S	- · · · · · · · · · · · · · · · · · · ·
		Oak Creek				U1	7/28/1992	15:43	7/28/1992	17:10	1.45		DILER CONTROL PROBLEMS
521													
521		Oak Creek				<u>U1</u>	7/29/1992	6:47	7/29/1992	10:30	3.71		MANAGEMENT SYSTEM
521		Oak Creek				RS	7/29/1992	10:30	7/30/1992	1:40	15.16	0 Reserve S	
521		Oak Creek	·	000*	180		7/29/1992	10:30	7/30/1992	1:40	15.16	380 BURNER L	
521		Oak Creek				RS	7/30/1992	1:40	8/9/1992	10:34	248.9	0 Reserve S	
521		Oak Creek #		000,	170		8/11/1992	4:00	8/11/1992	21:55	17.91	380 LIGHT-OF	
521		Oak Creek #		-		RS	8/12/1992	2:10	8/23/1992	7:56	269.76	0 Reserve S	
521		Oak Creek #		000*	150		8/24/1992	9:30	8/24/1992	23:00	13.5		ER COAL LEAK
521		Oak Creek #		•		U1	9/5/1992	22:48	9/6/1992	0:40	1.86	4302 TURBINE	
521	168	Oak Creek #	6 '			U1	9/6/1992	0:40	9/6/1992	0:56	0.26	1799 OTHER BO	DILER CONTROL PROBLEMS
			,						1		·		
521		Oak Creek				NC	9/6/1992	0:56	9/7/1992	18:00	41.06		URE FDWTR HTR TUBE LEAK
521	168	Oak Creek	ŧ6 '	•		U1	9/8/1992	2:02	9/8/1992	2:25	0.38		MANAGEMENT SYSTEM
521	168	Oak Creek	ł6			NC	9/11/1992	1:30	9/11/1992	6:00	4.5	3503 HEATER D	
521	168	Oak Creek	ŧ6 (000*	175	D1	9/22/1992	2:00	9/22/1992	17:11	15.18	340 OTHER PL	JLVERIZER PROBLEMS
521	168	Oak Creek	1 6 (000*	100	D1	9/22/1992	17:11	9/23/1992	11:15	18.06	250 PULVERIZ	ER FEEDERS
521	168	Oak Creek	ŧ6	000*	175	D1	9/23/1992	11:15	9/25/1992	5:00	41.75	340 OTHER PL	JLVERIZER PROBLEMS
521	168	Oak Creek	‡ 6			NC	9/26/1992	0:01	9/27/1992	0:01	24	340 OTHER PL	JLVERIZER PROBLEMS
52	1 168	Oak Creek	ŧ6	•		U1	10/31/1992	21:15	10/31/1992	22:12	0.95	1799 OTHER BL	R CONTROL PROBLEMS
521		Oak Creek		000*	186		11/2/1992	9:15	11/2/1992	10:00	0.75	250 PULVERIZ	
521		Oak Creek	~~~~	000*	170		11/3/1992	6:30	11/3/1992	7:30	1	380 LIGHT OF	
		Oak Creek		•		U1	11/13/1992	22:56	11/14/1992	4:38	5.7	280 PULVERIZ	
52 52 52 52		Oak Creek		000*	120		11/14/1992	4:38	11/14/1992	16:15	11.61	9270 WET COAL	
52		Oak Creek		•	: - =	U1	11/14/1992	16:15	11/14/1992	17:20	1.08		MANAGEMENT SYSTEM
52		Oak Creek		000*	130		11/14/1992	17:20	11/15/1992	18:30	25.16	9270 WET COAL	
52		Oak Creek		000	170		11/15/1992	18:30	11/16/1992	5:30	11	280 PULVERIZ	
52	1	Oak Creek		000	230		11/17/1992	16:30	11/17/1992	18:00	1.5		PRESSURE HTR PROBLEMS
52.		Oak Creek		•	200	PO	11/24/1992	6:24	12/27/1992	3:07	812.71		MAINTENANCE OUTAGE
52. 52.		Oak Creek		000*	150		12/30/1992	0:01	12/31/1992	5:00	28.98	310 PULVERIZ	
		Oak Creek				U1	12/30/1992		12/31/1992	20:16		9270 WET COAL	
52	1 108	Cak Cieek	10			UI	12/30/1992	19:42	12/30/1992	20.10	0.56	SZIU WEI COAL	

	521	168	Oak (Creek #6	000*	200	D1	12/31/1992	18:15	12/31/1992	20:00	1.75	9270	WET COAL
	521			Creek #6	000	215		1/2/1993	17:00	1/3/1993	5:00	12		ELECTROSTATIC PRECIP FOULING
- }-	521			Creek #6	000+	165		1/4/1993	7:00	1/6/1993	21:55	62.91		ELECTROSTATIC PRECIPS FOULING
	521			Creek #6	•		МО	1/6/1993	21:55	1/7/1993	4:09	6.23		ELECTROSTATIC PRECIPS FOULING
 	521			Creek #6	000*	200		1/8/1993	7:00	1/9/1993	0:37	17.61		ELECTROSTATIC PRECIPS FOULING
				Creek #6	1000		RS	1/9/1993	0:37	1/10/1993	6:37	30		Reserve Shutdown
	521			Creek #6			U1		15:45	1/10/1993	18:32	2.78		BURNER MANAGEMENT SYSTEM
	521			Creek #6	000*	140		1/10/1993		2/11/1993	18:35	34.33		PULVERIZER EXHAUSTER FAN DRIVE
.	521			Creek #6	000		U1	2/10/1993	8:15	2/11/1993	13:54	17.23		OTHER EXCITER PROBLEMS
	521 521			Creek #6	·		SF	2/24/1993 2/25/1993	20:40 14:15	2/25/1993	14:39	0.4		COMBUSTION CONTROLS
\vdash	521			Creek #6	000*	140		2/26/1993	8:00	2/26/1993	18:00	10		HEATER DRAIN VALVES
-	521			Creek #6	000*	140		3/4/1993	13:00	3/6/1993	21:00	56		HI PRESSURE HTR TUBE LEAKS
	521			Creek #6	000.	170		3/14/1993	14:00	3/14/1993	18:15	4.25		PULVERIZED FUEL & AIR PIPING
-	521			Creek #6	000	235		3/15/1993	<u></u> -	3/15/1993	13:30	5.5		BOILER CONTROL PROBLEMS
-	521			Creek #6	000-	170		3/18/1993	8:00 17:30	3/18/1993	21:00	3.5		PULVERIZER FEEDERS
	· - ·			Creek #6	000		NC	3/20/1993		3/20/1993	8:00	3.5		PULVERIZER MOTORS & DRIVES
- }	521				000*	170		3/20/1993	5:00 8:00	3/20/1993	14:00			PULVERIZER MOTORS & DRIVES
	521			Creek #6	000*		NC	3/20/1993		3/20/1993	6:30	40.5		PULVERIZER MOTORS & DRIVES
-	521			Creek #6 Creek #6	000*	180		3/20/1993	14:00 6:30	3/22/1993	9:20	26.83		PULVERIZER MOTORS & DRIVES
}-	521 521				1000		U1	3/28/1993		3/23/1993	3:23	1.95		COMBUSTION CONTROLS
-				Creek #6	000*				1:26					
	521			Creek #6	000	140		3/31/1993	13:00	3/31/1993	18:30	5.5		PULVERIZER FEEDER PULVERIZER FEEDER
	521			Creek #6	-	170		4/2/1993	4:00	4/2/1993	5:00	1		
	521			Creek #6		170		4/2/1993	5:00	4/5/1993	7:30	74.5		WET COAL, MILL PLUGGED 62 MILL
-	521			Creek #6			RS	4/10/1993	2:16	4/10/1993	3:56	1.66		Reserve Shutdown
<u> </u>	521			Creek #6			NC	4/10/1993	2:16	4/12/1993	6:00	51.73		HI PRESSURE HTR HEAD LEAK
	521			Creek #6	-	140		4/12/1993	12:40	4/12/1993	15:00	2.33		FD FAN DRIVES
-	521			Creek #6	-		U1	4/20/1993	14:45	4/20/1993	15:37	0.86		CIRCULATING WATER VALVES
-	521			Creek #6	1.		NC	4/25/1993	0:01	4/25/1993	16:30	16.48		PULVERIZER MOTORS & DRIVES
	521			Creek #6			RS	5/11/1993	22:55	5/16/1993	1:00	98.08		Reserve Shutdown
- 1-	521	168	Oak	Creek #6	ļ -		SF	5/16/1993	1:00	5/20/1993	21:52	116.86	4260	MAIN STOP VALVES
		4.00			_			0/0/4000		0.011.000				OTHER COAL FUEL SUPPLY
-	521			Creek #6		225		6/8/1993	10:50	6/8/1993	11:30	0.66		PROBLEMS
_	521			Creek #6	1		RS	6/16/1993	0:05	6/16/1993	2:52	2.78		Reserve Shutdown
-	521			Creek #6			RS	6/26/1993	0:44	6/30/1993	1:30	96.76		Reserve Shutdown
]	521			Creek #6	-		U1	7/7/1993	13:02	7/7/1993	14:22	1.33		OTHER DC POWER PROBLEMS
1	521			Creek #6	000*	140		7/7/1993	19:00	7/8/1993	5:20	10.33		OTHER HP FDWTR PROBLEMS
	521			Creek #6	000*	225		8/13/1993	11:30	8/13/1993	15:00	3.5		WET COAL
	521			Creek #6	•		RS	9/4/1993	0:37	9/7/1993	0:29	71.86		Reserve Shutdown
S	521	168	Oak !	Creek #6			U1	9/7/1993	2:20	9/7/1993	2:51	0.51		FDWTR REGULATING VALVE
È	521			Creek #6			NC	9/18/1993	7:00	9/20/1993	7:00	48		OTHER PULVERIZER PROBLEMS
P.	521			Creek #6			NC	9/20/1993	7:00	9/21/1993	16:00	33		OTHER PULVERIZER PROBLEMS
0	521			Creek #6	000*	185		10/4/1993	7:30	10/4/1993	8:00	0.5		COMBUSTION CONTROLS
WEPCO 40071	521			Creek #6			NC	10/9/1993	16:00	10/10/1993	8:00	16		OTHER PULVERIZER PROBLEMS
71	521	168	Qak	Creek #6	•		RS	11/5/1993	22:25	11/8/1993	2:54	52.48		Reserve Shutdown
	521	168	Oak	Creek #6	000*	220	D1	11/9/1993	3:00	11/9/1993	21:00	18		BOILER MISCELLANEOUS
	521	168	Oak	Creek #6			NC	11/13/1993	0:01	11/14/1993	19:45	43.73	3310	CONDENSATE/HOTWELL PUMPS

											·
52		Oak	Creek #6	000*	170 D1	12/23/1993	4:45	12/24/1993	16:40	35.91	340 OTHER PULVERIZER PROBLEMS
52	1 168	Oak	Creek #6		U1	12/27/1993	11:47	12/27/1993	12:57	1.16	9910 ELECT. MAINT. ERROR CAUSED MFT
	-										ELECTROSTATIC PRECIPITATOR
52	1 168	Oak	Creek #6	000*	115 D1	1/24/1994	16:15	1/25/1994	1:00	8.75	8560 PROBLEMS
52	1 168	Oak	Creek #6	•	RS	1/29/1994	21:38	1/30/1994	14:31	16.88	0 Reserve Shutdown
52		Oak	Creek #6	•	U1	1/30/1994	17:05	1/30/1994	17:24	0.31	1750 BURNER MANAGEMENT SYSTEM
52	1 168	Oak	Creek #6		RS	2/6/1994	7:33	2/6/1994	10:57	3.4	0 Reserve Shutdown
52	1 168	Oak	Creek #6	000*	150 D1	2/10/1994	6:25	2/10/1994	12:00	5.58	250 PULVERIZER FEEDERS
52			Creek #6		NC	2/18/1994	23:00	2/20/1994	10:00	35	340 OTHER PULVERIZER PROBLEMS
52			Creek #6	000*	140 D1	2/26/1994	10:20	2/28/1994	14:00	51.66	3440 HI PRESSURE HTR TUBE LEAKS
52			Creek #6	000*	215 D1	3/23/1994	6:30	3/28/1994	4:10	117.66	345 PULVERIZER OVERHAUL
52			Creek #6		RS	3/31/1994	23:21	4/3/1994	21:05	69.73	0 Reserve Shutdown
52			Creek #6	-	МО	4/26/1994	23:50	5/1/1994	16:48	112.96	1040 FIRST SUPERHEATER
52			Creek #6	000*	210 D1	5/4/1994	7:00	5/4/1994	18:00	11	1999 BOILER MISCELLANEOUS
52			Creek #6		NC	5/21/1994	0:01	5/22/1994	14:30	38.48	310 PULVERIZER MILLS
52			Creek #6		RS	5/22/1994	0:27	5/22/1994	1:33	1.1	0 Reserve Shutdown
52			Creek #6	•	U1	5/23/1994	12:49	5/23/1994	14:13	1.4	1799 OTHER CONTROL PROBLEMS
52			Creek #6		U1	5/23/1994	15:11	5/23/1994	15:37	0.43	1799 OTHER CONTROL PROBLEMS
52			Creek #6		<u>U1</u> -	5/23/1994	16:25	5/23/1994	16:44	0.31	380 LIGHT OFF SYSTEM
52			Creek #6		U1	5/23/1994	17:33	5/23/1994	17:50	0.28	380 LIGHT OFF SYSTEM
$-\frac{52}{52}$			Creek #6		U1	5/23/1994	20:20	5/23/1994	20:46	0.43	380 LIGHT OFF SYSTEM
52			Creek #6		U1	5/24/1994	9:04	5/24/1994	10:14	1.16	9900 OPERATOR ERROR
52			Creek #6	- 	RS	5/26/1994	23:40	5/30/1994	18:20	90.66	0 Reserve Shutdown
52			Creek #6		ns U1	7/7/1994	23.40 0:15	7/7/1994	2:00	1.75	1400 FORCED DRAFT FAN
52			Creek #6		U1	7/7/1994	2:00	7/7/1994	16:50	14.83	4410 TURNING GEAR AND MOTOR
52			Creek #6		NC	7/9/1994	0.01	7/11/1994	6:00	53.98	3439 HP FDWTR HTR HEAD LEAKS
52			Creek #6	000*	165 D1	7/29/1994	13 00	7/11/1994	21:10	8.16	3440 HP FDWTR HTR TUBE LEAKS
52			Creek #6		RS	7/29/1994	21:10	8/1/1994	4:47	55.61	0 Reserve Shutdown
	1		Creek #6	000*	130 D1	8/4/1994	21:00	8/5/1994	12:00	15	310 PULVERIZER MILL
52 52						-		8/9/1994	22:00	5.66	3112 COND. TUBE FOULING TUBE SIDE
52			Creek #6 Creek #6	000.	190 D1 ∫U1	8/9/1994 8/18/1994	16:20 5:18	8/22/1994	0:01	90.71	4520 STATOR WINDINGS
			Creek #6		PO	8/22/1994	0:01	10/10/1994	8:14	1184.21	4520 PLANNED ANNUAL OUTAGE
52					U2	10/10/1994	21:48	10/11/1994	17:02	19.23	3832 AUX STEAM VALVES
52			Creek #6 Creek #6		U1	10/17/1994	23:05	10/11/1994	5:53	6.8	1710 COMBUSTION CONTROLS
52									2:09	93.73	4260 MAIN STOP VALVES
52			Creek #6		MO_	10/21/1994	4:25 15:46	10/25/1994	16:39	0.88	3412 FEEDWATER PUMP DRIVE TURBINE
52			Creek #6		U1	11/1/1994		11/1/1994			340 OTHER PULVERIZER PROBLEMS
52			Creek #6	0001	U1	11/3/1994	23:38	11/4/1994	0:53	1.25	
_ 52			Creek #6	000*	140 PD	12/6/1994	15:00	12/7/1994	6:25	15.41	3441 OTHER HP HEATER PROBLEMS 310 PULVERIZER MILLS
≨ 52			Creek #6	000*	140 D1	1/10/1995	3:00	1/10/1995	14:30	11.5	
52 52 52 52 52 52			Creek #6	000*	140 D1	1/23/1995	9:10	1/23/1995	10:15	1.08	205 PULVERIZER EXHAUSTER FAN DRIVE 3271 INTAKE GRATING FOULING
52			Creek #6		U1	3/1/1995	3:42	3/1/1995	7:31	3.81	
52			Creek #6	000*	200 D1	3/1/1995	18:00	3/1/1995	22:00	400.45	1850 BOILER WATER CONDITION
40072 52			Creek #6		MO	3/7/1995	5:24	3/12/1995	5:51	120.45	4613 L.S. GENERATOR HYDROGEN SEALS
52			Creek #6		SF	3/12/1995	5:51	3/12/1995	21:45	15.9	520 MAIN STEAM DRAIN LINE LEAK
52			Creek #6		U1	4/13/1995	18:15	4/16/1995	11:00	64.75	1080 ECONOMIZER LEAK
52	1 16	Oak	Creek #6		U2	4/19/1995	12:36	4/22/1995	0:02	59.43	1005 STEAM GENERATING TUBE

521	168 Oak (Creek #6	•		U1	4/23/1995	0:08	4/23/1995	1:30	1.36	9900	OPERATOR ERROR
521	168 Oak (Creek #6	•		SF	4/23/1995	1:30	4/23/1995	5:45	4.25		AIR EJECTOR PIPING & VALVES
521	168 Oak (Creek #6	000*	150		4/26/1995	6:50	4/26/1995	7:30	0.66		LOSS OF IGNITOR SCAN
521	168 Oak (Creek #6	000*	140		5/10/1995	16:40	5/11/1995	12:30	19.83		PULVERIZER FEEDER
521	168 Oak (•		RS	6/8/1995	19:06	6/11/1995	20:28	73.36		Reserve Shutdown
521	168 Oak (000*	150	+	8/11/1995	10:57	8/12/1995	3:30	16.54		FEEDWATER PIPING
521	168 Oak (000*	210	1	8/18/1995	7:00	8/19/1995	7:00	24		WET COAL
521	168 Oak (000*	210		8/20/1995	17:30	8/21/1995	15:30	22		WET COAL
521	168 Oak (000.	140		8/24/1995	14:50	8/24/1995	18:30	3.66		PULVERIZED FEEDER
521	168 Oak (<u> </u>	U1	9/8/1995	9:59	9/8/1995	10:29	0.5		CIRCULATING WATER VALVES
521	168 Oak (U1	9/8/1995	14:48	9/8/1995	15:29	0.68		FEEDWATER PUMP DRIVE TURBINE
521	168 Oak (000*	180		9/14/1995	6:00	9/14/1995	17:09	11.15		62 MILL DRIVE SYSTEM
521	168 Oak 0		•		U1	10/11/1995	23:24	10/11/1995	23:52	0.46		TURBINE TRIP DEVICE
521	168 Oak (000*	170		10/13/1995	6:15	10/13/1995	22:25	16.16		62B BURNER PROBLEM
521	168 Oak 0		*		RS	10/13/1995	22:25	10/15/1995	18:34	44.15		Reserve Shutdown
521	168 Oak (000*	185		10/16/1995	17:00	10/17/1995	13:30	20.5		OTHER PULVERIZER PROBLEMS
521	168 Oak 0		•		<u>U1</u>	10/18/1995	7:15	10/20/1995	23:00	63.75		STEAM GENERATING TUBE
521	168 Oak 0		•		PO	10/20/1995	23:00	11/4/1995	16:48	353.8		BOILER OVERHAUL
521	168 Oak (000-	140	l	11/11/1995	15:58	11/12/1995	13:30	21.53		PULVERIZER MILLS
521	168 Oak 0		- 000		МО	11/23/1995	6:03	11/26/1995	11:45	77.69		STACK OUTAGE
521	168 Oak 0		000*	130		11/28/1995	6:00	11/28/1995	8:30	2.5		OTHER MILL PROBLEMS
521	168 Oak C		000*	115		12/18/1995	16:00	12/18/1995	18:30	2.5		ELECTROSTATIC PRECIP PROBLEM
521	168 Oak C		000*	115		12/20/1995	14:45	12/20/1995	17:00	2.25		ELECTROSTATIC PRECIP PROBLEMS
521	168 Oak C		•		RS	12/24/1995	0:27	12/29/1995	10:12	129.75		Reserve Shutdown
521	168 Oak 0		-\ <u>.</u>		U1	12/29/1995	21:00	12/31/1995	23:59	50.98		SECOND SUPERHEATER
521	168 Oak 0		1.		U1	1/1/1996	0:00	1/1/1996	5:08	5.13	1050	SECOND SOFEMENTER
521	168 Oak (000*	175		1/1/1996	5:08	1/3/1996	0:00	42.86	1999	
521	168 Oak (000.	200		1/3/1996	0:01	1/3/1996	7:30	7.48	1999	
521	168 Oak (•	200	U1	1/10/1996	5:45	1/29/1996	0:01	450.26	4520	
521	168 Oak (PO	1/29/1996	0:01	2/26/1996	23:59	695.96	4520	oil
521	168 Oak (-		МО	2/27/1996	0:01	4/17/1996	19:53	1195.86	4520	
521	168 Oak (000*	100		4/18/1996	19:30	4/19/1996	9:00	13.5	3310	
521	168 Oak (•	100	U1	4/20/1996	12:21	4/20/1996	17:39	5.3	3521	
521	168 Oak (1.		U1	4/20/1996	20:42	4/20/1996	5:06	32.4	3521	
521	168 Oak (1.		U1	5/11/1996	2:38	5/11/1996	9:40	7.03	4309	nil
521	168 Oak (000*	90	D1	5/19/1996	9:00	5/19/1996	13:00	7.03	1471	
521	168 Oak (1000	-30	U1	5/22/1996	4:54	5/22/1996	5:32	0.63		Normal
521	168 Oak (<u> </u>	U1	6/5/1996	5:51	6/5/1996	6:24	0.55	3412	
521	168 Oak (- ,		U1 -	6/11/1996		6/13/1996	0:36	38.41	1080	the state of the s
521	168 Oak (U1	7/24/1996	10:11	7/24/1996	21:49	3.33	1471	1111
521	168 Oak (000*		← · · · · −							
521	168 Oak (000*		D1	7/24/1996 7/25/1996	21:49	7/25/1996	11:00 10:21	13.18 70.35	1488 1488	
521	168 Oak (000*	220 220		7/28/1996	12:00 10:21	7/28/1996 7/28/1996			1488 1488	1111
521 521	168 Oak (000*	140		7/28/1996		7/28/1996	21:05 18:45	10.73 11.75	1488 3441	nit
521	168 Oak (000*		·	8/9/1996	7:00				3440	
521	168 Oak (130	4 may 1 1	alamana and a second second	5:00	8/10/1996	22:34	41.56		
521	TOO Cak	Cleek #6	000*	160	וטו	8/12/1996	13:30	8/12/1996	14:45	1.25	330	

										 				,
	21		Oak Cree		000*	85	D1	9/13/1990		9/14/1996	22:55	40.91	3112	
5	21	168	Oak Cree	ek #6	•		U1	9/14/199		9/15/1996	16:45	17.83	3112	
5	21	168	Oak Cree	ek #6	•		U1	9/17/199	5:53	9/17/1996	7:43	1.83	3412	
	21	168	Oak Cree	ek #6	000*	100	D1	9/17/199	13:30	9/18/1996	10:53	21.38	3112	nil
,	21		Oak Cree		000*	200		9/18/199		9/18/1996	20:00	9.11	3112	
	21		Oak Cred		000*	100		9/19/199		9/19/1996	11:00	3	360	
	21		Oak Cree		000-	200		9/19/1990		9/20/1996	0:01	10.01	3112	
	21	160	Oak Cree	ok #6	- 000		U1	9/25/1990		9/26/1996	4:02	12.06	280	
	21		Oak Cree		000*	90		9/26/1990		10/1/1996	10:00	125.96	280	
			Oak Cree		- 000	90	U2				20:30		360	
	21						U2 U1	10/1/1990		10/1/1996		7		
	21		Oak Cree					10/1/1990		10/2/1996	4:10	7.66	410	
	21	168	Oak Cree	9K #6	000*	85		10/2/1990		10/2/1996	12:30	5.5	338	
			Oak Cree		000*	190		10/7/1990		10/8/1996	2:30	6.91	3112	
	21		Oak Cree		000*	100		10/10/1996		10/11/1996	3:00	19.5	3112	
	21		Oak Cree		000*	120	D1	10/18/1996		10/18/1996	10:30	3	310	
5	21	168	Oak Cree	ek #6	*		U1	10/25/1990	3 2:36	10/25/1996	8:36	6	1799	
5	21	168	Oak Cree	ek #6	•		U1	10/25/1996	8:36	11/17/1996	22:50	566.23	1060	
5	21	168	Oak Cree	ek #6	•		U1	11/27/1996	13:58	11/27/1996	18:00	4.03	9900	
	21		Oak Cree		000*	140		12/2/1996		12/2/1996	15:10	0.66	3950	
5			Oak Cree				U1	12/12/1996		12/16/1996	1:23	92.4	1060	
	21		Oak Cree		000*	180		12/17/1996		12/23/1996	22:31	164.1	310	
	21		Oak Cree		- 000		U1	12/23/1996		12/25/1996	2:34	28.05	1060	
	21		Oak Cree		000*	180		12/25/1996		12/26/1996	5:15	26.68	310	
	21		Oak Cree		00*0	150		1/16/1997		1/16/1997	13:30	10.75		Pulverizer Feeder
					00 0			1/24/1997		1/31/1997	23:59	178.83		Stator Windings
	21		Oak Cree		- 		U1							
	21		Oak Cree				PO	2/1/199		5/31/1997	22:40	2878.65		Rebuild 74 Mill Rollers
	21		Oak Cree		00*0	120		5/31/1997		6/2/1997	20:30	45.83		Pulverizer Overhaul
52	21	168	Oak Cree	9k #6			МО	7/7/1997	7 16:41	7/7/1997	18:06	1.41	4460	Turbine Overspeed Trip Test
								}						
5	21		Oak Cree		•		МО	7/8/1997		7/12/1997	2:22	98.15		Hydrogen Cooling System Pipin g & Valves
5	21		Oak Cree		00.0	130		7/22/1997		7/22/1997	6:50	1.83		Electrotatic Precipitator Pro blems
5	21	168	Oak Cree	ek #6	00.0	103	D1	8/4/1997	7 23:00	8/6/1997	4:00	29		Condenser Tube Fouling
5	21	168	Oak Cree	ek #6			U1	9/27/1997	7 23:34	9/28/1997	1:06	1.53	410	Burner Problems
5	21	168	Oak Cree	ek #6	•		U1	10/13/1997	0:21	10/13/1997	1:03	0.7	410	Burner Problems
	21	168	Oak Cree	ek #6	•		U2	10/16/1997	7 21:38	10/21/1997	9:16	107.63	3110	Condenser Tube Leak
1-											<u> </u>			63 Mill Out of Service Due to Fire in Coal
52	21	168	Oak Cree	ek #6	00.0	120	D1	10/26/1997	7 10:00	10/26/1997	15:00	5	90	Silo
									1					63 Mill out of Service Due to Fire in Coal
_	21	168	Oak Cree	ek #6	00*0	160	D1	10/26/1997	15:00	10/27/1997	8:17	17.28		Silo
>	21		Oak Cree			- :00	U1	10/27/1997		10/31/1997	22:00	109.71		Boiler Tube Leak
원 - 왕	21		Oak Cree		00*0	110		11/3/1997		11/4/1997	6:20	10.33	340	Pulverizer Exhauster Fan Drive - 63 Mill
G	- ! -		Oak Ole	- TO	- 000	-110	<u> </u>	11/3/199/	20.00	11/4/133/	0.20	10.33		Other coal Supply Problems Up Through
_ 	ا د	100	Oak Cas	ol. HC	00*0	440	D4	44/4/400	17.00	11/4/1007	19:00	4 =		Coal Bunkers
40074	21	าเอล	Oak Cree	UK #O	00.0	110	וט	11/4/199	7 17:30	11/4/1997	19:00	1.5		
		400	O-1. O	al. #C				4.104.00		44/00/400=	0.54	004.40		Reheat Steam Piping Up to Turb ine Stop
	21		Oak Cree				MO	11/8/199		11/23/1997	6:54	364.16		Valves
_5:	21	168	Oak Cree	ek #6	00*0	120	וטן	11/25/199	7 4:30	11/25/1997	6:30	2	3420	Feedwater PipIng

521	168	Oak Creek #6	•		U1	12/3/1997	3:20	12/3/1997	3:51	0.51	410	Burner Problems
521		Oak Creek #6	00*0	93		12/4/1997	6:00	12/5/1997	4:48	22.8		Pulverizer Feeders
		Oak Creek #6	•		U1				5:11			
521		Oak Creek #6			U1	12/5/1997	4:48	12/5/1997		0.38		Burner Problems
521						12/20/1997	17:28	12/30/1997	16:40	239.2	1040	First Superheater
521	168	Oak Creek #6	00*0	190	PU _	1/13/1998	16:00	1/17/1998	5:07	85.11	9250	Test Burn 100% PRB Coal
							}			i		Automatic Turbine Control System
521		Oak Creek #6			U1	1/17/1998	5:07	1/17/1998	5:43	0.6		Mechanical Hydraulic
521		Oak Creek #6	00.0	190		1/17/1998	5:43	1/23/1998	18:00	156.28		Test Burn 100% PRB Coal
521		Oak Creek #6	00*0	120		1/25/1998	0:01	1/25/1998	21:00	20.98		Heater Drain Piping
521		Oak Creek #6			U1	2/10/1998	9:17	2/18/1998	9:04	191.78		Boiler Tube Leak
521		Oak Creek #6	00*0	165		2/19/1998	7:45	2/24/1998	15:00	127.25		Other Pulverizer Problems
521	168	Oak Creek #6			U1_	3/20/1998	18:17	3/20/1998	21:13	2.93	4302	Other Turbine Control Problems
												Boiler Tripped On Fan Excursion Suspect
521		Oak Creek #6	<u> </u>		U1	3/31/1998	8:13	3/31/1998	9:28	1.25		Control Problem for Fans
521		Oak Creek #6	*		U1	4/3/1998	0:49	4/3/1998	1:13	0.4		Burner Problems
521	168	Oak Creek #6	•		MO	4/29/1998	22:58	5/3/1998	10:58	84	8551	Repair Precipitator
												Hydraulic System Problems Sluggish
521		Oak Creek #6	00*0	196	D1	5/4/1998	6:08	5/4/1998	8:00	1.86	4293	Unloader Valve
521		Oak Creek #6	00*0	135		5/8/1998	13:50	5/8/1998	15:30	1.66		63 Feeder Trip
521		Oak Creek #6	•		U1	5/27/1998	0:35	5/27/1998	1:29	0.9		Other Burner Problems
521		Oak Creek #6	00*0	145		6/14/1998	15:42	6/14/1998	16:10	0.46		Forced Draft Fan Drive Controls
521		Oak Creek #6	00*0	220		7/5/1998	11:30	7/5/1998	17:00	5.5	3210	Curculating Water Pump
521		Oak Creek #6	00*0	130		8/4/1998	17:15	8/4/1998	21:00	3.75	310	63 Mill Trip
521		Oak Creek #6	00*0	180		8/4/1998	21:14	8/4/1998	22:00	0.76		63 Feeder Trip
521		Oak Creek #6	00*0	220		8/5/1998	9:45	8/5/1998	19:00	9.25		Wet Coal
521	168	Oak Creek #6	00*0	220	D1	8/6/1998	10:00	8/6/1998	18:51	8.85	110	Wet Coal
521	168	Oak Creek #6	00*0	150	D1	8/6/1998	18:51	8/6/1998	20:30	1.65	340	62A Exhauster Coal Leak
521	168	Oak Creek #6	00*0	220	D1	8/16/1998	7:00	8/16/1998	23:30	16.5	3199	Condenser Back Pressure
521	168	Oak Creek #6	00*0	220	D1	8/17/1998	8:00	8/17/1998	22:00	14	3199	Condenser Back Pressure
521	168	Oak Creek #6	00.0	220	D1	8/18/1998	6:00	8/19/1998	23:30	41.5	3199	Condenser Back Pressure
521		Oak Creek #6	00.0	150	D1	8/23/1998	7:45	8/24/1998	2:45	19	300	Pulverizer Motor and Drives
521		Oak Creek #6	00*0	180	D1	8/24/1998	16:30	8/27/1998	6:55	62.41	60	Coal Crushers Including Motor
521		Oak Creek #6	00.0	130	D1	8/27/1998	6:55	8/27/1998	7:30	0.58	3441	Feedwater Heater
521		Oak Creek #6	00*0	225	D1	8/27/1998	7:30	8/31/1998	5:00	93.5	3199	Condenser Back Pressure
521	168	Oak Creek #6	00*0	150		9/2/1998	10:25	9/2/1998	12:50	2.41	3441	7A High Pressure Htr Level High
521		Oak Creek #6	•		МО	9/4/1998	22:12	9/8/1998	11:58	85.76	1000	Repair Tube Leak
521		Oak Creek #6	00*0	160	D3	9/11/1998	22:00	9/13/1998	16:15	42.25	330	62 Exhauster - Leak Repair
521		Oak Creek #6	-		U1	9/14/1998	8:04	9/14/1998	11:56	3.86	3261	Traveling Screen Fouling
521	168	Oak Creek #6	00*0	190	D1	9/14/1998	11:56	9/14/1998	23:00	11.06	1850	Boiler Water Condition
		Oak Creek #6	•		U1	9/15/1998	15:45	9/15/1998	18:00	2.25		Traveling Screen Fouling
521 521 521 521 521 521		Oak Creek #6			U1	9/17/1998	18:40	9/17/1998	20:31	1.85		Burner Problems
521		Oak Creek #6	00.0	125		9/18/1998	10:25	9/18/1998	11:30	1.08		Other Heater Drain System Problems
521		Oak Creek #6	00.0	180	D1	9/21/1998	13:35	9/21/1998	23:59	10.4	8550	Precip Fouling
521		Oak Creek #6	00.0	230		9/22/1998	8:18	9/25/1998	13:40	77.36	8550	Precip Fouling
521		Oak Creek #6	00.0	210		10/8/1998	14:11	10/9/1998	6:30	16.31	8550	Precip Fouling
521	168	Oak Creek #6	00.0	115		10/9/1998	16:30	10/10/1998	1:05	8.58	1850	High Silica in Boiler Water
<u> </u>		OIGER #U	100 0	- 13	~ .	10/0/1000	, 5,00	10/10/1990	1.00	0.00	.000	1 1.3.1 -11104 111 501101 774101

	521	168 C	ak Creek #6	1.		U3	10/10/1998	1:05	10/10/1998	8:05	7	8550	Precip Fouling
-	521		ak Creek #6	•		UЗ MO	10/23/1998	22:09	10/26/1998	21:12	71.05		Install Trailling Edge Rappers in Precips
													Low Speed Generator-Inboard Hydrogen
	521	168 C	ak Creek #6	•		UЗ	10/28/1998	23:35	11/2/1998	12:38	109.05	4613	Seal Has Excessive Leakage
	521		ak Creek #6	00*0	125		11/3/1998	8:00	11/3/1998	10:27	2.45		Igniters
-	521		ak Creek #6	00*0	145		11/14/1998	14:15	11/14/1998	21:30	7.25		Feedwater Heater Valves
	521		ak Creek #6	00*0	120		11/19/1998	5:00	11/20/1998	20:48	39.8		64A Feedwater Htr Leak
	521		ak Creek #6		120	U2	11/20/1998	20:48	11/22/1998	23:34	50.76		Burner Windbox Fire At IBI Burner
- }	521		ak Creek #6	00.0	160		11/23/1998	9:00	11/23/1998	15:00	6		Pulverizer Coal Leak
-	521		ak Creek #6	00.0	160	D1	12/6/1998	14:31	12/7/1998	4:54	14.38		Frecip Fouling
} .	521		ak Creek #6	00*0	225		12/7/1998	4:54	12/19/1998	0:01	283.11		Precip Fouling
-	521		ak Creek #6	00.0	230		12/21/1998	7:00	12/21/1998	7:01			Precip Fouling
-	521		ak Creek #6		170	D1	1/4/1999	5:40	1/5/1999	4:50	23.16		Pulverizer Feeder
	521		ak Creek #6	*	1/0	U1	1/8/1999	17:53	1/11/1999	2:35	56.7		Economizer
			ak Creek #6		··	MO	1/15/1999	1:42	1/18/1999	15:50	86.13		Superheater Leak
	521		ak Creek #6		91		1/18/1999		1/23/1999	14:30			
_	521							19:19			115.18		62 FD Fan Transformer Overheating
-	521		ak Creek #6		110		1/24/1999	7:40	1/28/1999	6:00	94.33		Precipitator Fouling High Opacity
	521		ak Creek #6	- -	470	U1	2/5/1999	4:00	2/5/1999	4:34	0.56		Turbine Trip Devices
	521		ak Creek #6		175		2/23/1999	13:00	2/24/1999	5:30	16.5		Precipitator Fouling
	521		ak Creek #6		120		2/25/1999	14:00	2/25/1999	18:00	4		Precipitator Fouling
	521		ak Creek #6			U1	2/26/1999	0:03	2/26/1999	0:21	0.3		Turbine Trip Device
<u> </u>	521		ak Creek #6		220		3/4/1999	7:00	3/4/1999	23:50	16.83		Precip Fouling
	521		ak Creek #6			U1	3/4/1999	23:50	3/5/1999	0:28	0.63		Unit Trip - Loss of Aux Cond Vacuum
_	521		ak Creek #6			PO	3/13/1999	0:25	4/24/1999	15:49	1023.4		Planned Maintenance Outage
	521		ak Creek #6			PO	4/24/1999	17:22	4/24/1999	19:02	1.66		Loss of 62 Mill Due to Flame Scanner
	521		ak Creek #6			МО	4/27/1999	0:40	5/2/1999	13:04	132.39		Repair Feedwater Tie Valves (U5 to U6)
1	521		ak Creek #6		125		5/10/1999	17:45	5/11/1999	4:00	10.25		Pulverizer Coal Leak
	521		ak Creek #6	•	95		5/15/1999	9:00	5/16/1999	19:03	34.05		Hotwell Level Controls
	521		ak Creek #6	•		U1	5/19/1999	5:41	5/19/1999	6:28	0.78		Unit Trip Loss of Aux Cond Vacuum
	521	168 O	ak Creek #6	*		U1	5/26/1999	12:00	5/26/1999	14:00	2		Traveling Water Screen Fouling
	521	168 C	ak Creek #6	*	135	D1	6/3/1999	8:30	6/3/1999	13:00	4.5		Feedwater Heater Relief Valve
	521	168 C	ak Creek #6	•		U1	6/5/1999	3:28	6/5/1999	4:27	0.98	3653	UPS power to Service Building
-	521	168 C	ak Creek #6	•		U1	6/5/1999	4:34	6/5/1999	4:46	0.2	380	2A Exhauster - Flame Failure
-	521	168 C	ak Creek #6	•	. 215	D1	6/7/1999	7:00	6/9/1999	0:23	41.38	1350	High Steam Temp - Back Pass Plugging
-	521		ak Creek #6	•		МО	6/9/1999	0:23	6/9/1999	5:33	5.16	520	Other Main Steam Valves
1-	521	168 C	ak Creek #6	•	185	D1	6/9/1999	5:33	6/9/1999	13:30	7.95	1350	High Steam Temp - Back Pass Plugging
	521	168 C	ak Creek #6	•	235		6/9/1999	13:30	6/9/1999	22:00	8.5	1350	High Steam Temp - Back Pass Plugging
	521		ak Creek #6	•	235		6/10/1999	6:00	6/10/1999	13:35	7.58		High Superheat Temperatures
S	521	168 C	ak Creek #6	•		PO	6/19/1999	22:00	6/20/1999	15:00	17	3110	Condenser Tube Leak
Ë	521	168 C	ak Creek #6	*	150	D1	6/21/1999	7:30	6/22/1999	8:05	24.58	300	63 Mill Motor Electrical Problems
Č	521	168 C	ak Creek #6		215	D1	7/4/1999	9:20	7/5/1999	9:00	23.66		Extraction Steam Valves
Ó	521	168 C	ak Creek #6	-		U1	7/9/1999	14:45	7/10/1999	18:30	27.75	8590	Other Precipitator Problems
WEPCO 40076	521		ak Creek #6	•		RS	7/10/1999	18:30	7/11/1999	13:49	19.31	0	Reserve Shutdown
176	521		ak Creek #6			UĪ	7/20/1999	3:39	7/20/1999	4:17	0.63		Turbine Trip Devices
	521		ak Creek #6		200		7/24/1999	6:00	7/24/1999	21:00	15		Pulverizer Drives
	521		ak Creek #6		145		8/13/1999	20:17	8/13/1999	21:30	1.21		Traveling Water Screen Fouling
-	<u> </u>	.00,0		 			0: 10: 1000		<u> </u>				· · · · · · · · · · · · · · · · · · ·

Γ	504	400	Oak Crook #6	1.	140	0444000	4 45	0/40/4000	0.55	50.441	0500	
<u> </u>	521		Oak Creek #6		MO	8/14/1999	1:48	8/16/1999	6:55	53.11		Extraction Steam Valves
ļ	521		Oak Creek #6		80 D1	8/17/1999	8:11	8/17/1999	12:00	3.81		Traveling Water Screen Fouling
L	521		Oak Creek #6		RS	9/10/1999	21:43	9/25/1999	22:40	360.95		Reserve Shutdown
	521		Oak Creek #6		95 D1	9/26/1999	6:00	9/27/1999	12:10	30.16		61 ID Fan Tripping
- 1	521		Oak Creek #6	*	110 D1	9/27/1999	18:25	9/28/1999	4:00	9.58	1455	61 ID Fan Tripping
	521		Oak Creek #6	•	U1	10/3/1999	4:55	10/3/1999	5:30	0.58	4460	Turbine Trip During Oil Trip Test
1	521		Oak Creek #6	•	MO	10/16/1999	21:36	10/17/1999	22:57	25.35	3521	Extraction Steam Valves
	521		Oak Creek #6	*	150 D1	10/19/1999	9:30	10/19/1999	15:15	5.75		62A Exhauster Balancing
[521		Oak Creek #6	•	U1	11/6/1999	3:05	11/6/1999	3:48	0.71		Burners
	521		Oak Creek #6	•	U1	12/5/1999	3:32	12/5/1999	3:55	0.38		Turbine Trip - Oil Trip Test
- [521	168	Oak Creek #6	•	170 PD	12/15/1999	6:00	12/21/1999	1:23	139.38	300	Pulverizer Work On Pinion and Motor
												Coil Failure on DCS Uninterruptable Power
	521	168	Oak Creek #6	*	U1	12/21/1999	1:23	12/21/1999	5:59	4.6		Supply
	521	168	Oak Creek #6		U3	12/24/1999	23:14	12/26/1999	23:52	48.63	4279	Miscellaneous Turbine Piping
												Vvater Tube Leak On Division Wall
ł	521	168	Oak Creek #6	*	U1	12/27/1999	12:09	12/30/1999	23:00	82.85		Between 3&4 Cell
_	521	168	Oak Creek #6	•	RS	12/30/1999	23:01	12/31/1999	23:59	24.96		Reserve Shutdown
	521	178	Oak Creek #7	269	D1	1/1/1975	0:01	1/6/1975	3:00	122.98	3410	
	521	178	Oak Creek #7		U1	1/4/1975	23:00	1/5/19 7 5	3:33	4.55	8560	
	521	178	Oak Creek #7	234	D1	1/9/1975	22:00	1/10/1975	6:40	8.66	340	
	521		Oak Creek #7		МО	1/10/1975	23:28	1/11/1975	19:25	19.95	620	
	521	178	Oak Creek #7	244	D1	1/20/1975	1:00	1/20/1975	13:00	12	3999	
	521	178	Oak Creek #7	224	D1	1/21/1975	6:55	1/21/1975	11:30	4.58	340	
	521	178	Oak Creek #7	224	D1	2/2/19 7 5	2:30	2/3/1975	6:45	28.25	3999	
	521	178	Oak Creek #7	234	PD	2/10/1975	2:00	2/10/1975	4:40	2.66	3999	
-	521	178	Oak Creek #7	229	D1	2/12/1975	2:00	2/17/1975	9:00	127	340	
	521	178	Oak Creek #7	169	D1	2/12/1975	10:00	2/13/1975	5:00	19	340	
	521	178	Oak Creek #7	164	PD	2/15/1975	13:30	2/17/1975	9:00	43.5	340	
	521	178	Oak Creek #7		U1	2/16/1975	0:12	2/16/1975	7:38	7.43	8560	
- [-	521		Oak Creek #7	219	PD	2/17/1975	9:00	2/25/1975	4:00	187	340	
	521	178	Oak Creek #7	154	D1	2/17/1975	12:00	2/17/1975	12:30	0.5	340	
Г	521		Oak Creek #7	119	D1	2/17/1975	22:00	2/17/1975	23:45	1.75	340	
	521	178	Oak Creek #7	184	PD	2/19/1975	11:55	2/20/1975	2:39	14.73	340	
	521	178	Oak Creek #7	149	D1	3/6/1975	5:00	3/7/1975	22:19	41.31	1100	
	521	178	Oak Creek #7		MO	3/7/1975	22:19	3/10/1975	1:11	50.86	1100	
1	521	178	Oak Creek #7	234	PD	3/11/1975	0:01	3/16/1975	20:00	139.98	340	
_	521	178	Oak Creek #7	224	D1	3/18/1975	22:00	3/19/1975	7:30	9.5	340	
•	521	178	Oak Creek #7	149	PD	3/20/1975	0:01	3/20/1975	13:10	13.15	1455	
. ک	521	178	Oak Creek #7	234	D1	3/20/1975	13:10	3/20/1975	20:20	7.16	340	
WEPCO	521	178	Oak Creek #7	234	D1	3/22/1975	6:00	3/22/1975	19:15	13.25	340	
PC	521	178	Oak Creek #7	234	PD	3/25/1975	0:30	3/31/1975	4:25	147.91	340	
0	521	178	Oak Creek #7	134	D1	3/27/1975	3:00	3/28/1975	4:30	25.5	1455	
40077	521	178	Oak Creek #7	134	D1	4/1/1975	11:50	4/2/1975	1:45	13.91	1455	
77	521	178	Oak Creek #7	134	D1	4/2/1975	5:20	4/2/1975	8:05	2.75	1455	
	521	178	Oak Creek #7	149	D1	4/3/1975	16:00	4/5/1975	0:36	32.59	1100	
	521	178	Oak Creek #7		Ū1	4/5/1975	0:36	4/6/1975	23:57	47.35	850	

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	E041	178 Oak Creek #7	209	D1	10/4/4075	0.00	10/4/1075	0.00	F 51	040	
	521				12/4/1975	0:30	12/4/1975	6:00	5.5	340	
	521	178 Oak Creek #7	110	D1	12/4/1975	12:15	12/4/1975	14:23	2.13	1486	
	521	178 Oak Creek #7	245	D1	12/4/1975	23:20	12/5/1975	6:25	7.08	340	
	521	178 Oak Creek #7	230	D1	12/5/1975	14:15	12/5/1975	23:48	9.55	340	
1_	521	178 Oak Creek #7		U1	12/5/1975	23:48	12/7/1975	23:03	47.25	1040	
	521	178 Oak Creek #7	230	D1	12/7/1975	23:03	12/8/1975	8:00	8.95	340	
	521	178 Oak Creek #7	183	D1	12/7/1975	23:04	12/8/1975	8:00	8.93	340	
- "	521	178 Oak Creek #7	220	D1	12/8/1975	23:45	12/9/1975	6:15	6.5	1486	
	521	178 Oak Creek #7	116	PD	12/13/1975	22:30	12/15/1975	22:25	47.91	1486	
	521	178 Oak Creek #7		U1	12/20/1975	0:26	12/20/1975	5:51	5.41	8560	
	521	178 Oak Creek #7		U1	12/26/1975	0:07	12/27/1975	1:52	25.75	1000	
	521	178 Oak Creek #7	232	D1	12/28/1975	16:30	12/31/1975	24:00:00	79.5	340	,
	521	178 Oak Creek #7		U1	12/28/1975	12:04	12/29/1975	1:50	13.76	1000	
	521	178 Oak Creek #7		U1	12/29/1975	9:47	12/31/1975	24:00:00	62.21	1730	
	521	178 Oak Creek #7		U1	1/1/1976	0:01	1/2/1976	13:50	37.81	1730	
	521	178 Oak Creek #7	240	D1	1/1/1976	0:01	1/11/1976	0:30	240.48	340	
	521	178 Oak Creek #7	238	D1	1/11/1976	8:30	1/11/1976	17:05	8.58	340	
	521	178 Oak Creek #7	247	D1	1/11/1976	19:55	1/11/1976	22:14	2.31	3999	
j	521	178 Oak Creek #7	247	PD	1/12/1976	0:30	1/12/1976	5:50	5.33	340	
}	521	178 Oak Creek #7	232	PD	1/13/1976	0:01	1/13/1976	4:30	4.48	340	
	521	178 Oak Creek #7	242	D1	1/13/1976	9:30	1/13/1976	11:45	2.25	340	
	521	178 Oak Creek #7	140	D1	1/20/1976	1:10	1/20/1976	6:00	4.83	1486	
-	521	178 Oak Creek #7	140	D1	1/21/1976	0:01	1/21/1976	6:30	6.48	1486	
	521	178 Oak Creek #7	140	D1	1/21/1976	22:00	1/22/1976	6:15	8.25	1486	
	521	178 Oak Creek #7	251	D1	1/22/1976	9:30	1/22/1976	23:00	13.5	9270	
	521	178 Oak Creek #7	140	D1	1/23/1976	0:01	1/23/1976	6:50	6.81	1486	
	521	178 Oak Creek #7		U1	1/23/1976	23:48	1/25/1976	0:48	25	1000	
ļ	521	178 Oak Creek #7	 	U1	2/1/1976	16:13	2/2/1976	15:32	23.31	1000	
-	521	178 Oak Creek #7	240	D1	2/3/1976	0:01	2/8/1976	5:15	125.23	340	
	521	178 Oak Creek #7		U1	2/14/1976	0:24	2/16/1976	8:33	56.15	1040	
	521	178 Oak Creek #7		U1	2/19/1976	0:12	2/21/1976	6:09	53.95	1040	
}	521	178 Oak Creek #7	210	D1	2/21/1976	3:00	5/2/1976	11:00	1688	740	
	521	178 Oak Creek #7	210	U1	2/25/1976	4:05	2/26/1976	3:59	23.9	1000	
7	521	178 Oak Creek #7		U1	3/1/1976	12:51	3/2/1976	6:23	17.53	8580	
}	521	178 Oak Creek #7	130	D1	3/19/1976	3:00	3/19/1976	5:45	2.75	1455	
-	521	178 Oak Creek #7	- - - -	U1	3/21/1976	1:20	3/22/1976	8:15	30.91	1000	
ļ	521	178 Oak Creek #7		MO	3/30/1976	0:24	3/30/1976	5:44	5.33	8580	
• -	521	178 Oak Creek #7		U1	3/30/1976	7:28	3/30/1976	8:01	0.55	3844	
	521	178 Oak Creek #7		- U1	4/2/1976	1:01	4/3/1976	17:02	40.01	1000	
	521	178 Oak Creek #7	-	PO	4/14/1976	0:10	4/29/1976	9:29	369.31	1999	
€ .	521	178 Oak Creek #7	140	D1	4/29/1976	11:00	4/29/1976	18:00	7	1486	
EP	521	178 Oak Creek #7	140	PD	5/1/1976	0:01	5/1/1976	9:00	8.98	1486	
wepco	521	178 Oak Creek #7	140	PD	5/2/1976	0:01	5/2/1976		9.48	1486	
4	521	178 Oak Creek #7	246	D1	5/2/1976	11:00	5/4/1976		40.25	1999	
40079					5/8/1976	0:30			40.25		
79	521	178 Oak Creek #7	140	D1			5/9/1976	13:30		1400	
	521	178 Oak Creek #7	247	PD	5/9/1976	13:30	5/9/1976	16:05	2.58	340	L

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521	178 Oak Creek #7	200	PD	5/10/1976	23:45	5/11/1976	5:48	6.05	340	
521	178 Oak Creek #7	1	U1	5/11/1976	22:02	5/12/1976	4:13	6.18	8560	
521	178 Oak Creek #7		U1	5/18/1976	23:51	5/19/1976	5:17	5.43	8580	
521	178 Oak Creek #7	232	D1	5/28/1976	23:15	5/29/1976	4:45	5.5	340	
521	178 Oak Creek #7		U1	6/1/1976	12:02	6/3/1976	8:35	44.55	1000	
521	178 Oak Creek #7		U1	6/11/1976	23:25	6/12/1976	4:09	4.73	8560	
521	178 Oak Creek #7		U1	6/18/1976	1:10	6/18/1976	6:42	5.53	8560	
521	178 Oak Creek #7	140	D1	6/26/1976	0:30	6/27/1976	13:00	36.5	1455	
521	178 Oak Creek #7		MO	7/2/1976	0:39	7/5/1976	21:20	92.68	9720	
521	178 Oak Creek #7	240	D1	7/6/1976	2:30	7/6/1976	23:30	21	340	
521	178 Oak Creek #7	140	D1	7/10/1976	2:00	7/11/1976	3:00	25	1455	
521			D1						340	
	178 Oak Creek #7	240		7/15/1976	0:01	7/15/1976	4:00	3.98		
_ 521	178 Oak Creek #7	170	D1	7/15/1976	2:00	7/16/1976	2:00	24	340	
521	178 Oak Creek #7	241	D1	7/16/1976	2:00	7/16/1976	9:00	7	340	
521	178 Oak Creek #7	240	PD	7/18/1976	16:30	7/18/1976	20:00	3.5	340	
521	178 Oak Creek #7	240	D1	7/23/1976	4:00	7/23/1976	12:05	8.08	340	
521	178 Oak Creek #7	251	D1	8/3/1976	6:30	8/3/1976	6:45	0.25	340	
521	178 Oak Creek #7		U1	8/3/1976	22:27	8/5/1976	7:43	33.26	1000	
521	178 Oak Creek #7	250	D1	8/5/1976	1:30	8/5/1976	6:25	4.91	340	
521	178 Oak Creek #7		U1	8/8/1976	6:07	8/8/1976	13:35	7.46	8560	
521	178 Oak Creek #7	240	PD	8/10/1976	8:00	8/10/1976	10:45	2.75	340	
521	178 Oak Creek #7	141	D1	8/10/1976	17:30	8/10/1976	19:45	2.25	1455	
521	178 Oak Creek #7	140	PD	8/14/1976	6:30	8/14/1976	18:30	12	1455	
521	178 Oak Creek #7		U1	8/18/1976	16:31	8/20/1976	0:47	32.26	1000	
521	178 Oak Creek #7		U1	8/23/1976	22:22	8/24/1976	6:00	7.63	8560	
521	178 Oak Creek #7	174	D1	8/24/1976	10:01	8/24/1976	14:00	3.98	340	
521	178 Oak Creek #7	234	D1	8/24/1976	14:00	8/24/1976	22:00	8	340	
521	178 Oak Creek #7	234	PD	8/24/1976	22:00	8/25/1976	4:00	6	340	
521	178 Oak Creek #7	236	D1	8/26/1976	0:30	8/26/1976	6:15	5.75	340	
		236							1999	
521	178 Oak Creek #7		NC	8/26/1976	0:30	8/26/1976	6:15	5.75		
521	178 Oak Creek #7	236	PD	8/28/1976	0:15	8/28/1976	5:30	5.25	340	
521	178 Oak Creek #7	231	PD	8/29/1976	23:30	8/30/1976	4:30	5	340	
521	178 Oak Creek #7	231	PD	8/31/1976	0:01	8/31/1976	5:15	5.23	340	
521	178 Oak Creek #7	241	D1	8/31/1976	8:30	8/31/1976	9:40	1.16	340	
521	178 Oak Creek #7		PO	9/4/1976	10:49	10/5/1976	15:36	748.78	1999	
521	178 Oak Creek #7	226	D1	10/6/1976	20:15	10/7/1976	1:00	4.75	340	
_ 521	178 Oak Creek #7		U1	10/9/1976	1:24	10/10/1976	1:00	23.6	1999	
521	178 Oak Creek #7		MO	10/9/1976	1:24	10/10/1976	1:00	23.6	1999	
521	178 Oak Creek #7	130	D1	10/10/1976	21:45	10/11/1976	21:08	23.38	1000	
521	178 Oak Creek #7		U1	10/11/1976	21:08	10/12/1976	15:35	18.45	1000	
521	178 Oak Creek #7	226	D1	10/25/1976	0:30	10/25/1976	6:20	5.83	340	
521	178 Oak Creek #7		U1	10/27/1976	0:31	10/28/1976	6:20	29.81	1000	
521	178 Oak Creek #7	190	D1	12/12/1976	4:45	12/13/1976	8:50	28.08	895	
521	178 Oak Creek #7		U1	12/13/1976	23:48	12/16/1976	1:31	49.71	1100	
521	178 Oak Creek #7	232	D1	12/17/1976	14:30	12/17/1976	16:10	1.66	340	
521			U1	12/22/1976	20:12	12/23/1976	12:48	16.6	530	· · · · · · · · · · · · · · · · · · ·
	170 Oak Olook #7		101	ILIEL ISTO	20.12	.L/LU 1570	12.70	10.0	550	

Γ	521	178 (Oak Creek #7	257	D1	12/24/1976	0:01	12/28/1976	6:00	101.98	3440	
- 1	521		Oak Creek #7	242	D1	12/28/1976	13:30	12/28/1976	15:30	2	340	
-	521		Oak Creek #7	132	PD	1/4/1977	3:00	1/4/1977	6:00	3	3410	L
-			Dak Creek #7	237	D1	1/4/1977	· · · · · · · · · · · · · · · · · · ·	1/9/1977	19:20	131.83		
-	521			237			7:30				340	
-	521		Dak Creek #7		U1	1/4/1977	19:32	1/6/1977	6:03	34.51	1000	
-	521		Oak Creek #7	177	D1	1/9/1977	7:30	1/9/1977	12:00	4.5	340	
- 1	521		Oak Creek #7	242	D1	1/16/1977	17:15	1/16/1977	20:00	2.75	340	
	521		Oak Creek #7	132	D1	1/17/1977	13:50	1/17/1977	17:30	3.66	1455	
- -	521		Oak Creek #7	217	D1	1/18/1977	6:30	1/18/1977	11:45	5.25	250	
-	521		Oak Creek #7	177	D1	1/18/1977	22:00	1/19/1977	5:26	7.43	3418	
-	521		Dak Creek #7	137	D1	1/19/1977	21:00	1/20/1977	22:30	25.5	1455	
-	521		Dak Creek #7		MO	1/22/1977	0:11	1/24/1977	3:05	50.9	1999	
-	521		Dak Creek #7	252	D1	1/22/1977	0:12	1/24/1977	20:48	68.6	3440	
	521	178	Dak Creek #7	212	PD	2/8/1977	7:30	2/13/1977	1:00	113.5	340	
_	521	178 (Dak Creek #7	167	D1	2/10/1977	23:30	2/11/1977	4:00	4.5	340	
L	521		Dak Creek #7		U1	2/18/1977	23:35	2/19/1977	23:35	24	1000	
	521		Oak Creek #7	222	D1	3/2/1977	3:00	3/6/1977	20:15	113.25	340	
	521	178	Oak Creek #7	232	PD	3/10/1977	23:30	3/11/1977	3:00	3.5	340	
	521	178 C	Dak Creek #7	240	D1	3/15/1977	12:30	3/15/1977	16:30	4	340	
	521	178 C	Oak Creek #7		U1	3/19/1977	22:07	3/20/1977	22:23	24.26	1000	
Π	521	178	Oak Creek #7		U1	3/26/1977	4:49	3/28/1977	13:14	56.41	1000	
Γ	521	178	Dak Creek #7		MO	4/9/1977	21:00	4/17/1977	15:27	186.45	840	
Γ	521	178 0	Dak Creek #7		U1	4/22/1977	23:36	4/25/1977	22:16	70.66	1000	
	521		Oak Creek #7	226	D1	4/29/1977	3:13	4/29/1977	20:45	17.53	340	
	521		Dak Creek #7	232	D1	4/30/1977	15:35	4/30/1977	20:27	4.86	340	
	521	178 0	Oak Creek #7	132	D1	5/3/1977	18:00	5/4/1977	7:55	13.91	1455	
	521	178	Dak Creek #7	111	D1	5/8/1977	1:25	5/8/1977	20:10	18.75	1455	
	521	178 0	Dak Creek #7	122	PD	5/14/1977	1:30	5/15/1977	1:48	24.3	1455	
	521		Dak Creek #7		U1	5/15/1977	1:48	5/16/1977	6:32	28.73	1040	
- [-	521		Dak Creek #7	232	PD	5/17/1977	23:00	5/18/1977	6:30	7.5	340	
	521		Dak Creek #7	242	D1	5/21/1977	21:50	5/22/1977	4:00	6.16	340	
-	521	178 0	Dak Creek #7	227	D1	5/27/1977	2:00	5/27/1977	16:00	14	340	
-	521		Dak Creek #7		U1	6/5/1977	15:52	6/8/1977	4:37	60.75	1040	
 	521		Dak Creek #7		U1	6/14/1977	0:04	6/15/1977	5:56	29.86	1040	·
1-	521		Dak Creek #7		U1	6/17/1977	0:22	6/17/1977	22:41	22.31	1040	
	521		Dak Creek #7	241	D1	6/23/1977	20:30	6/23/1977	23:50	3.33	340	
-	521		Oak Creek #7	261	D1	7/4/1977	23:00	7/8/1977	6:17	79.28	3440	
- پ	521		Dak Creek #7	241	D1	7/5/1977	9:15	7/5/1977	11:30	2.25	340	
WE PO	521		Dak Creek #7	250	PD PD	7/12/1977	0:30	7/12/1977	6:30	6	340	
Ž.	521		Dak Creek #7		МО	7/16/1977	18:33	7/18/1977	2:45	32.2	1060	
⊃ .	521		Dak Creek #7	246	D1	7/20/1977	9:30	7/20/1977	9:45	0.25	340	
9	521		Dak Creek #7			7/23/1977	1:01	7/24/1977	16:32	39.51	1040	
40081	521		Dak Creek #7	241	PD	7/29/1977	1:00	7/29/1977	6:00	5	340	Company of the second of the s
	521		Dak Creek #7	241	PD	7/30/1977	0:30	7/30/1977	6:30	6	340	·-····································
	521		Dak Creek #7		U1	8/2/1977	19:11	8/4/1977	19:11	48	340 1040	المستعددة والمستدد والشارين
	521				D1							
L	521	1/8/	Dak Creek #7	241	וטו	8/10/1977	21:30	8/11/1977	3:55	6.41	340	

_				· · · · · · · · · · · · · · · · · · ·		1							,
1.	521	178	Dak Creek #7			U1	8/12/1977	17:58	8/15/1977	1:37	55.65	1000	
-	521		Dak Creek #7		241	PD	8/21/1977	8:00	8/21/1977	15:45	7.75	340	
1	521		Dak Creek #7		231	PD	8/24/1977	7:30	8/24/1977	10:30	3	340	
-	521	178	Oak Creek #7		236	D1	8/25/1977	3:15	8/25/1977	20:00	16.75	340	
	521	178	Dak Creek #7		236	D1	8/27/1977	20:06	8/28/1977	13:30	17.4	340	
1	521	178	Dak Creek #7		251	D1	9/13/1977	7:30	9/13/1977	21:40	14.16	3999	
-	521	178	Oak Creek #7		151	D1	9/14/1977	13:00	9/15/1977	11:30	22.5	1455	
	521		Oak Creek #7		140	D1	9/15/1977	13:15	9/15/1977	16:15	3	1455	
1	521		Dak Creek #7			U1	9/18/1977	7:58	9/20/1977	7:57	47.98	1000	
1	521	178	Oak Creek #7		256	D1	9/27/1977	0:30	10/3/1977	14:00	157.5	340	
1	521	178	Oak Creek #7		156	D1	10/2/1977	21:50	10/2/1977	23:00	1.16	340	
1	521		Dak Creek #7			U1	10/21/1977	23:18	10/24/1977	4:44	53.43	1000	
	521		Dak Creek #7		256	D1	10/25/1977	15:00	10/25/1977	18:00	3	340	
F	521		Oak Creek #7		161	D1	10/28/1977	2:00	10/28/1977	4:45	2.75	3410	<u></u>
-	521		Dak Creek #7		252	D1	11/8/1977	2:00	11/8/1977	8:00	6	340	
-	521		Dak Creek #7		157	D1	11/9/1977	19:00	11/10/1977	7:15	12.25	1455]
-	521		Dak Creek #7		137	PO	11/12/1977	3:32	12/19/1977	18:23	926.85	1999	
	521		Dak Creek #7		150	D1	12/19/1977	18:23	12/23/1977	22:36	100.21	3310	
-	521		Dak Creek #7		130	U1	12/23/1977	22:36	12/24/1977	16:14	17.63	3130	
-					107	D1	12/24/1977		12/25/1977	22:00	29.76	1455	
	521		Dak Creek #7		187 207		12/25/1977	16:14					
-	521		Dak Creek #7		-	D1		22:00	12/26/1977	13:50	15.83	340	
	521		Dak Creek #7		240	D1	12/26/1977	13:50	12/27/1977	22:00	32.16	340	
-	521		Dak Creek #7		202	D1	12/27/1977	22:00	12/28/1977	4:30	6.5	340	
F	521		Dak Creek #7		240	D1	12/28/1977	4:30	12/29/1977	12:00	31.5	340	
-	521		Dak Creek #7		235	D1	12/30/1977	14:30	12/31/1977	1:00	10.5	3999	
-	521		Dak Creek #7			U1	1/4/1978	23:45	1/6/1978	1:00	25.25	1000	L
_	521		Dak Creek #7			<u>U1</u>	1/7/1978	16:43	1/8/1978	14:37	21.9	1000	
_	521		Dak Creek #7		230	D1	1/8/1978	21:50	1/13/1978	2:00	100.16	340	
L	521		Dak Creek #7			U1	1/10/1978	5:06	1/11/1978	6:18	25.2	1000	
-	521		Dak Creek #7		220	D1	1/13/1978	14:00	2/6/1978	7:45	569.75	340	
L	521	178	Dak Creek #7		175	D1	1/14/1978	5:20	1/14/1978	20:15	14.91	340	
	521		Dak Creek #7		170	D1	1/16/1978	18:30	1/17/1978	6:00	11.5	350	
	521	178	Oak Creek #7		180	D1	1/17/1978	7:00	1/17/1978	10:30	3.5	3999	
	521	178	Dak Creek #7		170	D1	1/19/1978	8:15	1/23/1978	3:00	90.75	340	
	521	178	Dak Creek #7		115	D1	1/20/1978	0:02	1/20/1978	5:15	5.21	340	
	521	178	Oak Creek #7		120	D1	1/21/1978	18:15	1/22/1978	6:00	11.75	340	
	521	178	Dak Creek #7		175	D1	1/23/1978	7:00	1/23/1978	23:00	16	9290	
	521		Dak Creek #7		160	PD	1/25/1978	0:30	1/25/1978	3:00	2.5	340	
Ş	521		Dak Creek #7		175	D1	1/25/1978	13:20	2/11/1978	17:40	412.33	340	
P	521		Oak Creek #7		187	PD	2/9/1978	15:01	2/9/1978	15:40	0.65	3999	
WEPCO	521		Dak Creek #7		265	D1	2/11/1978	17:40	2/14/1978	18:30	72.83	3440	
4	521		Dak Creek #7			U1	2/17/1978	22:30	2/20/1978	6:17	55.78	1305	
40082	521	{-	Dak Creek #7			MO	2/21/1978	13:53	2/21/1978	15:49	1.93	9320	
Ñ	521		Dak Creek #7	 -	220	D1	2/21/1978	15:49	3/11/1978	5:45	421.93	340	
	521		Dak Creek #7		160	D1	2/22/1978	10:01	2/22/1978	21:45	11.73	340	
	521		Dak Creek #7		160	D1	2/22/1978	21:45	3/5/1978	18:00	260.25	340	, .,
-	521	1/0/	Jan Cieek #/		IOU	וטו	212211918	21:45	33/19/8	10:00	200.25	340	<u> </u>

											
52		178 Oak Creek #7	120	D1	2/24/1978	11:15	2/25/1978	0:30	13.25	1455	
_ 5	21	178 Oak Creek #7	95	D1	2/28/1978	17:00	2/28/1978	19:00	2	340	
5	21	178 Oak Creek #7	220	D1	3/11/1978	5:45	3/22/1978	14:00	272.25	340	
52		178 Oak Creek #7		U1	3/11/1978	21:35	3/12/1978	16:13	18.63	3999	
5	21	178 Oak Creek #7	150	D1	3/20/1978	18:45	3/20/1978	21:15	2.5	340	
52	21	178 Oak Creek #7	160	D1	3/22/1978	13:15	3/22/1978	14:30	1.25	1400	
5		178 Oak Creek #7	232	D1	3/22/1978	16:20	3/22/1978	19:45	3.41	340	
52		178 Oak Creek #7	252	D1	3/25/1978	8:00	3/25/1978	13:00	5	340	
_5		178 Oak Creek #7	_	U1	3/26/1978	0:02	3/26/1978	23:13	23.18	1000	
52	21	178 Oak Creek #7	152	D1	3/29/1978	2:45	3/29/1978	6:30	3.75	1999	
52	21	178 Oak Creek #7	237	D1	4/8/1978	7:00	4/8/1978	15:15	8.25	340	
52	21	178 Oak Creek #7		U1	4/8/1978	23:51	4/9/1978	7:47	7.93	8560	
52		178 Oak Creek #7	237	D1	4/10/1978	14:30	4/10/1978	22:30	8	340	
<u> </u>		178 Oak Creek #7		U1	4/15/1978	3:09	4/17/1978	6:45	51.6	1305	
<u> </u>	+-	178 Oak Creek #7	232	D1	4/22/1978	9:00	4/22/1978	14:30	5.5	340	
	21	178 Oak Creek #7	262	D1	4/24/1978	18:00	4/25/1978	3:15	9.25	3999	
	- +-	178 Oak Creek #7		U1	4/28/1978	6:17	4/29/1978	3:53	21.6	1000	
I		178 Oak Creek #7	157	D1	5/2/1978	15:30	5/3/1978	5:50	14.33	1455	
ļ ———		178 Oak Creek #7		<u>U1</u>	5/4/1978	0:03	5/7/1978	1:02	72.98	1590	
	1-	178 Oak Creek #7	242	D1	5/10/1978	4:30	5/11/1978	10:00	29.5	920	
5		178 Oak Creek #7		U1	5/13/1978	21:43	5/15/1978	1:21	27.63	1100	
F	1	178 Oak Creek #7		U1	5/15/1978	16:55	5/15/1978	17:05	0.16	9900	
)———·		178 Oak Creek #7		U1	5/20/1978	22:50	5/22/1978	3:47	28.95	1000	
<u> </u>		178 Oak Creek #7	172	D1	5/31/1978	5:30	5/31/1978	8:45	3.25	1455	
	+	178 Oak Creek #7		U1	5/31/1978	13:39	5/31/1978	14:05	0.43	3130	
<u> </u>		178 Oak Creek #7		U1	6/6/1978	17:14	6/8/1978	4:42	35.46	1000	
	21	178 Oak Creek #7		U1	6/9/1978	3:17	6/10/1978	5:46	26.48	1000	
<u> </u>	21	178 Oak Creek #7	250	D1	6/11/1978	10:01	6/11/1978	16:05	6.06	3999	
		178 Oak Creek #7		U1	6/16/1978	23:14	6/20/1978	4:17	77.05	1100	
-	21	178 Oak Creek #7		U1	6/24/1978	0:35	6/26/1978	22:48	70.21	1455	
	21	178 Oak Creek #7 178 Oak Creek #7		*U1	6/27/1978	22:47	6/28/1978	6:47	8	1455	
<u> </u>	21 21	178 Oak Creek #7		U1 U1	6/28/1978 7/3/1978	23:06	6/29/1978 7/5/1978	2:45	3.65 34.48	1455 1455	
		178 Oak Creek #7	165	D1	7/5/1978	14:05 3:00	7/6/1978	0:34 1:30	22.5	1455	
	21	178 Oak Creek #7	103	U1	7/5/1978	3:38	7/5/1978	4:04	0.43	1455	<u> </u>
·	21	178 Oak Creek #7		U1	7/5/1978	4:12	7/5/1978	4:34	0.36	1455	
5	 	178 Oak Creek #7	- 	U1	7/5/1978	6:30	7/5/1978	6:43	0.30	1455	
	21	178 Oak Creek #7		U1	7/17/1978	21:46	7/19/1978	21:02	47.26	1000	
<u>¥</u> 5		178 Oak Creek #7	140	D1	7/22/1978	8:00	7/22/1978	16:30	8.5	1455	
~ .		178 Oak Creek #7		U1	7/24/1978	16:45	7/26/1978	4:23	35.63	1005	
	21	178 Oak Creek #7		U1	7/27/1978	15:33	7/30/1978	23:26	79.88	1040	<u></u>
4	21	178 Oak Creek #7	140	D1	8/2/1978	7:00	8/16/1978	5:50	334.83	1455	### ##################################
08 5	21	178 Oak Creek #7		- U1	8/4/1978	23:09	8/6/1978	17:03	41.9	1000	♣ −
	21	178 Oak Creek #7	- -	U1	8/7/1978	20:06	8/8/1978	0:49	4.71	4269	
-	21	178 Oak Creek #7		U1	8/8/1978	1:00	8/8/1978	1:31	0.51	9900	The second secon
	21	178 Oak Creek #7		<u>U</u> 1	8/12/1978	1:25	8/13/1978	10:06	32.68	1000	
					5 15.10		3, 13, 10, 01	, 5.00	<u> </u>	, 000	

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504	470 0 1 0 1 17	7 240	-15:	T 2/20/1070	11.55	2 /2 2 /4 2 = 2				
521	178 Oak Creek #7	240	D1	8/23/1978	11:00	9/26/1978	19:15	824.25	340	
521			U1	8/26/1978	0:34	8/28/1978	6:11	53.61	920	
521	178 Oak Creek #7	170	D1	8/28/1978	19:45	8/29/1978	5:15	9.5	340	
521	178 Oak Creek #7	150	D1	8/30/1978	23:00	9/5/1978	13:25	134,41	1455	
521	178 Oak Creek #7	160	D1	9/5/1978	14:30	9/7/1978	6:36	40.09	340	
521	178 Oak Creek #7	180	D1	9/19/1978	8:15	9/19/1978	12:45	4.5	920	
521	178 Oak Creek #7	170	D1	9/25/1978	17:15	9/26/1978	11:15	18	340	
521		165	D1	9/26/1978	16:00	9/27/1978	7:30	15.5	340	
521	178 Oak Creek #7	240	D1	9/28/1978	15:00	9/28/1978	21:25	6.41	340	
521	178 Oak Creek #7	31	D1	9/30/1978	0:01	9/30/1978	7:34	7.55	4014	
521	178 Oak Creek #7		U1	9/30/1978	7:34	9/30/1978	22:16	14.7	4014	
521	178 Oak Creek #7	240	D1	10/4/1978	6:30	10/4/1978	14:50	8.33	3999	
521		240	D1	10/6/1978	23:30	10/7/1978	16:30	17	340	
521	178 Oak Creek #7		Ū1	10/8/1978	1:28	10/10/1978	10:35	57.11	8560	
521	178 Oak Creek #7	231	D1	10/12/1978	12:30	10/12/1978	23:00	10.5	340	
521	· · · · · · · · · · · · · · · · · · ·		МО	10/16/1978	0:07	10/16/1978	0:44	0.61	9320	
521	178 Oak Creek #7	240	D1	10/20/1978	5:30	10/23/1978	23:50	90.33	340	
521		160	D1	10/21/1978	5:00	10/22/1978	6:00	25	340	
521		240	D1	10/25/1978	1:00	11/2/1978	22:15	213.25	340	
521	 	180	D1	10/31/1978	22:00	11/1/1978	4:30	6.5	340	
521	178 Oak Creek #7	194	D1	11/2/1978	3:45	11/9/1978	2:00	166.25	3440	
521			U1	11/4/1978	23:12	11/6/1978	8:15	33.05	8560	
521			U1	11/6/1978	12:47	11/7/1978	6:13	17.43	8560	
521		262	PD	11/9/1978	13:00	11/9/1978	22:15	9.25	3999	
521		262	PD	11/10/1978	8:00	11/11/1978	12:00	28	250	
521		240	D1	11/12/1978	3:00	11/12/1978	14:15	11.25	340	
521	 	240	D1	11/15/1978	8:00	11/15/1978	21:00	13	340	
521		140	D1	11/18/1978	2:00	11/20/1978	0:30	46.5	1455	
521		102	D1	11/21/1978	2:00	11/21/1978	11:00	9	8325	
521	,	1,02	U1	11/23/1978	1:16	11/26/1978	21:03	91.78	895	
521	 	142	D1	11/27/1978	13:45	11/29/1978	19:00	53.25	1455	
521	. 	212	D1	12/5/1978	19:30	12/5/1978	20:45	1.25	3999	
521	178 Oak Creek #7	+	U1	12/10/1978	10:09	12/13/1978	11:15	73.1	1040	
521			U1	12/14/1978	15:36	12/15/1978	21:54	30.3	1000	
521			U1	12/23/1978	0:15	12/24/1978	0:14	23.98	1000	
521	-1		U1	12/24/1978	21:27	12/26/1978	17:38	44.18	1040	
521			PO	12/30/1978	3:31	12/31/1978		44.48	1999	
521	178 Oak Creek #7		PO	1/1/1979	0:01	2/21/1979	17:46	1241.75	1999	
	178 Oak Creek #7	240	D1	2/21/1979		2/22/1979	6:00	12.23	3999	
521 521 521	+ · · · · · - · - · · · · · · · · · · · 	140	D1	2/22/1979	17:46 6:00	2/23/1979	6:45	24.75	1455	
5 -54		205		2/23/1979		3/31/1979		881.25	740	
521	d		D1 D1		6:45		22:02	12.03	1999	
521		90	U1	2/24/1979	10:00	2/24/1979	8:57		8325	
- 5 <u>21</u>		140	D1	2/24/1979 2/28/1979	22:02	2/26/1979 3/1/1979	4:15	34.91 4.75	1455	
52 <u>1</u>										
521	1	100	D1	3/1/1979	14:10	3/2/1979	3:00	12.83	920	
521	178 Oak Creek #7		U1	3/8/1979	21:50	3/9/1979	5:59	8.14	8560	

						<u> </u>				
521	178 Oak Creek #7	180	D1	3/14/1979	1:00	3/14/1979	5:00	4	340	
521	178 Oak Creek #7	180	D1	3/15/1979	0:30	3/15/1979	3:00	2.5	340	
521	178 Oak Creek #7	175	D1	3/28/1979	23:30	3/29/1979	19:55	20.41	1999	
521	178 Oak Creek #7	175	D1	3/29/1979	21:35	3/30/1979	6:15	8.66	1999	
521	178 Oak Creek #7	150	D1	3/31/1979	5:15	3/31/1979	5:45	0.5	3999	, ,
	178 Oak Creek #7	257	D1			4/9/1979	10:30	6.75	340	
521				4/9/1979	3:45					
521	178 Oak Creek #7	257	D1	4/9/1979	10:45	4/9/1979	12:30	1.75	340	
521	178 Oak Creek #7		U1	4/14/1979	22:30	4/15/1979	11:12	12.7	8560	
521	178 Oak Creek #7	237	D1	4/19/1979	4:20	4/19/1979	16:50	12.5	3999	
521	178 Oak Creek #7	227	D1	4/26/1979	12:45	4/27/1979	0:10	11.41	1486	
521	178 Oak Creek #7		U1	5/4/1979	0:07	5/7/1979	8:29	80.36	8560	
521	178 Oak Creek #7		U1	5/8/1979	14:08	5/10/1979	4:49	38.68	1000	
521	178 Oak Creek #7	207	D1	5/10/1979	4:49	5/12/1979	0:55	44.1	1400	
521	178 Oak Creek #7	160	D1	5/12/1979	10:45	5/14/1979	4:40	41.91	1400	•
521	178 Oak Creek #7		U1	5/14/1979	16:22	5/16/1979	5:43	37.34	1060	
521	178 Oak Creek #7	162	D1	5/16/1979	5:43	5/17/1979	16:10	34.45	1455	
521	178 Oak Creek #7	162	D1	5/17/1979	17:00	5/18/1979	6:15	13.25	1000	
521	178 Oak Creek #7	197	D1	5/18/1979	16:15	5/19/1979	4:20	12.08	1455	
521	178 Oak Creek #7	225	D1	5/19/1979	10:45	5/19/1979	14:30	3.75	340	
521	178 Oak Creek #7		MO	5/22/1979	22:49	5/23/1979	4:14	5.41	3999	
521	178 Oak Creek #7		U1	5/23/1979	19:35	5/24/1979	3:06	7.51	8560	
521	178 Oak Creek #7		MO	5/31/1979	22:32	6/1/1979	2:55	4.38	8560	
		450							1400	
521	178 Oak Creek #7	159	D1	6/1/1979	5:15	6/3/1979	14:30	57.25		
521	178 Oak Creek #7		U1	6/1/1979	23:59	6/3/1979	23:59	48	1000	
521	178 Oak Creek #7		U1	6/6/1979	22:06	6/7/1979	6:38	8.53	3999	
521	178 Oak Creek #7	220	D1	6/7/1979	12:00	6/10/1979	22:00	82	3999	
521	178 Oak Creek #7	240	D1	6/13/1979	14:30	6/13/1979	23:00	8.5	340	
521	178 Oak Creek #7		U1	6/20/1979	0:22	6/23/1979	6:21	77.98	1060	
521	178 Oak Creek #7		U1	6/23/1979	7:54	6/23/1979	8:04	0.16	4309	
521	178 Oak Creek #7		MO	6/24/1979	22.25	6/25/1979	4:48	6.38	8580	
521	178 Oak Creek #7		U1	6/25/1979	4:58	6/25/1979	6:19	1.35	740	
521	178 Oak Creek #7		U1	6/28/1979	0:02	6/29/1979	17:00	40.96	1000	
521	178 Oak Creek #7		U1	7/3/1979	22:36	7/6/1979	3:08	52.53	1000	
521	178 Oak Creek #7	170	D1	7/7/1979	17:30	7/11/1979	12:05	90.58	1400	
521	178 Oak Creek #7	235	D1	7/15/1979	4:30	7/15/1979	18:20	13.83	3999	
521	178 Oak Creek #7		U1	7/16/1979	20:56	7/18/1979	22:13	49.28	1100	
521	178 Oak Creek #7	110	D1	7/19/1979	15:07	7/20/1979	8:10	17.04	1486	
521	178 Oak Creek #7	130	D1	7/22/1979	7:30	7/22/1979	16:25	8.91	1486	
521	178 Oak Creek #7	132	D1	7/25/1979	17:00	7/25/1979	23:38	6.63	1100	
	178 Oak Creek #7	102	U1	7/25/1979	23:38	7/30/1979	6:40	103.03	1100	
521 521 521 521	178 Oak Creek #7	135	D1	8/5/1979	6:00	8/5/1979	11:30	5.5	895	
0 521								11		
521	178 Oak Creek #7	120	D1	8/6/1979	6:00	8/6/1979	17:00		895	
521	178 Oak Creek #7	250	D1	8/10/1979	14:00	8/11/1979	15:30	25.5	340	
521 521 521	178 Oak Creek #7	120	D1	8/11/1979	15:30	8/13/1979	10:30	43	8560	
34.1	178 Oak Creek #7		U1	8/11/1979	23:55	8/13/1979	6:00	30.08	8560	
521	178 Oak Creek #7	75	D1	8/13/1979	7:00	8/13/1979	15:30	8.5	340	

	E01	170 Oak C-	-1. 47		U1	0/40/4070	04.04	0/45/4070	40.03	40.00	4000	
	521	178 Oak Cre				8/13/1979	21:21	8/15/1979	+	46.26	1000	
	521	178 Oak Cre		181	D1	8/20/1979	5:30	8/20/1979		9.58	1455	
1.	521	178 Oak Cre		181	D1	8/20/1979	17:00	8/21/1979		23	3999	
	521	178 Oak Cre			U1	8/24/1979	23:23	8/26/1979	5:15	29.86	1000	
	521	178 Oak Cre		246	D1	8/27/1979	5:00	8/27/1979	6:30	1.5	340	
-	521	178 Oak Cre	ek #7	246	D1	8/31/1979	17:10	9/11/1979	16:45	263.58	340	
-	521	178 Oak Cre	ek #7		MO	9/2/1979	1:02	9/2/1979	18:30	17.46	4619	
	521	178 Oak Cree	ek #7		U1	9/8/1979	23:48	9/10/1979	2:47	26.98	1100	
- 1	521	178 Oak Cred		216	D1	9/11/1979	16:45	9/11/1979	20:00	3.25	340	
- 1	521	178 Oak Cred	ek #7	151	D1	9/11/1979	16:45	9/11/1979	20:00	3.25	340	
-	521	178 Oak Cred		181	D1	9/14/1979	0:30	9/14/1979	4:30	4	3410	
	521	178 Oak Cred		236	D1	9/14/1979	8:30	9/14/1979		1.83	340	
	521	178 Oak Cred		191	D1	9/14/1979	8:30	9/14/1979	10:20	1.83	340	
-	521	178 Oak Cree		231	D1	9/15/1979	7:00	9/15/1979	17:10	10.16	340	
-	521	178 Oak Cree		246	D1	9/18/1979	7:30	10/22/1979	3:00	811.5	340	
	521	178 Oak Cree		201	D1	9/19/1979	4:13	11/14/1979	20:00	1359.78	340	
	521	178 Oak Cree		156	D1	10/19/1979	21:00	10/20/1979	7:45	10.75	4420	
}	521	178 Oak Cred		171	D1	10/13/19/9	13:50	10/23/1979	5:16	15.43	340	<u></u>
	521	178 Oak Cree		171	D1	10/23/1979	15:00	10/24/1979	4:20	13.33	340	
	521	178 Oak Cree		171	D1	10/23/1979	22:00	10/25/1979	3:40	5.66	340	
}	521	178 Oak Cree		176	D1	10/24/1979	8:45	10/25/1979	3:00	18.25	340	
ļ												
	521	178 Oak Cree		191	D1	10/27/1979	11:35	10/27/1979	14:35	3	340	
	521	178 Oak Cree		176	D1	10/27/1979	17:22	10/27/1979	18:17	0.91	340	
\vdash	521	178 Oak Cree		176	PD	10/30/1979	0:01	11/1/1979	1:38	49.61	1100	
ļ.,	521	178 Oak Cree			U1	11/1/1979	1:38	11/5/1979	6:15	100.61	1100	
-	521	178 Oak Cree		202	DI	11/14/1979	5:00	11/14/1979	6:45	1.75	340	
	521	178 Oak Cree		210	D1	11/14/1979	20:00	12/22/1979	3:00	919	340	···
-	521	178 Oak Cree		150	D1	11/16/1979	22.15	11/17/1979	4:45	6.5	340	
L_	521	178 Oak Cree		222	D1	1/7/1980	15:50	1/8/1980	2:11	10.35	3411	
	521	178 Oak Cree			U1	1/8/1980	2:11	1/11/1980	4:52	74.68	1080	
L	521	178 Oak Cree		180	D1	1/11/1980	4:52	1/17/1980	3:30	142.63	3411	
	521	178 Oak Cree		210	D1	1/17/1980	4:00	2/4/1980	12:45	440.75	340	
L_	521	178 Oak Cred			U1	2/1/1980	0:37	2/3/1980	5:47	53.16	1000	
L.,	521	178 Oak Cree			U1	2/3/1980	9:02	2/3/1980	16:13	7.18	3149	
	521	178 Oak Cred		210	D1	2/4/1980	12:45	5/9/1980	8:59	2252.23	4420	
	521	178 Oak Cree		222	D1	2/7/1980	13:30	2/10/1980	11:30	70	3999	
	521	178 Oak Cree	ek #7	222	D1	2/11/1980	16:15	2/18/1980	3:50	155.58	340	
	521	178 Oak Cree	ek #7	237	D1	2/22/1980	15:30	2/23/1980	19:15	27.75	340	
\bar{a}	521	178 Oak Cree	ek #7		U1	3/2/1980	7:53	3/2/1980	9:28	1.58	1799	
Ξ	521	178 Oak Cree	ek #7		U1	3/22/1980	2:47	3/24/1980	5:27	50.66	1000	
WEPCO	521	178 Oak Cred	ek #7	132	D1	3/24/1980	17:45	3/25/1980	1:00	7.25	1455	
	521	178 Oak Cree	ek #7	80	D1	4/2/1980	7:45	4/4/1980	18:20	58.58	3410	
40086	521	178 Oak Cree		105	D1	4/17/1980	18:30	4/17/1980	20:45	2.25	340	
98	521	178 Oak Cree			U1	4/24/1980	13:27	4/24/1980	18:44	5.28	3149	
	521	178 Oak Cree			U1	4/26/1980	0:30	4/27/1980	13:48	37.3	3130	
,	521	178 Oak Cree			МО	5/9/1980	8:59	6/30/1980		1263.01	4400	
-	:1	., 5, 5 0 510.			10	3, 3, 1330	3.00	5, 55, 1556	350.00		. 400	

521	178 Oak Creek #7		MO	7/1/1980	0:01	7/10/1980	15:19	231.3	4400	
521	178 Oak Creek #7		U1	7/10/1980	15:49	8/5/1980	17:55	626.09	4400	
521	178 Oak Creek #7		МО	8/6/1980	6:03	8/6/1980	6:35	0.53	4309	
521	178 Oak Creek #7		U1	8/8/1980	21:07	8/10/1980		28.16	8560	
521	178 Oak Creek #7	226	D1	8/14/1980	6:00	10/11/1980	1:05	1387.08	4420	
521	178 Oak Creek #7		U1	8/16/1980	2:27	8/17/1980	6:20	27.88	8560	
521	178 Oak Creek #7		U1	8/22/1980	23:48	8/23/1980	14:30	14.7	8560	
521	178 Oak Creek #7		U1	9/1/1980	9:59	9/2/1980	1:37	15.63	8560	
521	178 Oak Creek #7		U1	9/5/1980	20:48	9/6/1980	7:41	10.88	8560	
521	178 Oak Creek #7		U1_	9/12/1980	23:40	9/13/1980	4:11	4.51	8560	
521	178 Oak Creek #7		U1	9/13/1980	6:30	9/13/1980	7:44	1.23	3190	
521	178 Oak Creek #7	151	D1	9/14/1980	0:01	9/14/1980	14:10	14.15	340	
521	178 Oak Creek #7	141	D1	9/15/1980	5:30	9/15/1980		4.16	340	
521	178 Oak Creek #7	111	D1	9/20/1980	6:00	9/22/1980	6:15	48.25	1455	
521	178 Oak Creek #7	111	D1	9/22/1980	7:15	9/22/1980	20:45	13.5	1455	
521	178 Oak Creek #7		U1	9/26/1980	23:30	9/28/1980		47.91	1000	
521	178 Oak Creek #7		U1	9/29/1980	21:53	9/30/1980	9:54	12.01	4609	
521	178 Oak Creek #7		U1	10/2/1980	20:40	10/4/1980	10:42	38.03	1400	
521	178 Oak Creek #7		PO	10/11/1980	1:06	12/31/1980		1990.9	1999	
521	178 Oak Creek #7		PO	1/1/1981	0:01	3/29/1981	5:05	2093.06	4400	
521	178 Oak Creek #7		U1	3/29/1981	15:31	3/29/1981	18:11	2.66	4301	
L	178 Oak Creek #7		U1	3/29/1981	22:20	3/29/1981	23:30	1.16	740	
521			U1						740	
521	178 Oak Creek #7	150		3/29/1981	23:47	3/30/1981	1:35	1.8		
521	178 Oak Creek #7	150	D1	3/30/1981	1:35	3/31/1981	23:59	46.4	1850	
521	178 Oak Creek #7	150	D1	3/31/1981	23:59	4/2/1981	14:00	38.01	3410	
521	178 Oak Creek #7	240	D1	4/4/1981	20:30	4/6/1981	3:10	30.66	340	
521	178 Oak Creek #7	220	D1	4/6/1981	21:38	4/8/1981	2:10	28.53	340	
521	178 Oak Creek #7	178	D1	4/7/1981	20:45	4/8/1981	4:00	7.25	340	
521	178 Oak Creek #7	240	D1	4/8/1981	14:30	4/9/1981	2:35	12.08	340	
521	178 Oak Creek #7	220	D1	4/12/1981	5:00	4/12/1981	12:00	7	340	
521	178 Oak Creek #7	150	D1	4/14/1981	23:50	4/15/1981	1:10	1.33	1400	
521	178 Oak Creek #7	230	D1	4/15/1981	1:10	4/15/1981	2:00	0.83	340	
521	178 Oak Creek #7		МО	4/16/1981	23:19	4/20/1981	3:57	76.63	4269	
521	178 Oak Creek #7	220	D1	4/26/1981	5:00	4/26/1981	21:00	16	340	
521	178 Oak Creek #7		U1	5/1/1981	19:08	5/4/1981	4:16	57.13	1000	
521	178 Oak Creek #7	110	PD	5/6/1981	23:40	5/7/1981	6:00	6.33	1100	
521	178 Oak Creek #7	120	PD	5/7/1981	23:30	5/8/1981	5:30	6	1100	
521	178 Oak Creek #7	120	U1	5/12/1981	18:06	5/15/1981	9:25	63.31	1000	
	178 Oak Creek #7		U1	5/17/1981	4:30	5/18/1981	1:03	20.55	1000	
521			U1			5/18/1981	10:26	68.55	1000	
521	178 Oak Creek #7	140		5/26/1981	13:53					
521	178 Oak Creek #7	140	D1	5/29/1981	19:00	5/30/1981	8:30	13.5	1486	
521	178 Oak Creek #7		U1	5/30/1981	23:43	5/31/1981	8:15	8.53	8560	
521	178 Oak Creek #7		U1	6/7/1981	9:58	6/9/1981	0:53	38.91	1000	
521	178 Oak Creek #7		<u>U1</u>	6/14/1981	0:05	6/15/1981	4:40	28.58	1060	and the second s
521	178 Oak Creek #7		U1	6/25/1981	6:33	6/26/1981	21:51	39.3	1000	
521	178 Oak Creek #7	210	D1	7/15/1981	7:20	7/15/1981	11:00	3.66	9650	

	521	178 Oak Creek #7	231	D1	7/15/1981	11.00	7/15/1001	14.05	0.441	0050	
-			231			11:00	7/15/1981	14:25	3.41	9650	
ļ	521	178 Oak Creek #7		U1	7/17/1981	23:59	7/19/1981	10:51	34.86	1000	
	521	178 Oak Creek #7	251	D1	8/3/1981	20:10	8/4/1981	20:30	24.33	250	
1_	521	178 Oak Creek #7	220	D1	8/11/1981	12:30	8/11/1981	20:10	7.66	9650	
<u> </u>	521	178 Oak Creek #7		U1	8/14/1981	23:30	8/17/1981	2:50	51.33	1040	
- _	521	178 Oak Creek #7	265	D1	8/26/1981	4:30	_8/26/1981	17:18	12.8	9650	
	521	178 Oak Creek #7		MO	8/26/1981	17:16	8/29/1981	8:21	63.08	1000	
	521	178 Oak Creek #7		Ū1	8/31/1981	4:16	10/13/1981	14:17	1042.01	1999	
	521	178 Oak Creek #7		U1	10/13/1981	16:58	10/13/1981	23:24	6.43	380	
	521	178 Oak Creek #7		U1	10/17/1981	16:24	10/20/1981	19:58	75.56	1040	_
	521	178 Oak Creek #7		U1	10/22/1981	23:06	10/24/1981	11:49	36.71	1040	
	521	178 Oak Creek #7	250	D1	10/24/1981	11:43	10/27/1981	19:35	79.86	340	
ļ	521	178 Oak Creek #7	200	D1	10/27/1981	19:35	10/30/1981	23:00	75.41	340	
	521	178 Oak Creek #7		U1	10/29/1981	22:36	10/31/1981	8:32	33.93	1060	
	521	178 Oak Creek #7	200	D1	11/3/1981	6:45	11/4/1981	14:00	31.25	340	
1	521	178 Oak Creek #7	202	D1	11/5/1981	11:10	11/7/1981	6:15	43.08	340	
	521	178 Oak Creek #7	227	D1	11/7/1981	6:15	11/9/1981	7:15	49	340	
	521	178 Oak Creek #7		U1	11/7/1981	19:50	11/8/1981	3:55	8.08	340	
	521	178 Oak Creek #7	207	D1	11/9/1981	7:15	11/9/1981	21:30	14.25	340	
	521	178 Oak Creek #7	147	D1	11/9/1981	21:30	11/14/1981	21:28	119.96	340	
	521	178 Oak Creek #7	-	U1	11/14/1981	21:28	11/15/1981	6:52	9.39	8560	
	521	178 Oak Creek #7	150	D1	11/15/1981	6:25	11/16/1981	5:00	22.58	340	
- f	521	178 Oak Creek #7	- 139	U1	11/19/1981	12:38	11/21/1981	13:24	48.76	1000	
]	521	178 Oak Creek #7	220	D1	11/27/1981	9:12	11/27/1981	16:30	7.3	340	
<u> </u>	521	178 Oak Creek #7		U1	11/27/1981	19:30	11/29/1981	18:08	46.63	1060	
-	521	178 Oak Creek #7		U1	12/3/1981	22:03	12/5/1981	9:37	35.56	1000	
	521	178 Oak Creek #7	-	U1	12/6/1981	8:57	12/6/1981	9:43	0.76	9270	1
	521	178 Oak Creek #7	142	D1	12/6/1981	13:10	12/6/1981	16:30	3.33	340	
]	521	178 Oak Creek #7	172	U1	12/7/1981	13:42	12/7/1981	16:22	2.66	9900	
}-	521	178 Oak Creek #7	200	D1	12/11/1981	5:00	12/11/1981	17:00	12	340	
	521	178 Oak Creek #7	200	U1	12/13/1981	3:54	12/14/1981	1:56	22.03	8560	
-	521	178 Oak Creek #7		U1	12/16/1981	12:04	12/19/1981	7:19	67.25	1000	
	521	178 Oak Creek #7	220	D1	12/21/1981	10:57	12/22/1981	7:40	20.71	740	
-	521	178 Oak Creek #7	120	D1	12/22/1981	7:30	12/22/1981	15:00	7.5	920	
}	521	178 Oak Creek #7	220	D1	12/22/1981	15:00	12/25/1981	8:34	65.56	740	
	521	178 Oak Creek #7	220	U1	12/24/1981	11:03	12/25/1981	8:34	21.51	1850	
 	521	·	200	D1	12/30/1981		12/31/1981		42	340	
-		178 Oak Creek #7	140	D1	12/31/1981	6:00 8:00	12/31/1981		16	9290	
_	521	178 Oak Creek #7						5:00	4.98		POOR COAL
€ -	521	178 Oak Creek #7	000*	60 D1 90 D3	1/1/1982	0:01 5:00	1/1/1982 1/1/1982	12:20	7.33		72 MILL, OVERHAUL GEARCASE
EP.	521	178 Oak Creek #7	000*	57 D1	1/1/1982		1/2/1982	2:45	14.41		WET COAL
\sim	521	178 Oak Creek #7			1/1/1982	12:20	1/3/1982	10:00	31.25		75 MILL, OVERHAUL
4	521	178 Oak Creek #7		NC_	1/2/1982	2:45					MILL, MILL PROBLEMS
WEPCO 40088	521	178 Oak Creek #7	000*	30 D1	1/3/1982	10:00	1/14/1982	13:03	267.04	310	IVILL, IVILL PROBLEIVIS
8	564	470 0-1, 01, #7		,,,	4774000	00.00	4/4 4/4000	10.0-	157.70	4000	POILED ENDMACE MATER TURE LEAV
	521	178 Oak Creek #7		U3	1/7/1982	23:23	1/14/1982	13:07	157.73		BOILER, FURNACE WATER TUBE LEAK
	521	178 Oak Creek #7	000*	240 PD	1/25/1982	6:00	1/31/1982	24:00:00	162	310	74 MILL PULVERIZER, OVERHAUL MILL

												PRECIPITATOR, INLET AND OUTLE
521		Oak Creek #7	000*	115		1/25/1982	11:12	1/28/1982	3:00	63.8		FIELDS IN LINE ARE TRIPPED
		Oak Creek #7	000*	240		1/25/1982	6:00	2/4/1982	0:01	234.01		74 MILL PULVERIZER, OVERHAUL
521	178	Oak Creek #7			<u>U1</u>	1/26/1982	23:17	1/27/1982	8:45	9.46		CLEAR PRECIP GROUNDS
							ļ		İ			IGNITION OIL SYS, ELECTRICAL F
Ì												MILURE OF CANNON PLUG ON PIL
521	178	Oak Creek #7	000*	225	D1	1/28/1982	3:00	1/28/1982	8:45	5.75	380	TORCH CONTROL BOX
1	}		1 1						1	}		PRECIPITATOR FIELD GRND, OUT
ł								1	ļ	ì		CLEAR PRECIP GROUNDS AND E
521	178	Oak Creek #7	_		U3	2/6/1982	22:17	2/7/1982	17:33	19.26	8550	HOPPERS
	1				1				1	į		FLYASH SYSTEM, PULL DOWN HI
]							LEVELS OF FLYASH-CAUSE OF S
521	178	Oak Creek #7	000*	260	D1	2/10/1982	9:00	2/11/1982	7:00	22	880	OPACITY
			i i		_		_1		1	Į.		FLYASH SYSTEM, HIGH ASH LEVE
521	178	Oak Creek #7	000*	210	D1	2/11/1982	7:00	2/12/1982	9:00	26	880	RESULTS IN STACK OPACITY
					_					_		POOR PRECIPITATOR PERFORMA
521	178	Oak Creek #7	000*	240	D1	2/12/1982	9:00	2/12/1982	17:00	8	8560	CAUSING HIGH OPACITY
						011 111 000	24.00	044544000				PULVERIZER FEEDER, TORN BEL
521	178	Oak Creek #7	000*	250	וטן	2/14/1982	21:00	2/15/1982	11:50	14.83	250	GRAVIMETRIC FEEDER
						044-4400	2.50	011011000				REMOVE BOTTOM ASH FROM ASI
521	178	Oak Creek #7			U2	2/17/1982	9:59	2/18/1982	22:32	36.55	890	AND INCLINE
			2224	400		011011000	44.00	0,05,4000	0.00	400	0.550	PRECIPITATOR PERFORMANCE
521	178	Oak Creek #7	000,	185	וטו	2/19/1982	11:00	2/25/1982	3:00	136	8570	CAUSING HIGH EMISSION
	4-0	0.1.0.1.17				0/04/4000	00.54	0/00/4/000	04.55	40.00	4000	OUT TO REPAIR REHEAT PENDEN
521	1/8	Oak Creek #7			U2	2/21/1982	20:51	2/23/1982	21:55	49.06	1060	LEAK ELEV 121
ļ										1		STACK EMISSIONS, UNKNOWN H
	470	0.10.1.47	0001	400		0/04/4000	47.00	0,05,4000	0.00	40	0000	LOAD AND REDUCED AIR FLOW T
		Oak Creek #7	000*	185		2/24/1982	17:00	2/25/1982	3:00	10		MINIMUM
521		Oak Creek #7	000*	250		2/26/1982	3:00	2/28/1982	12:00	57		PRECIPITATOR FIELD A01 GROU
_ 521	1/8	Oak Creek #7	000*	250	U	2/26/1982	3:00	2/28/1982	12:00	57	8560	PRECIPITATOR FIELD A01 GROU
<u> </u>				}								PRECIPITATOR, HIGH OPACITY W
501	170	Only Connie #7	000*	230	D4	0/00/4000	10,00	0/4/4080	2.00	8	0560	BLOWING SOOT BLOWERS DROF LOAD
521	1/0	Oak Creek #7	000*	230	<u> </u>	2/28/1982	18:00	3/1/1982	2:00	- 0	0000	PRECIPITATOR, HIGH OPACITY W
ſ				}			1					BLOWING SOOT BLOWERS DROF
501	170	Oak Creek #7	000+	220	D1	2/28/1982	18:00	2/4/4092	2:00	8	9560	LOAD
521	1/0	Oak Cieek #7	1000	230	וטוי	2/20/1902	18.00	3/1/1982	2.00	- 0	0000	PRECIPITATOR, HIGH OPACITY W
		,]			1	ŀ				BLOWING SOOT BLOWERS DROP
501	170	Ook Crook #7	000*	220	ln.	2/28/1982	18:00	3/1/1982	2:00	8	9560	LOAD
521		Oak Creek #7 Oak Creek #7	000*	230 270	-			3/2/1982	2:00	24		BOILER, UNIT CONDITION
521		Oak Creek #7	000*	2/0		3/1/1982 3/7/1982	2:00	3/7/1982	23:50	21.91		REHEAT PENDANT TUBE RUPTUR
521	. 1/0	Oak Cieek #/		ļ -·· -	U1	3///1902	1:55	3/1/1902	23.50			FLYASH SYS TROUBLES, SYS OU
E04	170	Oak Croal: #7	000*	200		2/0/4000	0.15	3/10/1090	2.00	10 7F	٥٥٥	REPLACE SEVERAL SOV'S
521	1/8	Oak Creek #7	000*	220	V!	3/9/1982	9:15	3/10/1982	2:00	16.75	990	BOILER, 75 MILL SYSTEM OUT FO
521	ľ	Oak Creek #7	000-	245		3/10/1982	2:00	3/11/1982	Į.	į.	60	DOILER 13 MILL STOLEM OUT FO

S2 178 Oak Creek #7 PO 3/13/1982 1:33 4/16/1982 13:32 827.98 BOOLDTAGE S2 178 Oak Creek #7 000' 250 D1 4/19/1982 2:00 4/19/1982 15:00 13 1850 HIGH SILICA IN BOILER WATER S2 178 Oak Creek #7 000' 240 D1 4/19/1982 15:00 4/20/1982 15:00 13 1850 HIGH SILICA IN BOILER WATER A/20/1982 13:00 22 3/20 0.52 179 Oak Creek #7 000' 175 D1 4/20/1982 13:30 4/20/1982 5:00 16 310 0.757 D1 D1 D1 D1 D1 D1 D1 D	_			·						 				
S21 178 Dak Creek #7 0000 250 D1 4/19/1982 15:00 4/21/1982 15:00 20 37:5 PULVERIZER STUCK ROLLER	1						<u> </u>			1				
S21 178 Oak Creek #7 O00 240 D1 4/19/1982 15:00 4/29/1982 13:00 22 310 #75 PULVERIZER STUCK ROLLER ADUST ROLLER ON ALL 5		521						3/13/1982	1:33			827.98		
178 Oak Creek #7 000 175 D1 4/20/1982 13:00 4/21/1982 5:00 16 310 PULVERIZERS 72 SOILÉR FEED PUMP VENT LINE 72 SOILÉR FEED PUMP VENT LINE 72 SOILÉR FEED PUMP VENT LINE 73 Oak Creek #7 000 160 PD 4/21/1982 23:30 4/22/1982 5:15 6.75 3.15 SOILÉR FEED PUMP VENT LINE 72 SOILÉR FEED PUMP VENT LINE 73 Oak Creek #7 011 4/22/1982 11:51 4/22/1982 19:00 31:15 100 OILER LOWER EAST WALL WATER 100 OILER LOWER EAST WALL WATER 17/172 BDP MOTOR BEARINGS 7/1		521	178	Oak Creek #7	000*	250	D1	4/19/1982	2:00	4/19/1982	15:00		1850	HIGH SILICA IN BOILER WATER
S21 178 Oak Creek #7 0001 175 D1 4/20/1982 13:00 4/21/1982 5:00 16 310 PULVERIZERS 72 BOILER FEED PUMP VENT LINE 521 178 Oak Creek #7 0001 160 PD 4/21/1982 23:30 4/22/1982 6:15 6.75 3416 REPAIR BOILER, LOWER EAST WALL WATER 521 178 Oak Creek #7 U1 4/22/1982 11:51 4/23/1982 19:00 31:15 10:00 TUBE RUPTURE 7/172 BBP MOTOR BEARINGS 7/172 BBP MOT	Ţ,	521	178	Oak Creek #7	000*	240	D1	4/19/1982	15:00	4/20/1982	13:00	22	310	#75 PULVERIZER STUCK ROLLER
178 Oak Creek #7 O20 160 PD 4/21/1982 23:30 4/22/1982 6:15 6.75 3416 REPAIR GOILER, LOWER EAST WALL WATER 521 178 Oak Creek #7 O20 O20 D1 5/11/1982 19:01 5/11/1982 19:02 31:15 O20 O20 O20 D1 5/11/1982 O24	-													ADJUST ROLLERS ON ALL 5
S21 178 Oak Creek #7 000 160 PD 4/21/1982 23:30 4/22/1982 6:15 6:75 3416 REPAIR	ľ	521	178	Oak Creek #7	000*	175	D1	4/20/1982	13:00	4/21/1982	5:00	16	310	PULVERIZERS
S21 178 Oak Creek #7 000 160 PD 4/21/1982 23:30 4/22/1982 6:15 6:75 3416 REPAIR					1									72 BOILER FEED PUMP VENT LINE
521 178 Oak Creek #7 U1 4/22/1982 11.51 4/23/1982 19:00 31.15 1000 TUBE RUPTURE		521	178	Oak Creek #7	000*	160	PD	4/21/1982	23:30	4/22/1982	6:15	6.75	3416	
S21 178 Oak Creek #7	-				-			 						
178 Oak Creek #7 U1 4/23/1992 19:01 5/1/1992 10:52 183.95 74.00AMAGED 71.00AMAGE		521	178	Oak Creek #7			U1	4/22/1982	11:51	4/23/1982	19:00	31 15		
\$21 178 Oak Creek #7	- -			Can Clock III			-	1,22,1002		1720/1002		01.10		
521 178 Oak Creek #7 O00* 200 D1 5/11/1982 10:52 5/10/1982 8:06 213,23 3313 71 BB PUMP OUT FOR REPAIR REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE WIRE GROUND FROM REMOVE DISTRICT WITH RUPTURE WATER WALL STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM PRECIPE WIRE STAND FROM FROM FROM FROM FROM PRECIPE WIRE STAND FROM FROM FROM FROM FROM FROM FROM FROM		521	178	Oak Creek #7			134	4/23/1082	10:01	5/1/1082	10.52	183.85	740	
S21 178 Oak Creek #7 U1 S/4/1982 O.44 S/4/1982 7.14 6.5 8.560 PRECIPS INLET AND CENTER	-				000*	200								
521 178 Oak Creek #7 U1 5/4/1982 0.44 5/4/1982 7:14 6.5 8560 PRECIPS INLET AND CENTER	}-		_! / _	Oak Ofeek #7	- 000	200	<u> </u>	3/1/1902	10.52	3/10/1302	0.00	210.20	3313	
S21 178 Oak Creek #7 U1 5/8/1982 22:46 5/10/1982 8:06 33:33 1005 TUBE TUBE OAL FDR, BELT UNTRACKED. PETRACKED BELT AND TOS FREEN COAL FDR, BELT UNTRACKED. PETRACKED BELT AND S21 178 Oak Creek #7 O00* 260 D1 5/14/1982 11:30 5/14/1982 16:15 4.75 310 CALIBRATED FEEDER BOILER, WATER TUBE RUPTURE IN AREA OF DRIP SCREEN AT ASH PIT S21 178 Oak Creek #7 U1 5/21/1982 9:15 5/23/1982 8:06 36.8 1005 WATER SEAL MATER TUBE RUPTURE IN AREA OF DRIP SCREEN AT ASH PIT S21 178 Oak Creek #7 O00* 296 D1 5/27/1982 9:15 5/30/1982 21:10 83:91 8560 THREE BROKEN WIRES BROKEN PRECIP WIRES-REMOVED BROKEN PRECIP WIRES-REMOVED WATER TUBE, LEAK NE CORNER BY FURNACE BOTTOM(REMOVE PRECIP VIRNACE BOTTOM(REMOVE PRECIP VIRNACE BOTTOM(REMOVE PRECIP VIRNACE BOTTOM(REMOVE PRECIP VIRNACE BOTTOM REMOVE PRECIP VIRNACE BOTTOM REMOVE PRECIP TYPE FAN 2 FAN BRG, COOL WTR NUPLE CRCKED FORCING WTR INTO S21 178 Oak Creek #7 O00* 150 D1 6/7/1982 12:17 6/19/1982 12:20 5.5 1400 OIL RENEWED NIPPLE BROWZE GROUNDS FROM TWO S21 178 Oak Creek #7 U1 6/20/1982 11:45 6/22/1982 20:30 56.75 1005 NOSE WEST SIDE ON NORTH HOPPER REMOVE BROKEN WIRE IN PRECIPITATOR S21 178 Oak Creek #7 U2 7/5/1982 23:26 6/27/1982 12:52 37.43 8560 FRECIPITATOR S21 178 Oak Creek #7 U2 7/5/1982 0:02 7/6/1982 0:52 24:83 1030 BOILER, WATER TUBE LEAK UNDER TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTURE TYBING CREEK WILL TUBE RUPTUR		501	170	Oak Crook #7			114	5/4/1002	0:44	5/4/1002	7:14	6.5	0560	
521 178 Oak Creek #7	-		170	Oak Cleek #1			01	5/4/1902	0.44	5/4/1902	7.14	0.5	0000	
75 GREN COAL FOR, BELT 75 GREN COAL FOR, B		504	470	0-1-01-47				5,04,000	00.40	5404000	0.00	00.00	4005	
S21 178 Oak Creek #7 O00 260 D1 5/14/1982 11:30 5/14/1982 16:15 4.75 310 CALIBRATED FEEDER BOILER, WATER TUBE RUPTURE IN AREA OF DRIP SCREEN AT ASH PIT S/21/1982 19:18 5/23/1982 8:06 36:8 1005 WATER STALL BROKEN PRECIP WIRES-REMOVED BROKEN PRECIP WIRES-REMOVED BROKEN PRECIP WIRES-REMOVED BROKEN PRECIP WIRES-REMOVED BROKEN PRECIP WIRES-REMOVED BROKEN PRECIP WIRES-REMOVED WATER TUBE, LEAK NE CORNER BY FURNACE BOTTOM/REMOVE PRECIP FURNACE BOTTOM/REMOVE PRECIP FURNACE BOTTOM/REMOVE PRECIP FURNACE BOTTOM/REMOVE PRECIP T72 FD FAN-2 FAN BRG, COOL WTR NIPPLE CRCKED FORCING WTR INTO S21 178 Oak Creek #7 Ou1 6/4/1982 12:17 6/19/1982 17:36 5.31 8560 FIELDS OF THE PRECIPITATOR BOILER, WATER TUBE LEAK UNDER REMOVE BROKEN WIRES REMOVE BROKEN WIRES REMOVE BROKEN WIRES REMOVE BROKEN WIRES REMOVE BROKEN WIRES T72 FD FAN-2 FAN BRG, COOL WTR NIPPLE CRCKED FORCING WTR INTO S21 178 Oak Creek #7 Ou1 6/19/1982 12:17 6/19/1982 17:36 5.31 8560 FIELDS OF THE PRECIPITATOR BOILER, WATER TUBE LEAK UNDER REMOVE BROKEN WIRE IN REMOVE BROKEN WIRE IN REMOVE BROKEN WIRES REMOVE BROKEN WIRES S21 178 Oak Creek #7 Ou2 7/5/1982 23:26 6/27/1982 20:30 56.75 1005 NOSE WEST SIDE ON NORTH HOPPER REMOVE BROKEN WIRE IN REMOVE BROKEN WIRE		521	1/8	Oak Creek #7	- 		וטו	5/8/1982	22:46	5/10/1982	8:06	33,33	1005	
521 178 Oak Creek #7 000* 260 D1 5/14/1982 11:30 5/14/1982 16:15 4.75 310 CALIBRATED FEEDER 521 178 Oak Creek #7 000* 236 D1 5/21/1982 19:18 5/23/1982 8:06 36.8 1005 WATER SEAL 521 178 Oak Creek #7 000* 236 D1 5/27/1982 9:15 5/30/1982 21:10 83.91 8560 THREE BROKEN WIRES-REMOVED 521 178 Oak Creek #7 001 5/30/1982 21:10 6/1/1982 3:47 30.61 1030 WIRES) 521 178 Oak Creek #7 001 6/4/1982 18:14 6/6/1982 3:24 33.16 1005 BOILER, WATER WALL TUBE RUPTURE 521 178 Oak Creek #7 000* 150 D1 6/7/1982 6:50 6/7/1982 12:20 5.5 1005 BOILER, WATER WALL TUBE RUPTURE 521 178 Oak Creek #7 000* 150 D1 6/7/1982 12:17 6/19/1982 12:20 5.5 1005 BOILER, WATER WALL TUBE RUPTURE 521 178 Oak Creek #7 000* 150 D1 6/7/1982 12:17 6/19/1982 12:20 5.5 1005 BOILER, WATER TUBE LEAK UNDER 521 178 Oak Creek #7 000* 150 D1 6/20/1982 11:45 6/22/1982 20:30 56.75 1005 MOSE WEST SIDE ON NORTH HOPER 521 178 Oak Creek #7 000* 250 D1 7/8/1982 0:02 7/6/1982 0:52 37.43 8560 PRECIPITATOR 521 178 Oak Creek #7 000* 250 D1 7/8/1982 13:11 7/18/1982 15:5 30 BOILER, WATER TUBE LEAK 75 MILL, PYRITE GATE STUCK OPEN- 521 178 Oak Creek #7 000* 250 D1 7/8/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 000* 250 D1 7/8/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE LEAK 75 MILL, PYRITE GATE STUCK OPEN- 521 178 Oak Creek #7 000* 250 D1 7/8/1982 13:11 7/18/1982 15:51 98.78 1003 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 000* 250 D1 7/8/1982 0:04 7/26/1982 25:51 98.78 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 000* 250 D1 7/8/1982 0:04 7/26/1982 0:55 98.78 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 001 7/8/1982 0:04 7/26/1982 0:55 98.78 1005 BOILER, WATER TUBE FAILURE										1	1			•
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Second Part Second Part	L	521	178	Oak Creek #7	000.	260	D1	5/14/1982	11:30	5/14/1982	16:15	4.75	310	
521 178 Oak Creek #7 O00 236 D1 5/21/1982 19:18 5/23/1982 8:06 36.8 1005 WATER SEAL BROKEN PRECIP WIRES-REMOVED		ļ			1				1					
Second Price	1										1	i		
521 178 Oak Creek #7 000* 236 D1 5/27/1982 9:15 5/30/1982 21:10 83.91 8560 THREE BROKEN WIRES WATER TUBE, LEAK NE CORNER BY FURNACE BOTTOM(REMOVE PRECIP FURNACE BOTTOM (REMOVE PRECIP FURNACE BOTTOM) 521 178 Oak Creek #7 U1 6/4/1982 18:14 6/6/1982 3:24 33.16 1005 BOILER, WATER WALL TUBE RUPTURE 521 178 Oak Creek #7 000* 150 D1 6/7/1982 6:50 6/7/1982 12:20 5.5 1400 OIL RENEWED NIPPLE 521 178 Oak Creek #7 U1 6/19/1982 12:17 6/19/1982 17:36 5.31 8560 FIELDS OF THE PRECIPITATOR 521 178 Oak Creek #7 U1 6/20/1982 11:45 6/22/1982 20:30 56.75 1005 NOSE WEST SIDE ON NORTH HOPPER 521 178 Oak Creek #7 PO 6/25/1982 23:26 6/27/1982 12:52 37.43 8560 PRECIPITATOR 521 178 Oak Creek #7 U2 7/5/1982 0:02 7/6/1982 0:52 24.83 1030 BOILER, WATER TUBE LEAK ORDER 521 178 Oak Creek #7 U2 7/5/1982 0:02 7/6/1982 0:52 24.83 1030 BOILER, WATER TUBE LEAK 521 178 Oak Creek #7 U1 7/19/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 U1 7/26/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 U1 7/26/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, WATER TUBE FAILURE	L	521	178	Oak Creek #7			<u>U1</u>	5/21/1982	19:18	5/23/1982	8:06	36.8		
S21 178 Oak Creek #7												}		
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521 178 Oak Creek #7 U1 5/30/1982 21:10 6/1/1982 3:47 30.61 1030 WIRES) 521 178 Oak Creek #7 U1 6/4/1982 18:14 6/6/1982 3:24 33.16 1005 BOILER, WATER WALL TUBE RUPTURE 72 FD FAN-2 FAN BRG, COOL WTR NIPPLE CRCKED FORCING WTR INTO 521 178 Oak Creek #7 000* 150 D1 6/7/1982 6:50 6/7/1982 12:20 5.5 1400 OIL RENEWED NIPPLE 8 REMOVE GROUNDS FROM TWO 521 178 Oak Creek #7 U1 6/19/1982 12:17 6/19/1982 17:36 5.31 8560 FIELDS OF THE PRECIPITATOR 521 178 Oak Creek #7 U1 6/20/1982 11:45 6/22/1982 20:30 56.75 1005 NOSE WEST SIDE ON NORTH HOPPER 521 178 Oak Creek #7 PO 6/25/1982 23:26 6/27/1982 12:52 37.43 8560 PRECIPITATOR 521 178 Oak Creek #7 U2 7/5/1982 0:02 7/6/1982 0:52 24.83 1030 BOILER, WATER TUBE LEAK 521 178 Oak Creek #7 000* 250 D1 7/8/1982 7:00 7/8/1982 8:45 1.75 310 REPAIRED FROZEN PIN 521 178 Oak Creek #7 U1 7/13/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 U1 7/22/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, WATER TUBE FAILURE									1					
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BOILER, WATER TUBE LEAK UNDER 521 178 Oak Creek #7 U1 6/20/1982 11:45 6/22/1982 20:30 56.75 1005 NOSE WEST SIDE ON NORTH HOPPER 521 178 Oak Creek #7 PO 6/25/1982 23:26 6/27/1982 12:52 37.43 8560 PRECIPITATOR 521 178 Oak Creek #7 U2 7/5/1982 0:02 7/6/1982 0:52 24.83 1030 BOILER, WATER TUBE LEAK 75 MILL, PYRITE GATE STUCK OPEN- 521 178 Oak Creek #7 000* 250 D1 7/8/1982 7:00 7/8/1982 8:45 1.75 310 REPAIRED FROZEN PIN 521 178 Oak Creek #7 U1 7/13/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 U1 7/22/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, REPAIR WATER WALL LEAK														REMOVE GROUNDS FROM TWO
521 178 Oak Creek #7 U1 6/20/1982 11:45 6/22/1982 20:30 56.75 1005 NOSE WEST SIDE ON NORTH HOPPER 521 178 Oak Creek #7 PO 6/25/1982 23:26 6/27/1982 12:52 37.43 8560 PRECIPITATOR 521 178 Oak Creek #7 U2 7/5/1982 0:02 7/6/1982 0:52 24.83 1030 BOILER, WATER TUBE LEAK 521 178 Oak Creek #7 000* 250 D1 7/8/1982 7:00 7/8/1982 8:45 1.75 310 REPAIRED FROZEN PIN 521 178 Oak Creek #7 U1 7/13/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 U1 7/22/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, REPAIR WATER WALL LEAK	-	521	178	Oak Creek #7	1		U1	6/19/1982	12:17	6/19/1982	17:36	5.31	8560	FIELDS OF THE PRECIPITATOR
521 178 Oak Creek #7 U1 6/20/1982 11:45 6/22/1982 20:30 56.75 1005 NOSE WEST SIDE ON NORTH HOPPER 521 178 Oak Creek #7 PO 6/25/1982 23:26 6/27/1982 12:52 37.43 8560 PRECIPITATOR 521 178 Oak Creek #7 U2 7/5/1982 0:02 7/6/1982 0:52 24.83 1030 BOILER, WATER TUBE LEAK 521 178 Oak Creek #7 000* 250 D1 7/8/1982 7:00 7/8/1982 8:45 1.75 310 REPAIRED FROZEN PIN 521 178 Oak Creek #7 U1 7/13/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 U1 7/22/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, REPAIR WATER WALL LEAK														
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Second Second		521	178	Oak Creek #7			U1	6/20/1982	11:45	6/22/1982	20:30	56.75	1005	NOSE WEST SIDE ON NORTH HOPPER
521 178 Oak Creek #7 000* 250 D1 7/8/1982 7:00 7/8/1982 8:45 1.75 310 REPAIRED FROZEN PIN 521 178 Oak Creek #7 U1 7/13/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 U1 7/22/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, REPAIR WATER WALL LEAK														REMOVE BROKEN WIRE IN
521 178 Oak Creek #7 000* 250 D1 7/8/1982 7:00 7/8/1982 8:45 1.75 310 REPAIRED FROZEN PIN 521 178 Oak Creek #7 U1 7/13/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 U1 7/22/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, REPAIR WATER WALL LEAK	7	521	178	Oak Creek #7		j	PO	6/25/1982	23:26	6/27/1982	12:52	37.43	8560	PRECIPITATOR
521 178 Oak Creek #7 000* 250 D1 7/8/1982 7:00 7/8/1982 8:45 1.75 310 REPAIRED FROZEN PIN 521 178 Oak Creek #7 U1 7/13/1982 13:11 7/18/1982 17:50 124.65 1005 BOILER, WATER TUBE FAILURE 521 178 Oak Creek #7 U1 7/22/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, REPAIR WATER WALL LEAK	ر ا	521	178	Oak Creek #7			U2	7/5/1982	0:02	7/6/1982	0:52	24.83		
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521 178 Oak Creek #7 U1 7/22/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, REPAIR WATER WALL LEAK	\$	521			000*	250	D1	7/8/1982	7:00	7/8/1982	8:45	1.75		
521 178 Oak Creek #7 U1 7/22/1982 0:04 7/26/1982 2:51 98.78 1030 BOILER, REPAIR WATER WALL LEAK	90	521	178	Oak Creek #7	_ [7/13/1982	13:11	7/18/1982	17:50	124.65		
	-	521					U1	7/22/1982	0:04	7/26/1982	2:51	98.78	1030	BOILER, REPAIR WATER WALL LEAK

_													
						_						-	71 MILL OUT DUE TO DAMAGED
ļ.,	521	178	Oak Creek #7	000*	210	D1	8/4/1982	0:30	8/4/1982	5:15	4.75	310	ROLLER JOURNAL
1											Ì		73 MILL SYSTEM, MILL OVERHAUL AND
ļ.,	521		Oak Creek #7	000*	250		8/7/1982	2:00	8/13/1982	2:00	144		WET COAL
_	521	178	Oak Creek #7			<u>U1</u>	8/8/1982	1:33	8/8/1982	7:23	5.83		CLEAR PRECIPITATOR GROUNDS
	1					ĺ			i				BBP DIFF. PRESS. TRIP, WATER
1										-			ENTERED ENCLOSURE AND
<u> </u>	_521	178	Oak Creek #7			U1	8/11/1982	20:32	8/11/1982	21:10	0.63	1999	ACTIVATED TRIP-RESTARTED UNI
-						l				44.00	2=		BOILER, REHEAT PENDANT LEAK
-	521	178	Oak Creek #7			U1	8/25/1982	23:14	8/27/1982	11:00	35.76	1070	SOUTH SIDE EL 121
	504	470	0-1-01-47			U1	0,074,000	47.40	10/1/1000	14.00	00.00	1000	BOILER, WATER WALL TOP OF
	521	1/8	Oak Creek #7			01	9/27/1982	17:12	10/1/1982	14:02	92.83	1000	BURNERS SE CORNER
1	504	4-0	0-1: 01: #7				10/5/1000	40.00	107/1000	44.55	40.00	4000	BOILER, REHEATER PENDANT LEAK ON
\vdash	521	1/8	Oak Creek #7			U1	10/5/1982	13:39	10/7/1982	14:55	49.26	1000	4 CELL 73 MILL PULVERIZER, REPLACE
1	521	170	Oak Crook #7	000*	255	<u>Г</u>	10/13/1982	13:04	10/14/1982	2:00	12.93	210	BROKEN PYRITE SCRAPER SHOES
ļ	. 521	1/8	Oak Creek #7	000	255	U	10/13/1902	13.04	10/14/1962	2.00	12.93	310	73 MILL PULVERIZER REPAIR BROKEN
	521	170	Oak Creek #7	000*	260	D1	10/15/1982	10:55	10/16/1982	1:30	14.58	340	PYRITE SCRAPER
j-	JZ 1		Oak Cleek #7	000	_200	<u> </u>	10/13/1302	10.55	10/10/1302	1.50	14.50	- 040	BOILER, REDUCED THROTTLE
						f		1		1			PRESSURE BECAUSE OF WATER WALL
Ì	521	178	Oak Creek #7	000*	235	D1	10/17/1982	12:00	10/20/1982	7:35	67.58	1005	LEAK ELEV 87 SE CORNER
+	. <u> </u>	_!/_	Oak Grock #7				10/1//1002		10/20/1002		- 07.00	1000	22/11/22/3/32/33/11/21/
1						}							REPAIR CAUSE OF LOW LUBE OIL
	521	178	Oak Creek #7	000*	135	D1	10/17/1982	14:05	10/17/1982	22:00	7.91	3415	PRESSURE ON 72 BOILER FEED PUMP
-													BOILER, REDUCED THROTTLE
-									}			•	PRESSURE BECAUSE OF WATER WALL
	521	178	Oak Creek #7	000*	200	D1	10/20/1982	7:35	10/20/1982	9:59	2.4	1005	LEAK ELEV 87 SE CORNER
													BOILER, REPAIR WATER WALL LEAK
	521	178	Oak Creek #7			U1	10/20/1982	9:59	10/23/1982	1:20	63.35	1005	ELEV 87 SE VORNER
	521	178	Oak Creek #7	000*	200	D1	10/24/1982	16:15	10/24/1982	20:00	3.75	1850	HIGH SILICA IN BOILER WATER
I_												-	
1	Ì						1	ŀ					PRECIPITATOR PROBLEMS DUE TO
L	521	178	Oak Creek #7	000*	185	D1	11/2/1982	10:30	11/3/1982	4:30	18	8550	MOISTURE CAUSING FIELD PROBLEMS
1	}				 .			ļ		1			REPAIR BOILER WATER WALL AND
L	521		Oak Creek #7		l	U2	11/3/1982	21:53	11/8/1982	19:53	118		REHEAT TUBE LEAKS
1	521	178	Oak Creek #7		<u> </u>	U1	11/25/1982	6:24	11/28/1982	10:34	76.1 <u>6</u>	1005	BOILER, REPAIR WATER WALL LEAK
	}					_	<u> </u>						74 MILL, REPAIR TORN BELT ON 74
	521	178	Oak Creek #7	000•	250	<u>D1</u>	11/29/1982	3:00	11/30/1982	1:45	22.75	250	MILL GRAVIMETRIC FEEDER BELT
٤						i		i					REDUCED BOILER PRESSURE WATER
打	521	178	Oak Creek #7	000*	210	D1	11/30/1982	1:45	11/30/1982	21:56	20.18	1000	WALL LEAKS
Ž				. }		.		24.50				4400	BOILER, REPAIR REHEAT AND WATER
4	521	178	Oak Creek #7		ļ	<u>U1</u>	11/30/1982	21:56	12/3/1982	10:29	84.55		WALL LEAKS
WEPCO 40091		470	0-1-0				40/00/4050	00:50	10/04/1000		77.0		REPAIR FRONT WATER WALL LEAK AT
2	521	178	Oak Creek #7			U2	12/20/1982	20:50	12/24/1982	2:03	77.21		B3 SOOT BLOWER
	-04	470	0-1-0	0001	40-	_	40/04/4000	40.00	40/05/4800	0.00	ا ۔ ا		BOILER FUEL MASTER CONTROL OUT
	521	1/8	Oak Creek #7	000,	165	וטן	12/24/1982	16:00	12/25/1982	0:30	8.5	1710	OF SERVICE

		_				,	,						DOMES FUEL MARKET AND AND AND AND AND AND AND AND AND AND
ے ا			0.00.1.117	2001	200		10/05/1000	0.00	10/00/1000				BOILER FUEL MASTER CONTROL OUT
5	21 1	1/8	Oak Creek #7	000*	200	וטן	12/25/1982	0:30	12/26/1982	13:00	36.5	1710	OF SERVICE
									[REPLACE 72 MILL GRAVIMETRIC
5	21 _1	178	Oak Creek #7	000*	190	D2	12/29/1982	14:34	12/29/1982	17:33	2.98	250	FEEDER BELT
										-			REDUCED BOILER PRESSURE DUE TO
1						}							WATER WALL TUBE LEAKAGE ON
5	21 1	178	Oak Creek #7	000*	200	D1	1/4/1983	1:45	1/5/1983	21:47	44.03	1005	LOWER TUBES
											Ì		REPAIR WATER WALL LEAKS, &
ļ													REPAIR GEN OIL CIRCUIT, BREAKER C
5	1		Oak Creek #7			U1	1/5/1983	21:46	1/9/1983	21:46	96		PHASE.
5	21 1	178	Oak Creek #7			U1	1/10/1983	1:42	1/10/1983	2:16	0.56	9900	UNIT TRIPPED, OPERATOR ERROR
													75 MILL PYRITE SCRAPER BROKE-
52	21 1	178	Oak Creek #7	000*	200	D1	1/17/1983	11:30	1/17/1983	17:30	6	310	REPLACING
[71 PULVERIZER 40000 TON MILL
52	21 1	178	Oak Creek #7	000*	250	D3	1/23/1983	8:00	1/23/1983	14:30	6.5	310	INSPECTION
52	21 1	178	Oak Creek #7	000*	200	D1	1/25/1983	12:30	1/25/1983	21:00	8.5	310	REPAIR COAL LEAK #74 MILL
52			Oak Creek #7	000*	210	D1	1/27/1983	7:40	1/28/1983	2:44	19.06	1000	REPAIR BOILER WATER WALL LEAKS
52			Oak Creek #7	000*	200		1/28/1983	2:45	1/28/1983	7:40	4.91	1000	WATER WALL LEAK
52			Oak Creek #7			U1	1/28/1983	7:41	1/31/1983	8:00	72.31		REPAIR BOILER WATER WALL LEAKS
1-	1												MAKE NECESSARY REPAIRS TO OIL
52	21 1	178	Oak Creek #7	000*	240	D1	2/6/1983	15:45	2/7/1983	1:50	10.08		IGNITION SYSTEM
I			Oak Creek #7	- 000		U1	2/7/1983	19:46	2/10/1983	3:34	55.8		REPAIR WATER WALL LEAK
			Oak Creek #7	000*	250		2/21/1983	7:00	2/22/1983	1:30	18.5		PRECIPITATOR CONTROL PROBLEMS
<u>-</u> -			Jan Dioon #1			<u></u>	22000						73 MILL SYSTEM OUT OF SERVICE
52	21 1	178	Oak Creek #7	000*	225	D1	2/27/1983	14:00	2/28/1983	0:01	10.01	310	PYRITE SCRAPER BROKEN
			<u> </u>	-	_==-						10.0.1		LOSS OF MEMORY ON FSSS IGNITION
į													SYSTEM INTERLOCK SYSTEM
52	21 1	178	Oak Creek #7	000*	165	กา	3/4/1983	6:08	3/4/1983	9:00	2.86	380	PREVENTS STARTING OF MILLS
	-		<u> </u>	- 1000			<u> </u>						WATER WALL LEAK REDUCED
52	21 1	178	Oak Creek #7	000+	200	D1	3/7/1983	2:30	3/8/1983	23:32	45.03		PRESSURE ON DRUM
			Oak Creek #7			U1	3/8/1983	23:32	3/11/1983	12:26	60.9		REPAIR WATER WALL LEAK
1													WATER TUBE LEAK LOWER INCLINE
52	21 1	178	Oak Creek #7			U1	3/15/1983	22:44	3/18/1983	1:50	51.1	1030	SOUTH SIDE
			Oak Creek #7			U1	3/22/1983	14:49	3/25/1983	17:50	75.01		REPAIR WATER TUBE LEAK
													73 GRAVIMETRIC FEEDER BELT
52	21 1	178	Oak Creek #7	000*	270	D1	4/2/1983	12:30	4/4/1983	0:20	35.83	250	REPLACEMENT
			Oak Creek #7	-		PO	4/9/1983	6:05	5/9/1983	2:12	716.11		PLANNED ANNUAL OUTAGE
. —						<u></u>							REPAIR COAL LEAK ON #72
5 52	21 1	178	Oak Creek #7	000*	175	D1	5/10/1983	9:00	5/10/1983	10:45	1.75		PULVERIZER
3		-:											72 GRAVIMETRIC FEEDER
Ś 52	21 1	178	Oak Creek #7	000*	175	D1	5/10/1983	16:30	5/10/1983	22:15	5.75	250	CALIBRATION SYSTEM FAILURE
52 52	+-'												#71 FORCED DRAFT FAN-#1 BEARING
52	21 1	178	Oak Creek #7	000*	150	D1	5/11/1983	6:45	5/12/1983	21:30	38.75		OVERHEATING
			Oak Creek #7	000*	150		5/13/1983	0:45	5/13/1983	6:25	5.66		#72 INDUCED DRAFT FAN BALANCING
			Oak Creek #7	000*	240		5/17/1983	8:00	5/17/1983	10:45	2.75		STACK EMISSIONS CAUSE UNKNOWN
			200										

521 178 Oak Creek #7 000* 240 D1 5/17/1983 10:45 5/17/1983 22:21 11.6 8560 STACK EMISS 521 178 Oak Creek #7 000* 270 D1 5/17/1983 10:45 5/19/1983 10:00 47.25 200 #74 MILL OUT 73 MILL PULV 521 178 Oak Creek #7 000* 160 D1 5/19/1983 10:00 5/20/1983 1:00 15 340 SCRAPER	T-COAL CONDITIONS T-COAL CONDITIONS OPACITY T-COAL CONDITIONS T-COAL CONDITIONS T-COAL CONDITIONS T-COAL CONDITIONS T-COAL CONDITIONS T-COAL CONDITIONS
521 178 Oak Creek #7 000* 270 D1 5/17/1983 10:45 5/19/1983 10:00 47.25 200 #74 MILL OUT 73 MILL PULV 521 178 Oak Creek #7 000* 160 D1 5/19/1983 10:00 5/20/1983 1:00 15 340 SCRAPER 521 178 Oak Creek #7 000* 270 D2 5/20/1983 18:00 5/21/1983 1:30 7.5 200 &74 MILL OUT	T-COAL CONDITIONS T-COAL CONDITIONS OPACITY T-COAL CONDITIONS T-COAL CONDITIONS T-COAL CONDITIONS T-COAL CONDITIONS T-COAL CONDITIONS T-COAL CONDITIONS
521 178 Oak Creek #7 000* 160 D1 5/19/1983 10:00 5/20/1983 1:00 15 340 SCRAPER 521 178 Oak Creek #7 000* 270 D2 5/20/1983 18:00 5/21/1983 1:30 7.5 200 &74 MILL OUT	FRIZER-BROKEN PYRITE T-COAL CONDITIONS OPACITY T-COAL CONDITIONS T-COAL CONDITIONS ED PUMP OUT TO REPAIR
521 178 Oak Creek #7 000* 160 D1 5/19/1983 10:00 5/20/1983 1:00 15 340 SCRAPER 521 178 Oak Creek #7 000* 270 D2 5/20/1983 18:00 5/21/1983 1:30 7.5 200 &74 MILL OUT	T-COAL CONDITIONS OPACITY T-COAL CONDITIONS T-COAL CONDITIONS EED PUMP OUT TO REPAIR
521 178 Oak Creek #7 000* 270 D2 5/20/1983 18:00 5/21/1983 1:30 7.5 200 &74 MILL OUT	OPACITY T-COAL CONDITIONS T-COAL CONDITIONS EED PUMP OUT TO REPAIR
	OPACITY T-COAL CONDITIONS T-COAL CONDITIONS EED PUMP OUT TO REPAIR
- 1 521 178 Oak Creek #7	T-COAL CONDITIONS T-COAL CONDITIONS EED PUMP OUT TO REPAIR
	F-COAL CONDITIONS EED PUMP OUT TO REPAIR
	ED PUMP OUT TO REPAIR
521 178 Oak Creek #7 000* 130 PD 5/21/1983 1:30 5/21/1983 5:40 4.16 3410 SEAL WATER	THAP
	LVES CLOSED UNIT
	REVERSE POWER RELAY
521 178 Oak Creek #7 U1 5/22/1983 17:26 6/1/1983 16:19 238.88 540 REPAIR REHE	EAT LEAKS
BOILER BOOS	STER PUMP TRIP DUE TO
521 178 Oak Creek #7 U1 5/22/1983 0:55 5/22/1983 1:33 0.63 770 A LOW DRUM	LEVEL
521 178 Oak Creek #7 000* 270 D1 5/22/1983 1:33 5/22/1983 17:26 15.88 200 #74 MILL OUT	-COAL CONDITIONS
72 STEAM AIF	R HTR DRAIN PUMP-73
HTR DRAIN P	UMP-77 H.P. HTR
521 178 Oak Creek #7 000° 265 D1 6/15/1983 7:20 6/15/1983 10:50 3.5 3501 FLASHING TO	CONDENSER
76 AND 77 HP	FEEDWATER HEATERS
	AIR INTERNAL LEAKS
521 178 Oak Creek #7 U1 6/19/1983 5:00 6/20/1983 11:53 30.88 1510 REPAIR 72 ID	
521 178 Oak Creek #7 000° 220 D1 6/21/1983 2:00 6/21/1983 6:00 4 1850 HiGH BOILER	
	OUT TO REPAIR REHEAT
521 178 Oak Creek #7 U1 6/22/1983 20:16 6/24/1983 7:02 34.76 1060 LEAK	
	ED PUMP OUT TO
521 178 Oak Creek #7 000° 150 D2 6/25/1983 0:01 6/25/1983 2:00 1.98 3415 INSPECT LUB	
	DILER FEED PUMPS OUT
521 178 Oak Creek #7 000* 150 D1 7/1/1983 23:00 7/2/1983 10:45 11.75 3411 OF SERVICE	DIEETTI EED TOWN 3 001
	IN FORCE DRAFT FAN
521 178 Oak Creek #7 000* 120 D1 7/8/1983 7:30 7/8/1983 8:30 1 1420 BEARING	IN FORCE DRAFT FAIN
	PLATEN ASSEMBLY LEAK
	· · · _ · · _ · · _ · · _ · · · · · · · ·
521 178 Oak Creek #7 ' U3 7/9/1983 0:10 7/10/1983 5:02 28.86 1050 ELEVATION 1	
	PRAFT FAN OUT TO
521 178 Oak Creek #7 000° 130 D1 7/12/1983 1:30 7/12/1983 4:30 3 1420 REPAIR COOL	
#EPAIR COOL	LING WATER JACKET ON
521 178 Oak Creek #7 000* 135 D2 7/23/1983 0:30 7/23/1983 5:45 5.25 1420 71 FD FAN BE COMBINATION 521 178 Oak Creek #7 000* 250 D1 7/26/1983 10:00 8/1/1983 2:00 136 290 AND POOR GI COMBINATION COMBINATION COMBINATION S 521 178 Oak Creek #7 000* 265 D1 8/1/1983 2:00 8/3/1983 13:00 59 290 AND COAL QU	
Č COMBINATION	N OF 4 MILL OPERATION
9 521 178 Oak Creek #7 000° 250 D1 7/26/1983 10:00 8/1/1983 2:00 136 290 AND POOR G	
S COMBINATION	N OF 4 MILL OPERATION
	ER TUBE LEAK EL 19
	OF SERVICE-COAL
521 178 Oak Creek #7 000* 265 D1 8/8/1983 23:45 8/9/1983 14:00 14.25 200 CONDITIONS	

178 Oak Creek #7 000 120 01 01 01 01 01			 										UNIT OUT TO DEDUCE WATER WAY
521 178 Oak Creek #7		470					2,2,4,2,2		2424222				
521 178 Oak Creek #7 O00 120 D1 8/13/1983 7.55 8/13/1983 2.00 12.08 35.00 VALVE TO 66 HEATER GASKET BLO S21 178 Oak Creek #7 O00 250 D1 8/20/1983 7.15 8/23/1983 2.00 66.75 8550 PRECIPITATOR PERFERENCES	521	1/8	Oak Creek #/			<u>U1</u>	8/9/1983	22:47	8/12/1983	22:25	71.63	1000	LEAK
521 178 Oak Creek #7 O00 120 D1 8/13/1983 7.55 8/13/1983 2.00 12.08 35.00 VALVE TO 66 HEATER GASKET BLO S21 178 Oak Creek #7 O00 250 D1 8/20/1983 7.15 8/23/1983 2.00 66.75 8550 PRECIPITATOR PERFERENCES	1								ľ		j		
\$21 178 Oak Creek #7 000' 250 D1 9/19/1983 2:00 8/20/1983 1:00 2:05 6.57 8550 PRECIPITATOR PERFORMANCE										ļ			#7 HP HEATER CONDENSATE DRAIN
521 178 Coak Creek #7 000' 260 D1 8/20/1983 7:15 8/20/1983 2:00 66.75 8:560 PPECIPITATOR PROBLEMS	521			000*			8/13/1983	7:55	8/13/1983	20:00	12.08	3504	VALVE TO #6 HEATER GASKET BLOWN
521 178 Oak Creek #7 000° 140 D1 8/20/1983 1:30 8/20/1983 7:15 5.75 3415 / 18 FP REPAIR TO OIL SYSTEM REPAIR PYTITE SCRAPER ON 72 MI	521			000*	250	D1	8/19/1983	2:00	8/20/1983	1:30	23.5	8550	PRECIPITATOR PERFORMANCE
S21 178 Oak Creek #7 000° 215 D1 8/24/1983 15:04 8/24/1983 21:00 5.93 310 PULVERIZER	521	178	Oak Creek #7	000*	260	D1	8/20/1983	7:15	8/23/1983	2:00	66.75	8560	PRECIPITATOR PROBLEMS
S21 178 Oak Creek #7 000 270 D1 8/24/1983 15:04 8/24/1983 21:00 5:93 310 PULVERIZER	521	178	Oak Creek #7	000*	140	D1	8/20/1983	1:30	8/20/1983	7:15	5.75	3415	71 BFP REPAIR TO OIL SYSTEM
S21 178 Oak Creek #7 000° 270 D1 8/25/1983 2:00 9/2/1983 0:08 214.13 3299 CONDENSER BACK PRESSURE													REPAIR PYRITE SCRAPER ON 72 MILL
S21 178 Oak Creek #7 000° 270 D1 8/25/1983 2:00 9/2/1983 0:08 214.13 3299 CONDENSER BACK PRESSURE	521	178	Oak Creek #7	000*	215	D1	8/24/1983	15:04	8/24/1983	21:00	5.93	310	PULVERIZER
S21 178 Oak Creek #7 000 270 D1 8/25/1983 2.00 9/37/1983 0.08 214.13 3299 CONDENSER BACK PRESSURE													
\$21 178 Oak Creek #7 O00 225 D1 979/1983 2:00 9710/1983 2:00 24 1850 HIGH SILICA IN BOILER WATER													HIGH LAKE TEMP CAUSING EXCESSIVE
S21 178 Oak Creek #7 O00 225 D1 9/3/1983 2:00 9/10/1983 2:00 24 1850 HIGH SILICA IN BOILER WATER	521	178	Oak Creek #7	000*	270	D1	8/25/1983	2:00	9/3/1983	0:08	214.13	3299	CONDENSER BACK PRESSURE
S21 178 Oak Creek #7 O00 225 D1 9/9/1983 2:00 9/10/1983 2:00 24 1850 HIGH SILICA IN BOILER WATER LOW COAL FLOW TRIP ON START B LOW COAL FLOW TRIP ON STATT B LOW COAL FLOW TRIP ON START B LOW COAL FLOW TRIP ON START B LOW COAL FLOW TRIP ON START B LOW COAL FLOW TRIP ON START B LOW COAL FLOW TRIP ON START B LOW COAL FLOW COAL FLOW TRIP ON START	521	178	Oak Creek #7				9/3/1983	0:08	9/8/1983	13:55			
521 178 Oak Creek #7 Oak Cre	521			000*	225	D1	 					1850	HIGH SILICA IN BOILER WATER
521 178						=		==			- -		l — — — — — — — — — — — — — — — — — — —
FURNACE SLAGGED-APERATURE FURNACE SLAGGED FURNACE SLAGGED FURNACE SLAGGED FURNACE SLAGGED SAMER WALLS HEAVIL SAME SAMER WALLS HEAVIL SAME SAMER WALLS HEAVIL SAME SAMER WALLS HEAVIL SAME	521	178	Oak Creek #7			111	9/12/1983	1.44	9/12/1983	2.12	0.46	380	1
178 Oak Creek #7 000 100 D1 9/17/1983 10:15 9/17/1983 18:30 8.25 1200 SLAGGED	JE!	170	Our Olcer #7			<u> </u>	3/12/1300	1.44	3/12/1300		0.40		<u> </u>
521 178 Oak Creek #7 000° 100 D1 9/17/1983 18:30 9/17/1983 18:30 8.25 1200 SLAGGED										ļ			1
521 178 Oak Creek #7 000 200 D1 9/17/1983 18:30 9/17/1983 20:50 2.33 870 T-30 SOOTBLOWERS OUT OF SERV APERATURE SLAGGED REHEAT	521	170	Oak Crook #7	000*	100	D4	0/17/1002	10:15	0/17/1002	10:20	0.25		l .
521 178 Oak Creek #7 000° 100 D1 9/18/1983 9:30 9/19/1983 2:00 16.5 1200 PENDANTS 521 178 Oak Creek #7 000° 240 D1 9/19/1983 5:45 9/19/1983 18:47 13:03 9270 OF SERVICE 521 178 Oak Creek #7 ° U1 9/19/1983 18:47 9/26/1983 3:20 152:55 1140 SUPERHEAT PENDANT TUBE RUPTU 521 178 Oak Creek #7 ° U1 9/30/1983 15:42 10/2/1983 6:43 39:01 10:60 REHEAT TUBE RUPTURE 521 178 Oak Creek #7 000° 150 D1 10/21/1983 18:00 10/23/1983 21:35 51:58 3411 BEARING ON 71 BFP 521 178 Oak Creek #7 000° 240 D1 10/25/1983 19:30 10/28/1983 23:20 75:83 1000 BECAUSE OF WATER WALL LEAK SOUTH 521 178 Oak Creek #7 ° U2 10/28/1983 23:19 10/30/1983 4:37 29:3 1005 EAST CORNER OF EL 48 521 178 Oak Creek #7 000° 140 D1 10/31/1983 9:15 10/31/1983 9:55 0.66 3410 MOTOR 521 178 Oak Creek #7 000° 270 D1 11/2/1983 17:30 11/3/1983 7:15 13:75 9250 LOW BTU COAL 521 178 Oak Creek #7 000° 270 D1 11/5/1983 19:30 11/30/1983 19:30 8:5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 19:30 8:5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 19:30 8:5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 19:30 8:5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 6:00 5 310 74 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 6:00 5 310 74 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 6:00 5 310 74 & 72 MILLS OUR FOR REPAIRS 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/10/1983 2:50 5.33 8430 [HIGH OPACITY]	321	170	Oak Cleek #7	000	100	<u> </u>	9/1//1903	10.15	9/1//1903	10.30	0.23	1200	SLAGGED
521 178 Oak Creek #7 000* 100 D1 9/18/1983 9:30 9/19/1983 2:00 16.5 1200 PENDANTS 521 178 Oak Creek #7 000* 240 D1 9/19/1983 5:45 9/19/1983 18:47 13:03 9270 OF SERVICE 521 178 Oak Creek #7 * U1 9/30/1983 18:47 9/26/1983 3:20 152:55 1140 SUPERHEAT PENDANT TUBE RUPTU 521 178 Oak Creek #7 * U1 9/30/1983 15:42 10/2/1983 6:43 39:01 10:60 REHEAT TUBE RUPTURE 521 178 Oak Creek #7 000* 150 D1 10/21/1983 18:00 10/23/1983 21:35 51:58 3411 BEARING ON 71 BFP 521 178 Oak Creek #7 000* 240 D1 10/25/1983 19:30 10/28/1983 23:20 75:83 1000 BECAUSE OF WATER WALL LEAK SOUTH 521 178 Oak Creek #7 * U2 10/28/1983 23:19 10/30/1983 4:37 29:3 1005 EAST CORNER OF EL 48 #73 BLR FED PUMP NOISY AT LP PUM 521 178 Oak Creek #7 000* 270 D1 11/2/1983 17:30 11/3/1983 7:15 13:75 9250 LOW BTU COAL 521 178 Oak Creek #7 000* 200 D1 11/5/1983 19:30 11/3/1983 19:30 8:5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 19:30 8:5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 19:30 8:5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 19:30 8:5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 19:30 8:5 310 74 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 19:30 8:5 310 74 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 21:30 63.5 9250 POOR QUALITY COAL 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 21:30 63.5 9250 POOR QUALITY COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 21:30 63.5 9250 POOR QUALITY COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 21:30 11/10/1983 21:30 63.5 9250 POOR QUALITY OF COAL	F04	470	Onla Cronte #7	000*	000	D4	0/47/4000	10.00	0/47/4000	00.50	0.00	070	T 20 COOTEL OWERS OUT OF SERVICE
521 178 Oak Creek #7 O00° 100 D1 9/18/1983 9:30 9/19/1983 2:00 16.5 1200 PENDANTS WET GREEN COAL AND 74 MILL OUT	521	1/8	Oak Creek #7	000	200	וט	9/17/1983	18:30	9/17/1983	20:50	2.33	870	
521 178 Oak Creek #7		470	0.1.0.1.117	0001	400	2	0/40/4000	0.00	0404000	0.00	40.5	1000	
521 178 Oak Creek #7 O00 240 D1 9/19/1983 5:45 9/19/1983 18:47 13:03 9270 OF SERVICE	521	1/8	Oak Creek #7	000	100	וטו	9/18/1983	9:30	9/19/1983	2:00	16.5	1200	
521 178 Oak Creek #7						٥.	0404000		0404000	40.47	40.00	0070	_
521 178 Oak Creek #7	521	1/8	Oak Creek #7	000-	240	וט	9/19/1983	5:45	9/19/1983	18:47	13.03	9270	OF SERVICE
521 178 Oak Creek #7							0/10/1000		0/00/1000		450.55	4440	OUDER LEAT READ ANT TURE RUPTURE
521 178 Oak Creek #7 000* 150 D1 10/21/1983 18:00 10/23/1983 21:35 51.58 3411 BEARING ON 71 BFP 521 178 Oak Creek #7 000* 240 D1 10/25/1983 19:30 10/28/1983 23:20 75.83 1000 BECAUSE OF WATER WALL LEAK 521 178 Oak Creek #7 * U2 10/28/1983 23:19 10/30/1983 4:37 29.3 1005 EAST CORNER OF EL 48 521 178 Oak Creek #7 000* 140 D1 10/31/1983 9:15 10/31/1983 9:55 0.66 3410 MOTOR 521 178 Oak Creek #7 000* 270 D1 11/2/1983 17:30 11/3/1983 7:15 13.75 9250 LOW BTU COAL 521 178 Oak Creek #7 000* 200 D1 11/5/1983 16:35 11/5/1983 19:30 2.41 3413 COUPLING 521 178 Oak Creek #7 000* 180 D1 11/9/1983 11:00 11/9/1983 19:30 8.5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 1:00 11/9/1983 1:00 5.5 9250 POOR QUALITY COAL 521 178 Oak Creek #7 000* 200 D1 11/10/1983 1:00 11/10/1983 1:00 5.5 9250 POOR QUALITY COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 1:00 11/10/1983 2:30 63.5 9250 POOR QUALITY COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 2:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 2:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 2:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 2:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 2:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 2:30 63.5 9250 POOR QUALITY OF COAL	L												<u> </u>
521 178 Oak Creek #7 000* 150 D1 10/21/1983 18:00 10/23/1983 21:35 51.58 3411 BEARING ON 71 BFP S21 178 Oak Creek #7 000* 240 D1 10/25/1983 19:30 10/28/1983 23:20 75.83 1000 BECAUSE OF WATER WALL LEAK REPAIR WATER WALL LEAK SOUTH REPAIR WATER WALL LEAK SOUTH SOUTH PUND SOUTH SOUTH REPAIR WATER WALL LEAK SOUTH SOUTH REPAIR WATER WALL LEAK SOUTH SOUTH REPAIR WATER WALL LEAK SOUTH SOUTH REPAIR WATER WALL LEAK SOUTH SOUTH REPAIR WATER WALL LEAK SOUTH SOUTH PUND SOUTH SOUTH PUND SOUTH SOUTH REPAIR WATER WALL LEAK SOUTH SOUTH PUND SOUTH SOUTH PUND SOUTH SOUTH PUND SOUTH SOUTH PUND SOUTH SOUTH PUND SOUTH SOUTH PUND SOUTH SOUTH PUND SOUTH SOUTH SOUTH SOUTH PUND SOUTH SOUTH PUND SOUTH SOUTH SOUTH SOUTH PUND SOUTH	521	178	Oak Creek #7		_	וטו	9/30/1983	15:42	10/2/1983	6:43	39.01	1060	
521 178 Oak Creek #7 000° 240 D1 10/25/1983 19:30 10/28/1983 23:20 75.83 1000 BECAUSE OF WATER WALL LEAK 521 178 Oak Creek #7 ° U2 10/28/1983 23:19 10/30/1983 4:37 29.3 1005 EAST CORNER OF EL 48 521 178 Oak Creek #7 000° 140 D1 10/31/1983 9:15 10/31/1983 9:55 0.66 3410 MOTOR 521 178 Oak Creek #7 000° 270 D1 11/2/1983 17:30 11/3/1983 7:15 13.75 9250 LOW BTU COAL 521 178 Oak Creek #7 000° 200 D1 11/5/1983 16:35 11/5/1983 19:30 02.41 3413 COUPLING 521 178 Oak Creek #7 000° 270 D1 11/9/1983 11:00 11/9/1983 19:30 8.5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 100 5.5 9250 POOR QUALITY COAL 521 178 Oak Creek #7 000° 270 D1 11/9/1983 100 11/10/1983 100 5.5 9250 POOR QUALITY COAL 521 178 Oak Creek #7 000° 270 D1 11/10/1983 1:00 11/10/1983 6:00 5 310 74 & 72 MILLS OUR FOR REPAIRS 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/10/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/10/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL							10/01/1000		100011000	24.25	5 4 5 0	0444	
521 178 Oak Creek #7	521	178	Oak Creek #7	000	150	D1	10/21/1983	18:00	10/23/1983	21:35	51.58	3411	
S21 178 Oak Creek #7 V2 10/28/1983 23:19 10/30/1983 4:37 29.3 1005 EAST CORNER OF EL 48 #73 BLR FD PUMP NOISY AT LP PU						<u>. </u>							l e e e e e e e e e e e e e e e e e e e
521 178 Oak Creek #7	521	178	Oak Creek #7	000	240	D1	10/25/1983	19:30	10/28/1983	23:20	75.83	1000	
521 178 Oak Creek #7 000* 140 D1 10/31/1983 9:15 10/31/1983 9:55 0.66 3410 MOTOR 521 178 Oak Creek #7 000* 270 D1 11/2/1983 17:30 11/3/1983 7:15 13.75 9250 LOW BTU COAL 521 178 Oak Creek #7 000* 200 D1 11/5/1983 16:35 11/5/1983 19:00 2.41 3413 COUPLING 521 178 Oak Creek #7 000* 180 D1 11/9/1983 11:00 11/9/1983 19:30 8.5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 1:00 5.5 9250 POOR QUALITY COAL. 521 178 Oak Creek #7 000* 200 D1 11/10/1983 1:00 11/10/1983 6:00 5 310 74 & 72 MILLS OUR FOR REPAIRS 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 210 D1 11/10/1983 21:30 11/13/1983 2:50 5.33 8430 HIGH OPACITY				1									
521 178 Oak Creek #7 000* 140 D1 10/31/1983 9:15 10/31/1983 9:55 0.66 3410 MOTOR 521 178 Oak Creek #7 000* 270 D1 11/2/1983 17:30 11/3/1983 7:15 13.75 9250 LOW BTU COAL 521 178 Oak Creek #7 000* 200 D1 11/5/1983 16:35 11/5/1983 19:00 2.41 3413 COUPLING 521 178 Oak Creek #7 000* 180 D1 11/9/1983 11:00 11/9/1983 19:30 8.5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 6:00 5.5 9250 POOR QUALITY COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 6:00 5 310 74 & 72 MILLS OUR FOR REPAIRS 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7	521	178	Oak Creek #7			U2	10/28/1983	23:19	10/30/1983	4:37	29.3	1005	
521 178 Oak Creek #7 000* 270 D1 11/2/1983 17:30 11/3/1983 7:15 13.75 9250 LOW BTU COAL 521 178 Oak Creek #7 000* 200 D1 11/5/1983 16:35 11/5/1983 19:00 2.41 3413 COUPLING 521 178 Oak Creek #7 000* 180 D1 11/9/1983 11:00 11/9/1983 19:30 8.5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 1:00 5.5 9250 POOR QUALITY COAL. 521 178 Oak Creek #7 000* 200 D1 11/10/1983 1:00 11/10/1983 6:00 5 310 74 & 72 MILLS OUR FOR REPAIRS 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/10/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 210 D1 11/10/1983 21:30 11/13/1983 2:50 5.33 8430 HIGH OPACITY	.1					ļ							
521 178 Oak Creek #7 000° 200 D1 11/5/1983 16:35 11/5/1983 19:00 2.41 3413 COUPLING 521 178 Oak Creek #7 000° 180 D1 11/9/1983 11:00 11/9/1983 19:30 8.5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 1:00 5.5 9250 POOR QUALITY COAL. 521 178 Oak Creek #7 000° 200 D1 11/10/1983 1:00 11/10/1983 6:00 5 310 74 & 72 MILLS OUR FOR REPAIRS 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000° 210 D1 11/12/1983 21:30 11/13/1983 2:50 5.33 8430 HIGH OPACITY													
521 178 Oak Creek #7 000* 200 D1 11/5/1983 16:35 11/5/1983 19:00 2.41 3413 COUPLING 521 178 Oak Creek #7 000* 180 D1 11/9/1983 11:00 11/9/1983 19:30 8.5 310 71 & 72 MILLS OUT OF SERVICE 521 178 Oak Creek #7 000* 270 D1 11/9/1983 19:30 11/10/1983 1:00 5.5 9250 POOR QUALITY COAL. 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000* 210 D1 11/12/1983 21:30 11/13/1983 2:50 5.33 8430 HIGH OPACITY	521	178	Oak Creek #7	000*	270	D1	11/2/1983	17:30	11/3/1983	7:15	13.75	9250	
521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 1:00 5.5 9250 POOR QUALITY COAL. 521 178 Oak Creek #7 000° 200 D1 11/10/1983 1:00 11/10/1983 6:00 5 310 74 & 72 MILLS OUR FOR REPAIRS 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000° 210 D1 11/12/1983 21:30 11/13/1983 2:50 5.33 8430 HIGH OPACITY	-												
521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 1:00 5.5 9250 POOR QUALITY COAL. 521 178 Oak Creek #7 000° 200 D1 11/10/1983 1:00 11/10/1983 6:00 5 310 74 & 72 MILLS OUR FOR REPAIRS 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000° 210 D1 11/12/1983 21:30 11/13/1983 2:50 5.33 8430 HIGH OPACITY	521	178	Oak Creek #7	000*			11/5/1983	16:35					
521 178 Oak Creek #7 000° 270 D1 11/9/1983 19:30 11/10/1983 1:00 5.5 9250 POOR QUALITY COAL. 521 178 Oak Creek #7 000° 200 D1 11/10/1983 1:00 11/10/1983 6:00 5 310 74 & 72 MILLS OUR FOR REPAIRS 521 178 Oak Creek #7 000° 270 D1 11/10/1983 6:00 11/12/1983 21:30 63.5 9250 POOR QUALITY OF COAL 521 178 Oak Creek #7 000° 210 D1 11/12/1983 21:30 11/13/1983 2:50 5.33 8430 HIGH OPACITY	521	178	Oak Creek #7	000*				11.00			8.5		
521 178 Oak Creek #7 000° 210 D1 11/12/1983 21:30 11/13/1983 2:50 5.33 8430 HIGH OPACITY	521												
521 178 Oak Creek #7 000° 210 D1 11/12/1983 21:30 11/13/1983 2:50 5.33 8430 HIGH OPACITY	521	178	Oak Creek #7	000*			11/10/1983	1:00	11/10/1983				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	521		L		270	D1	11/10/1983	6:00	11/12/1983			·- _	
521 178 Oak Creek #7 000* 160 D1 11/13/1083 2:50 11/13/1083 10:00 16 16 14/00 HIGH AYIAI VIRRATION ON 71 FD FA				000*						2:50			
321 170 Oak Greak #7 000 100 D1 11/13/1303 2.30 11/13/1303 13:00 10:10 1400 MGH AXIAL VIBRATION ON 711 D17	521	178	Oak Creek #7	000*	160	D1	11/13/1983	2:50	11/13/1983	19:00	16,16	1400	HIGH AXIAL VIBRATION ON 71 FD FAN

_													
													81 LOW PRESSURE BOILER FEED
1	521	188	Oak Creek #8	000*	140	D1	10/28/1983	5:45	10/28/1983	9:15	3.5	3410	PUMP BEING REPACKED
- 1													81 LOW PRESSURE BOILER FEED
-	521	188	Oak Creek #8	000*	140	D1	10/28/1983	10:30	10/28/1983	12:30	2	3410	PUMP BEING REPACKED
-													HIGH CONDENSER HOTWELL LEVEL-#1
- 1							1						& 2 AND #86 FEEDWATER HEATER
- 1	521	188	Oak Creek #8	000*	250	D1	10/28/1983	16:15	10/28/1983	20:20	4.08	3501	DRAIN PUMPS O.O.S.
1-	521	188	Oak Creek #8	000*	170	D1	11/5/1983	15:45	11/5/1983	21:40	5.91	1140	SUPERHEAT PENDANTS FOULING
- 1	521	188	Oak Creek #8	*		U1	11/5/1983	21:40	11/6/1983	18:18	20.63	1040	REPAIR SUPERHEAT LEAK
	521	188	Oak Creek #8	000*	225	D1	11/7/1983	0:45	11/7/1983	6:05	5.33	1850	HIGH SILICA IN BOILER WATER
-	521	188	Oak Creek #8	•		5	11/7/1983	8:44	11/10/1983	8:41	71.94	1040	REPAIR SUPERHEAT LEAK
- 1	521	188	Oak Creek #8	•		U1	11/11/1983	5:35	11/13/1983	18:24	60.81		REPAIR SUPERHEAT LEAK
1	521	188	Oak Creek #8	•		U1	11/15/1983	18:42	11/24/1983	22:00	219.3		REPAIR SUPERHEAT LEAK
	521		Oak Creek #8	•		МО	11/24/1983	22:00	12/1/1983	1:00	171		WATER SIDE FOULING CLEANING
	521		Oak Creek #8	•		U1	12/1/1983	1:01	12/11/1983	17:01	256		REPAIR WATER TUBE LEAKS
	521	188	Oak Creek #8	000*	200		12/12/1983	2:00	12/12/1983	3:31	1.51		HIGH SILICA IN BLR WATER
-	- == -												BBP DIFFERENTIAL TRIP DURING
ı	521	188	Oak Creek #8	•		U1	12/12/1983	3:31	12/12/1983	4:29	0.96	740	TESTING
-	521		Oak Creek #8	000*	200		12/12/1983	4:29	12/13/1983	2:30	22.01		HIGH SILICA IN BLR WATER
-	521		Oak Creek #8	000*	250		12/13/1983	2:30	12/15/1983	1:45	47.25		HIGH SILICA IN BLR WATER
-	521		Oak Creek #8	000*	270		12/15/1983	1:45	12/16/1983	1:45	24		HIGH SILICA IN BLR WATER
1-													BLR RECIRCULATION PMP PRESSURE
1	521	188	Oak Creek #8	000*	270	D1	12/16/1983	1:45	12/16/1983	5:50	4.08		LOW
-	521		Oak Creek #8	000*	100		12/17/1983	18:15	12/19/1983	12:00	41.75	880	FLYASH SYSTEM PROBLEMS
	521		Oak Creek #8	000*	186		12/19/1983	12:00	12/19/1983	17:00	5		FLYASH SYSTEM PROBLEMS
	521		Oak Creek #8	000*	135		12/19/1983	18:00	12/20/1983	6:00	12	880	FLYASH SYSTEM PROBLEMS
	521	188	Oak Creek #8	•		U1	12/22/1983	1:53	12/23/1983	6:45	28.86	1040	SUPERHEAT LEAK
	521		Oak Creek #8	•		U1	12/23/1983	6:46	12/23/1983	11:48	5.03	4250	HIGH VIB ON B LOW PRESS TURB
- [521	188	Oak Creek #8	•		U1	12/27/1983	3:00	12/28/1983	3:09	24.15	1040	SUPERHEAT LEAK
													REDUCED PRESS SUPHT TUBE. EVENT
-	521	188	Oak Creek #8	000*	270	D1	12/29/1983	4:30	12/31/1983	24:00:00	67.5	1350	CONTINUES IN '84 SEE EVENT NO. 1
-						-							REDUCED PRESS, SUPHT TUBE.
1								l		İ	1		EVENT STARTED 12/29/83 04:30, '83
	521	188	Oak Creek #8	000	270	D1	1/1/1984	0:00	1/6/1984	11:05	131.08	1350	EVENT NO. 113.
-	521		Oak Creek #8	000	245		1/6/1984	11:05	1/8/1984	13:45	50.66		HEATER DRAIN PUMPS
ļ	521		Oak Creek #8	000*	261		1/8/1984	13:45	1/11/1984	1:15	59.5		HEATER DRAIN PUMPS
-	521		Oak Creek #8	000*	270		1/11/1984	1:15	1/16/1984	1:15	120		HEDUCED PRESS. FOR RELIABILITY
-	521		Oak Creek #8	000*	250		1/16/1984	1:15	1/19/1984	7:10	77.91		OVERHAUL 85 MILL
٠ کے	521		Oak Creek #8	000*	270		1/19/1984	7:10	1/21/1984	3:00	43.83		OVERHAUL 85 MILL
<u> </u>	521		Oak Creek #8	000*	260		1/21/1984	3:00	1/27/1984	6:24	147.39		OVERHAUL 85 MILL
Ž :	521		Oak Creek #8	000*	245		1/27/1984	6:24	1/27/1984	8:00	1.6		ELECTROSTATIC PRECIP PROBLEMS
WEPCO 40131	521		Oak Creek #8	000*	260		1/27/1984	8:00	1/29/1984		41		OVERHAUL 85 MILL
<u> </u>	521		Oak Creek #8	000*	245		1/29/1984	1:00	1/29/1984	11:00	10		ELECTROSTATIC PRECIP PROBLEMS
<u>~</u>	521		Oak Creek #8	000*	260		1/29/1984	11:00	2/3/1984	9:30	118.5		OVERHAUL 85 MILL
	521		Oak Creek #8	000*	200		2/3/1984	9:30	2/3/1984	22:28	12.96		OPERATION AT REDUCED POWER
						<u> </u>							

521	178	Oak Creek #7	000*	270	D1	11/13/1983	19:00	11/16/1983	1:45	54.75	9250	POOR QUALITY OF COAL
521	178	Oak Creek #7	000*	265	D1	11/21/1983	8:25	11/26/1983	8:00	119.58	310	#72 MILL OUT FOR REPAIRS
	7						···					#72 & #73 MILL O.O.S. 72 SHAFT
521	178	Oak Creek #7	000*	200	D1	11/26/1983	8:00	11/26/1983	13:20	5.33	310	REPAIR #73 GRAVIMETRIC FDR
521		Oak Creek #7	000*	265	D1	11/27/1983	12:30	11/28/1983	0:30	12		#72 MILL OUT
521		Oak Creek #7	000*	245		11/28/1983	0:30	11/29/1983	2:00	25.5		BOILER CONTROL PROBLEMS
521		Oak Creek #7	000*	265		11/29/1983	2:00	11/30/1983	2:00	24		WET COAL
521		Oak Creek #7	000*	200		11/30/1983	23:12	12/1/1983	5:20	30.13		REPAIR COAL LEAK ON 74 MILL
) J		Our Older #7		200	= !	11/30/1303		12 1/1303	3.20	30.13	310	BURNING CHEMICAL REFUSE FROM
521	178	Oak Creek #7	000-	263	D4	12/1/1983	8:00	12/1/1983	16:30	8.5	0600	OC8 BOILER CHEMICAL CLEANING
J	170	Oak Oleek #7	1000	200	J-4	12 1/ 1903	0.00	12/1/1903	10.50	0.0	3030	BURNING CHEMICAL REFUSE FROM
521	178	Oak Creek #7	000*	263	D4	12/1/1983	21:30	12/2/1983	4:00	6.5	9690	
J 52.1	1	Oak Oleek #7	1000		104	12/1/1903	21.50	122 1303	4.00		3030	WATER TUBE LEAK EL 19 REDUCED
1.												BLR PRESS 500# TO PREVENT FORCED
521	178	Oak Creek #7	000*	220	D2	12/2/1983	22:00	12/5/1983	6:00	56	1000	OUTAGE
22.	11/0	Oak Oleek #7	- 000		<u> </u>	12/2/1905		12/3/1903	0.00		1000	WATER TUBE LK EL 19 RREDUCED BLR
521	178	Oak Creek #7	000*	235	D1	12/6/1983	10:05	12/7/1983	1:00	14.91	1000	PRESS 500#
521	1	Oak Creek #7	•	200	U1	12/8/1983	9:02	12/11/1983	18:47	81.75		WATER TUBE LEAK
521	4	Oak Creek #7	000*	225		12/12/1983	2:00	12/11/1983	2:30	24.5		HIGH SILICA IN BLR WATER
521	1/0	Oak Cleek #7	000	223	ייט	12/12/1903	2.00	12/13/1903	2.30	24.5	1630	HIGH SILICA IN BLA WATER
504	470	0-1-0	000*	000	D4	10/00/1000	0.00	40/00/4000	00.45	45.75	4000	DEDUCED PRESS WER MALL TRE LEAV
521		Oak Creek #7	000*	220		12/26/1983	8:00	12/26/1983	23:45	15.75		REDUCED PRESS-WTR WALL THE LEAK
521	178	Oak Creek #7	000*	200	וט	12/26/1983	23:45	12/30/1983	23:14	95.48	1000	REDUCED PRESSWTR WALL LEAK
											4000	REPAIR WATER WALL LEAK. EXTENDS
521	178	Oak Creek #7			U3	12/30/1983	23:14	12/31/1983	24:00:00	24.76	1000	INTO '84. SEE EVENT NO. 1
ļ						1			ı	1		REPAIR WTR WALL LEAK. OUTAGE
												STARTED IN '83, EVENT 99. ACTUAL
521		Oak Creek #7			U3	1/1/1984	0:00	1/2/1984	1:56	25.93		STARTIME 12/30/83 23:14
521		Oak Creek #7			U1	1/2/1984	3:42	1/2/1984	4:10	0.46		PUSH BUTTON TRIP, HI DRUM PRESS.
521		Oak Creek #7			U2	1/3/1984	22:17	1/4/1984	1:45	3.46		REHEAT LEAK
521		Oak Creek #7	000*	120		1/4/1984	11:45	1/4/1984	18:30	6.75		BAG HOUSE SYSTEM.
521		Oak Creek #7	000*	120		1/5/1984	7:15	1/6/1984	1:15	18		FLYASH HANDLING EQUIPMENT.
521		Oak Creek #7	000*	220		1/19/1984	7:55	1/19/1984	10:10	2.25		BOILER WATER CONDITIONS
521		Oak Creek #7	000*	240		1/19/1984	10:10	1/19/1984	11:05	0.91		BOILER WATER CONDITIONS
521		Oak Creek #7	000*	270		1/21/1984	3:00	1/23/1984	8:15	53.25		FLUE GAS PROBLEM
521	1	Oak Creek #7	000*	250		1/24/1984	9:40	1/24/1984	12:30	2.83		DESLAGGING OF REHEATER
521		Oak Creek #7	000	120		1/24/1984	12:30	1/24/1984	16:30	4		DESLAGGING OF REHEATER
521	178	Oak Creek #7	000*	225		1/26/1984	12:10	1/27/1984	2:00	13.83		ELECTROSTATIC PRECIP PROBLEMS
521	178	Oak Creek #7	000*	235	D1	1/27/1984	6:24	1/27/1984	22:13	15.81	8560	ELECTROSTATIC PRECIP PROBLEMS
521	178	Oak Creek #7			U1	1/27/1984	22:13	1/28/1984	20:35	22.36	760	BOILER RECIRCULATION VALVE
521	178	Oak Creek #7	000-	225	D1	1/29/1984	1:00	1/29/1984	23:21	22.35	1850	BOILER WATER CONDITION
521		Oak Creek #7			U1	1/30/1984	13:41	2/3/1984	3:25	85.73	1005	GENERATING TUBES
521		Oak Creek #7	000	120		2/5/1984	0:30	2/5/1984	4:30	4		BOTTOM ASH SYSTEM
521	+	Oak Creek #7	000*	260		2/8/1984	5:25	2/8/1984	11:05	5.66	_	75 GRAVIMETRIC FEEDER
521		Oak Creek #7	000*	110		2/13/1984	15:00	2/13/1984	17:00	2		FLYASH HANDLING
521		Oak Creek #7	000*	120		2/18/1984	11:05	2/18/1984	13:30	2,41		FLYASH HANDLING
521		Oak Creek #7	000.	180		2/18/1984	13:30	2/18/1984	20:00	6.5		ID FAN MOTOR CLEAN
	1,0	Can Olden #/	1000	100	<u> </u>	2/10/1304	10.00	2 10/1304	20.00	0.5	1770	ID I AIT ING TOTT OLL AIT

F04	470 0-14	200 014 47	000*	130	<u> </u>	2/25/1984	10.00	2/25/1984	15:30	3.5	4470 ID EAN MOTOD OF EAN
521	178 Oak (-· · 				+	12:00				1470 ID FAN MOTOR CLEAN
521	178 Oak (000*	230		3/3/1984	17:00	3/4/1984	10:55	17.91	4261 CONTROL VALVES
521	178 Oak (000*	190		3/4/1984	10:55	3/5/1984	13:50	26.91	4261 CNTRL VLVS BRKN STEM #4 VLV
521	178 Oak 0				U3	3/5/1984	13:50	3/15/1984	11:25	237.58	4261 CONTROL VALVES
521	178 Oak 0	Creek #7	000,	220		3/16/1984	1:10	3/17/1984	7:00	29.83	1850 BOILER WATER CONDITION
521	1.78 Oak (Creek #7	000*	265		3/17/1984	7:00	3/17/1984	10:00	3	1850 BOILER WATER CONDITION
521	178 Oak 0				U1	3/23/1984	10:50	3/26/1984	2:50	64	1005 GENERATING TUBE
521	178 Oak C	Creek #7	000*	250	D1	3/28/1984	0:10	3/28/1984	4:30	4.33	320 FOREIGN OBJECT IN MILL
521	178 Oak C				U1	3/30/1984	7:19	4/2/1984	14:00	78.68	1005 GENERATING TUBE
521	178 Oak 0	Creek #7			U1	4/2/1984	14:00	4/2/1984	16:37	2.61	380 LIGHT-OFF SYSTEMS
521	178 Oak 0	Creek #7	000*	250		4/3/1984	2:00	4/3/1984	14:00	12	1850 BOILER WATER CONDITION
521	178 Oak C	Creek #7	000*	260	D2	4/5/1984	21:00	4/5/1984	23:30	2.5	330 COAL LEAK 73 MILL
521	178 Oak C	Creek #7	000*	235	D1	4/8/1984	4:20	4/8/1984	10:10	5.83	310 74 MILL - #2 ROLLER
521	178 Oak C	Creek #7	000*	265	D1	4/9/1984	5:30	4/10/1984	3:50	22.33	250 71 GRAV FEEDER
521	178 Oak C	Creek #7	000*	170	D1	4/15/1984	5:30	4/15/1984	14:00	8.5	3411 FEEDWATER PUMP MOTOR
1											ELECTROSTATIC PRECIPITATOR
521	178 Oak C	Creek #7	000*	255	D1	4/16/1984	9:35	4/16/1984	20:30	10.91	8560 PROBLEMS
521	178 Oak 0	Creek #7	000*	260	D1	4/16/1984	20:30	4/17/1984	10:45	14.25	1530 OTHER FLUE GAS PROBLEMS
521	178 Oak 0	Creek #7	000*	192	D1	4/17/1984	10:45	4/17/1984	11:30	0.75	4261 CONTROL VALVES
521	178 Oak C	Creek #7	000*	260	D1	4/17/1984	11:30	4/17/1984	18:00	6.5	1530 OTHER FLU GAS PROBLEMS
521	178 Oak 0	Creek #7			U1	4/21/1984	21:22	4/24/1984	0:01	50.65	1005 GENERATING TUBES
521	178 Oak 0				U2	4/24/1984	0:02	4/24/1984	3:00	2.96	690 OTHER FEEDWATER PROBLEMS
521	178 Oak C	Creek #7			Ū1	4/24/1984	3:00	4/24/1984	11:44	8.73	1005 GENERATING TUBES
521	178 Oak C		000*	193	D1	4/24/1984	19:30	4/25/1984	1:45	6.25	1850 BOILER WATER CONDITIONS
521	178 Oak C	Creek #7	000*	270	D1	4/26/1984	13:00	4/27/1984	14:00	25	1530 OTHER FLU GAS PROBLEMS
521	178 Oak C	reek #7	000*	250	D1	4/28/1984	7:30	4/28/1984	9:15	1.75	250 PULV FDRS 75 GRAVIMETRIC
521	178 Oak C		000*	250		4/28/1984	13:35	4/28/1984	20:10	6.58	330 PULV COAL LEAK
521	178 Oak 0		000*	250		4/29/1984	7:30	4/29/1984	12:20	4.83	250 PULV FDRS 75 GRAVIMETRIC
521	178 Oak C		000*	110		5/4/1984	22:20	5/7/1984	2:55	52.58	265 OTHER AIR PREHEATER PROBLEMS
521	178 Oak C		000*	150		5/9/1984	16:10	5/9/1984	20:30	4.33	1400 FD FAN-REPAIR WATER LEAK
521	178 Oak C		1000		<u> </u>	5/10/1984	4:18	5/13/1984	1:36	69.3	1005 GENERATING TUBE LEAK
521	178 Oak 0		000*	225		5/13/1984	1:36	5/14/1984	1:00	23.4	1850 BLR WATER QUALITY
521	178 Oak C		000*	225		5/14/1984	7:30	5/14/1984	10:30	3	8560 ELECT STAT PRECIP PROB
521	178 Oak C		300		U1	5/15/1984	11:14	5/20/1984	5:32	114.3	1050 SECOND SUPERHEATER
521	178 Oak C		000*	170		5/20/1984	5:32	5/23/1984	7:30	73.96	1410 FD FAN MOTOR
521	178 Oak 0		000*	180		5/23/1984	7:30	5/23/1984	12:50	5.33	1410 FD FAN MOTOR
521	178 Oak C		000*	255		5/23/1984	12:50	5/23/1984	17:00	4.16	290 PULV RED CAPACITY DUE TO WEAR
521	178 Oak 0		000*	255		5/25/1984	13:00	5/26/1984	0:55	11.91	9270 WET COAL
521	178 Oak C		000	255		5/26/1984	13:45	5/26/1984	14:10	0.41	290 PULV REDUCED CAPACITY
521	178 Oak (U1	5/31/1984	16:30	6/3/1984	11:05	66.58	1080 ECONOMIZER LEAK
521	178 Oak (<u>U1</u> U1	6/3/1984	11:05	6/3/1984	15:50	4.75	4301 LOSS OF VOLTAGE TO MAIN STOP VV
521	178 Oak (000*	260		6/6/1984	12:00	6/6/1984	22:00	1.75	9290 OTHER FUEL QUALITY PROBLEMS
521	178 Oak (000-	190		6/8/1984	22:10	6/9/1984	0:30	2.33	340 PULVERIZER PROBLEMS
521	178 Oak 0		000	245		6/18/1984	13:00	6/18/1984	19:50	6.83	9290 OTHER FUEL QUALITY PROBLEMS
521	178 Oak (000*	270		6/19/1984	10:05	6/20/1984	9:50	23.75	9290 OTHER FUEL QUAL PROBLEMS
521			000	250		6/22/1984	9:35	6/22/1984	14:15	4.66	9290 OTHER FUEL QUALITY PROBLEMS
521	170 Oak	ンドピピス ザノ	1000	200	וט	0/22/1904	9.33	0/22/1984	14.15	4.00	SESTIONNER FUEL CONCILL FUODLEMS

	521	178 Oak Creek #7	000*	256 D1	6/25/1984	8:45	6/25/1984	11:00	2.25	9620	PARTICULATE STACK EMISSIONS
	521	178 Oak Creek #7	•	U1	7/3/1984	11:26	7/8/1984	2:38	111.2	1070	SECOND REHEATER
- 1	521	178 Oak Creek #7		U1	7/9/1984	13:10	7/11/1984	11:40	46.5		GENERATING TUBE
]	521	178 Oak Creek #7	000*	250 D1	7/12/1984	11:33	7/13/1984	2:45	15.2		OTHER FUEL QUALITY PROBLEMS
	521	178 Oak Creek #7	000*	255 D1	7/13/1984	11:22	7/14/1984	1:00	13.63		UNKNOWN
	521	178 Oak Creek #7	000-	265 D1	7/14/1984	9:38	7/14/1984	10:41	1.04		WET COAL
1	521	178 Oak Creek #7	000	U1	7/14/1984	10:41	7/14/1984	11:21	0.66		OPERATOR ERROR
- } -	521	178 Oak Creek #7	000*	270 D1	7/14/1984	11:21	7/14/1984	23:30	12.15		WET COAL
- }-	521	178 Oak Creek #7	000-	190 D1	7/16/1984		7/14/1984	·· 			PULVERIZER FDRS
						9:43		10:34	0.85		
	521	178 Oak Creek #7	000*	260 D1	7/16/1984	12:28	7/17/1984	7:42	19.23		PULVERIZER FDRS
	521	178 Oak Creek #7	000*	190 D1	7/17/1984	7:42	7/17/1984	9:48	2.09		PULVERIZER FDRS
	521	178 Oak Creek #7	000*	265 D1	7/22/1984	20:00	7/24/1984	1:30	29.5		PULV REDUCED CAP DUE TO WEAR
	521	178 Oak Creek #7	000*	270 D1	7/25/1984	1:00	7/25/1984	13:28	12.46		PULV REDUCED CAP DUE TO WEAR
\$. aa	521	178 Oak Creek #7	000*	190 D1	7/25/1984	13:28	7/26/1984	8:15	18.78		PULVERIZER FEEDERS
	521	178 Oak Creek #7	000*	270 D1	7/26/1984	8:15	7/27/1984	1:30	17.25		HIGH CIRC WATER TEMP
	521	178 Oak Creek #7	000*	260 D1	7/30/1984	13:25	7/31/1984	14:05	24.66		CIRC WATER PUMP MOTOR
	521	178 Oak Creek #7	000*	200 D1	8/1/1984	11:20	8/2/1984	1:30	14.16		PULVERIZER FEEDERS
L	521	178 Oak Creek #7	000*	265 D1	8/2/1984	11:30	8/3/1984	1:45	14.25		ELECTROSTATIC PRECIP PROBLEMS
L	521	178 Oak Creek #7	000*	262 D1	8/3/1984	10:30	8/3/1984	22:10	11.66	8560 1	ELECTROSTATIC PRECIP PROBLEMS
	521	178 Oak Creek #7	000*	200 D1	8/3/1984	22:10	8/3/1984	23:50	1.66	330	75 MILL COAL LEAK
	521	178 Oak Creek #7	000*	187 D1	8/4/1984	18:05	8/4/1984	21:15	3.16	250	PULVERIZER FEEDERS
	521	178 Oak Creek #7	000*	200 D1	8/5/1984	6:40	8/5/1984	11:55	5.25	250	PULVERIZER FEEDERS
-	521	178 Oak Creek #7	000*	260 D1	8/6/1984	7:00	8/6/1984	8:00	1	8560	ELECTROSTATIC PRECIP PROBLEMS
	521	178 Oak Creek #7	000*	120 D1	8/8/1984	8:41	8/8/1984	9:30	0.81		OTHER ID FAN PROBLEMS
	521	178 Oak Creek #7	000*	190 D1	8/8/1984	12:37	8/8/1984	13:30	0.88		WET COAL
	521	178 Oak Creek #7	000*	260 D1	8/9/1984	17:50	8/12/1984	1:30	55.66		OTHER ID FAN PROBLEMS
	521	178 Oak Creek #7	000*	190 D1	8/12/1984	1:30	8/12/1984	10:15	8.75		MILL PROBLEM
	521	178 Oak Creek #7	000*	120 D1	8/12/1984	10:15	8/12/1984	14:15	4		PULVERIZER FEEDERS
	521	178 Oak Creek #7	000*	190 D1	8/12/1984	14:15	8/12/1984	23:40	9.41		MILL PROBLEMS
	521	178 Oak Creek #7	000*	260 D1	8/12/1984	23:40	8/16/1984	19:00	91.33		OTHER ID FAN PROBLEMS
1	521	178 Oak Creek #7	000,	220 D1	8/16/1984	19:00	8/19/1984	23:45	76.75		HI PRESS HTR TUBE LEAKS
F	521	178 Oak Creek #7	000*	260 D1	8/19/1984	23:45	8/20/1984	23:00	23.25		OTHER ID FAN PROBLEMS
4	521	178 Oak Creek #7	000*	180 D1	8/20/1984	23:00	8/21/1984	8:15	9.25		FIRST REHEATER
E . 10 1 40	521	178 Oak Creek #7	000	105 D1	8/21/1984	8:15	8/21/1984	17:11	8.93		FIRST REHEATER
	521	178 Oak Creek #7	- 000	U1	8/23/1984	17:11	8/27/1984	20:15	99.06		FIRST REHEATER
			 ,	U1	0/23/1904			20:15	29.06		MAINTENANCE ERROR
_	521	178 Oak Creek #7			8/27/1984	20:15	8/27/1984		-1-		
	521	178 Oak Creek #7		U1	8/27/1984	22:15	8/28/1984	5:57	7.7		FIRST REHEATER
	521	178 Oak Creek #7	000*	150 D1	8/28/1984	5:57	8/29/1984	3:00	21.05		BOILER WATER CONDITION
₹.	521	178 Oak Creek #7	000*	260 D1	8/29/1984	3:00	8/30/1984	10:25	31.41		OTHER ID FAN PROBLEMS
<u>~</u>	521	178 Oak Creek #7	000.	212 D1	8/30/1984	10:25	8/31/1984	1:30	15.08		NET COAL
õ	521	178 Oak Creek #7	000*	260 D1	8/31/1984	1:30	8/31/1984	16:00	14.5		OTHER ID FAN PROBLEMS
4	521	178 Oak Creek #7	.	MO	8/31/1984	20:14	8/31/1984	21:36	1.36	1800	
9	521	178 Oak Creek #7		PO	9/1/1984	3:47	10/26/1984	22:05	1338.3		BOILER OVERHAUL
	521	178 Oak Creek #7	•]	U1	10/27/1984	2:40	10/28/1984	3:53	25.21		OTHER CONTROL PROBLEMS
	521	178 Oak Creek #7	000*	175 D1	10/28/1984	3:53	10/29/1984	21:04	41.18		BOILER WATER CONDITION
_	521	178 Oak Creek #7		U1	10/29/1984	21:04	10/30/1984	5:50	8.76	8560 E	ELECTROSTATIC PRECIP PROBLEMS

WEPCO 40097.

		14	1	12/22/12/1		12/22/12/24	40.00			
521	178 Oak Creek #7		<u>U1</u>	10/30/1984	5:50	10/30/1984	12:26	6.6		AIR SUPPLY DAMPERS
521	178 Oak Creek #7	000*	150 D1	10/30/1984	12:26	10/31/1984	2:00	13.56		BOILER WATER CONDITION
521	178 Oak Creek #7	000*	208 D1	10/31/1984	2:00	10/31/1984	14:00	12		BOILER WATER CONDITION
521	178 Oak Creek #7	000*	223 D1	10/31/1984	14:00	11/1/1984	4:20	14.33		BOILER WATER CONDITION
521	178 Oak Creek #7	000*	265 D1	11/2/1984	2:30	11/2/1984	10:30	8		PULVERIZER-REDUCED CAPACITY
521	178 Oak Creek #7	000*	200 D1	11/2/1984	10:30	11/2/1984	17:00	6.5	350	PULVERIZED FUEL & AIR PIPING
521	178 Oak Creek #7	•	U1	11/3/1984	15:04	11/3/1984	23:15	8.18	1710	BOILER CONTROLS
521	178 Oak Creek #7	•	U2	11/3/1984	23:16	11/4/1984	10:56	11.66	3431	OTHER FEEDWATER VALVES
521	178 Oak Creek #7	000*	170 D1	11/4/1984	10:56	11/5/1984	1:10	14.23		OTHER FEEDWATER VALVES
521	178 Oak Creek #7	000*	190 D1	11/5/1984	8:15	11/6/1984	3:30	19.25		PULVERIZER FEEDERS
521	178 Oak Croek #7	000*	150 D3	11/6/1984	11:25	11/6/1984	11:45	0.33		FORCED DRAFT FAN
521	178 Oak Creek #7	000*	195 D1	11/7/1984	17:50	11/7/1984	19:30	1.66		WETCOAL
521	178 Oak Creek #7	000.	255 D1	11/7/1984	19:30	11/8/1984	5:10	9.66		WET COAL
521	178 Oak Creek #7	000*	210 D1	11/8/1984	8:17	11/8/1984	13:00	4.71		PULVERIZER MILLS
521	178 Oak Creek #7	000*	260 D1	11/8/1984	13:00	11/8/1984	23:15	10.25		PULVERIZER MILLS
521	178 Oak Creek #7	000*	190 D1	11/9/1984	7:10	11/9/1984	10:30	3.33		PRI AIR DUCTS & DAMPERS
521	178 Oak Creek #7	000*	260 D1	11/9/1984	10:30	11/9/1984	20:00	9.5		PULVERIZER-REDUCED CAPACITY
521	178 Oak Creek #7	000	155 D1	11/12/1984	0:40	11/12/1984	2:45	2.08		INDUCED DRAFT FANS
	178 Oak Creek #7		150 D1	11/12/1984		11/13/1984	4:30			WET COAL
521	178 Oak Creek #7	000*	150 D1	11/13/1984	6:08 4:30		6:30	22.36		ELECTROSTATIC PRECIP PROBLEMS
521 521	178 Oak Creek #7	000	U1	11/13/1984	6:30	11/13/1984	3:58	2		
		000+				11/14/1984		21.46	1/10	COMBUSTION CONTROLS FSSS
521	178 Oak Creek #7	000*	200 D1	11/14/1984	3:58	11/15/1984	17:00	37.03		FEEDWATER PIPING
521	178 Oak Creek #7	000*	190 D3	11/18/1984	7:00	11/18/1984	11:25	4.41		ADJUST MILL ROLLERS
521	178 Oak Creek #7	000*	255 D1	11/18/1984	15:10	11/18/1984	21:45	6.58		WET COAL
521	178 Oak Creek #7	000*	180 D1	11/18/1984	21:45	11/19/1984	5:05	7.33		PULVERIZER MILLS
521	178 Oak Creek #7		U1	11/21/1984	4:38	11/21/1984	6:12	1.56		LOSS OF VACUUM
521	178 Oak Creek #7		MO	11/21/1984	17:35	11/25/1984	17:58	96.38		AIR SUPPLY DAMPERS
521	178 Oak Creek #7	000*	250 D1	11/28/1984	7:45	11/28/1984	23:00	15.25		WET COAL
521	178 Oak Creek #7	000*	265 D1	11/29/1984	16:30	11/29/1984	18:30	2		WET COAL
521	178 Oak Creek #7	000*	260 D1	11/30/1984	11:00	12/1/1984	1:15	38.25		WET COAL
521	178 Oak Creek #7	000*	262 D1	12/5/1984	16:23	12/5/1984	23:00	6.61		PULVERIZER MILLS
521	178 Oak Creek #7	000*	262 D1	12/6/1984	12:30	12/9/1984	2:45	62.25		PULVERIZER MILLS
521	178 Oak Creek #7	000*	170 D1	12/9/1984	2:45	12/9/1984	21:30	18.75	310	PULVERIZER MILLS
521	178 Oak Creek #7	000*	253 D1	12/11/1984	10:25	12/11/1984	19:49	9.39		PULVERIZER MILLS
521	178 Oak Creek #7	•	U1	12/11/1984	19:49	12/14/1984	3:44	55.91		SECOND SUPERHEATER
521	178 Oak Creek #7	000*	265 D1	12/16/1984	16:20	12/16/1984	22:00	5.66		PULVERIZER MILLS
521	178 Oak Creek #7	000*	170 D1	12/18/1984	18:00	12/18/1984	23:30	5.5	310	PULVERIZER MILLS
521	178 Oak Creek #7	•	U1	12/20/1984	12:58	12/24/1984	2:49	85.85	1005	GENERATING TUBE
521	178 Oak Creek #7	000*	170 D1	1/2/1985	4:00	1/2/1985	13:12	9.2	310	PULVERIZER MILL.
521	178 Oak Creek #7	000*	170 D1	1/5/1985	8:00	1/5/1985	12:38	4.63	310	PULVERIZER MILL
521 521 521 521	178 Oak Creek #7	000*	170 D1	1/6/1985	8:30	1/7/1985	1:00	16.5	350	PULVERIZED FUEL & AIR PIPING
521	178 Oak Creek #7		U1	1/14/1985	9:07	1/15/1985	10:00	24.88		GENERATING TUBE
521 521	178 Oak Creek #7		SF	1/15/1985	10:00	1/15/1985	11:32	1.53		LIGHT-OFF SYSTEMS
521	178 Oak Creek #7	000*	170 D2	1/20/1985	5:50	1/20/1985	10:00	4.16		PULVERIZER MILLS
521	178 Oak Creek #7	000*	200 D2	1/22/1985	15:00	1/23/1985	1:00	10		PULVERIZER MILLS
521	178 Oak Creek #7	000*	248 D1	1/28/1985	15:02	1/28/1985	16:20	1.3		PULVERIZER MILLS
	J. J. J. J. J. J. J. J. J. J. J. J.	1300	0,5 ,	1/20/1000	.5.02	1120/1000	10.20	1.0	310	1. 0012111211111100

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	521	178 Oak	Creek #7			U1	2/3/1985	19:24	2/3/1985	20:08	0.73	1710 FSSS POWER SUPPLY
	521	178 Oak	Creek #7	000*	145	D3	2/9/1985	22:34	2/10/1985	5:35	7.01	3420 73 FEEDWATER PUMP
[521	178 Oak	Creek #7	000*	259	D1	2/18/1985	9:35	2/18/1985	14:40	5.08	9630 OPACITY MONITOR MALFUNCTION
	521	178 Oak	Creek #7	000*	230	D1	2/19/1985	6:30	2/19/1985	9:00	2.5	9630 OPACITY FOS. STM UNIT
1	521	178 Oak	Creek #7			U1	3/7/1985	0:02	3/7/1985	0:51	0.81	1710 COMBUSTION CONTROLS
- 1	521	178 Oak	Creek #7			U1	3/8/1985	13:02	3/10/1985	22:53	57.85	1005 GENERATING TUBE
	521	178 Oak				U1	3/24/1985	13:08	3/25/1985	7:51	18.71	1005 GENERATING TUBE
-	521	178 Oak		000*	150		3/30/1985	10:05	3/31/1985	3:30	17.41	880 FLYASH HANDLING
-	521	178 Oak		000*	250		4/2/1985	11:23	4/4/1985	7:15	43.86	1710 COMBUSTION CONTROLS
]	521	178 Oak				МО	4/11/1985	20:25	4/12/1985	8:00	11.58	9620 PRECIPITATOR GROUNDS
	521	178 Oak				SF	4/12/1985	8:00	4/12/1985	9:26	1.43	1710 COMBUSTION CONTROLS
- 1	521	178 Oak		000*	180		4/13/1985	7:30	4/13/1985	17:00	9.5	310 PULVERIZER MILLS
-	521	178 Oak				U1	4/19/1985	23:09	4/21/1985	9:50	34.68	1005 GENERATING TUBE
1	521	178 Oak		000*	150		4/22/1985	16:00	4/22/1985	21:42	5.7	1005 GENERATING TUBE
-	521	178 Oak		1		U1	4/22/1985	21.42	4/24/1985	8:50	35.13	1005 GENERATING TUBE
	521	178 Oak	· · · · — — — — — — — — — — — — — — — —			SF	4/24/1985	8:50	4/24/1985	16:22	7.53	1710 COMBUSTION CONTROLS
	521	178 Oak		000*	183		5/5/1985	9:00	5/5/1985	14:15	5.25	310 PULVERIZER MILLS
-	521	178 Oak		000.	180		5/18/1985	4:32	5/18/1985	23:15	18.71	250 MILL FEEDER PROBLEM
-	521	178 Oak		000*	265		5/22/1985	9:15	5/25/1985	0:22	63.11	9620 PRECIPITATOR GROUNDS
- 1	521	178 Oak		000		МО	5/25/1985	0:22	5/25/1985	8:23	8.01	9620 PRECIPITATOR GROUNDS
-	521	178 Oak		000*	190		5/25/1985	12:55	5/25/1985	17:00	4.08	310 PULVERIZER MILLS
- [-	521	178 Oak		000	190		5/26/1985	20:10	5/27/1985	13:42	17.53	310 PULVERIZER MILLS
	521	178 Oak		000		MO	5/31/1985	19:09	6/3/1985	5:05	57.93	1060 FIRST REHEATER-REPAIR TUBE LEAK
1-	521	178 Oak		1		SF	6/3/1985	5:05	6/3/1985	9:30	4.41	4609 EXCITER PROBLEMS
-	521	178 Oak				MO	6/13/1985	22:59	6/18/1985	4:16	101.28	1050 SECOND SUPERHEATER
-	521	178 Oak		000*	261		6/26/1985	18:00	6/26/1985	18:30	0.5	3440 HIGH PRESSURE HEATER
	521	178 Oak		000*	249		7/19/1985	9:20	7/19/1985	11:12	1.86	9620 PARTICULATE STACK EMISSIONS
-	521	178 Oak		1000		U1	8/7/1985	11:11	8/10/1985	14:50	75.65	1070 SECOND REHEATER
<u> </u>	521	178 Oak		000*	140		8/17/1985	6:00	8/19/1985	0:30	42.5	1480 OTHER ID FAN PROBLEMS
}	521	178 Oak		000*	230		8/29/1985	16:00	8/30/1985	0:30	8.5	3440 HI PRESS HTR TUBE LEAK
-	521	178 Oak		000*	269		8/31/1985	12:20	8/31/1985	16:00	3.66	310 PULVERIZER MILLS
 -	521	178 Oak		000		U1	9/3/1985	3:08	9/3/1985	11:02	7.9	3149 LOSS OF VACUUM
\vdash	521	178 Oak		 		U1	9/5/1985	22:03	9/8/1985	17:29	67.43	1005 GENERATING TUBE
	521	178 Oak		000*	200		9/11/1985	19:30	9/12/1985	21:30	26	1070 SECOND REHEATER
-	521	178 Oak		000	200	МО	9/12/1985	21:30	9/15/1985	1:22	51.86	1070 SECOND REHEATER
	521	178 Oak		000*	200		9/18/1985	10:15	9/18/1985	11:05	0.83	310 PULVERIZER MILLS
	521	178 Oak		000*	145		9/26/1985	14:22	9/27/1985	3:40	13.3	3411 BOILER FEED PUMP #73
		178 Oak		000*	170		10/1/1985	19:50	10/2/1985	1:30	5.66	330 PULVERIZER COAL LEAK
4	521 521	178 Oak		000	240		10/1/1985	7:10	10/2/1985	13:00	5.83	290 PULVERIZER REDUCED CAPACITY
WEPCO	521	178 Oak		000	240	MO	10/2/1985	15:34	10/2/1985	3:37	84.05	1060 FIRST REHEATER
PC .	þ	178 Oak		000*	249		10/9/1985	7:55		23:00	15.08	310 PULVERIZER MILLS
0	521			000*	270		· -		10/9/1985		9.33	9270 WET COAL
40099	521 521	178 Oak		000	210		10/16/1985	7:40	10/16/1985 10/20/1985	17:00 4:00	80.41	1070 SECOND REHEATER
99	521	178 Oak		- 1		<u>U1</u> U1	10/16/1985 10/20/1985	19:35	10/20/1985	8:00	4	360 BURNER TILTS INOPERATIVE
-	521	178 Oak		ļ		U1		4:00	10/20/1985	16:46	8.76	380 IGNITER PROBLEMS
				000	190		10/20/1985	8:00			15	330 PULVERIZER COAL LEAK
	521	178 Oak	Creek #/	000*	190	וטו	10/22/1985	1:00	10/22/1985	16:00	15)	SOU FULVENIZEN GUAL LEAN

504	470	Only Crook #7	000#	100	D4	10/00/1005	4.00	10/00/4005	0.00	4 =1	4400 0144105 011 70 50 5111
521		Oak Creek #7	000*	138		10/23/1985	1:30	10/23/1985	3:00	1.5	1400 CHANGE OIL 72 FD FAN BRG
521		Oak Creek #7			MO.	10/26/1985	4:35	10/27/1985	1:45	21.16	4014 BUCKET & BLADE FOULING
521		Oak Creek #7	000*	190		10/28/1985	12:45	10/28/1985	16:00	3.25	330 PULVERIZER COAL LEAK
521		Oak Creek #7	000*	190		10/28/1985	18:50	10/29/1985	4:45	9.91	250 MILL FEEDER PROBLEMS
521		Oak Creek #7			U1	11/1/1985	2:42	11/1/1985	3:22	0.66	9270 UNIT TRIP WET COAL
521		Oak Creek #7			<u>U1</u>	11/1/1985	5:20	11/1/1985	5:50	0.5	9270 UNIT TRIP WET COAL
521		Oak Creek #7	000*	185		11/1/1985	7:50	11/1/1985	12:00	4.16	310 PULVERIZER CONTROL PROBLEMS
521		Oak Creek #7			PO	11/1/1985	15:35	12/9/1985	19:41	940.1	1800 ANNUAL OUTAGE
521		Oak Creek #7			U1	12/10/1985	3:05	12/10/1985	3:32	0.45	9900 ID FAN TRIPPED
521		Oak Creek #7	000*	118	<u>D1</u>	12/10/1985	16:45	12/10/1985	20:03	3.3	1455 #72 ID FAN - BALANCING
521		Oak Creek #7			U1	12/10/1985	20:03	12/12/1985	10:06	38.05	880 FLYASH HANDLING EQUIPMENT
521		Oak Creek #7	000*	222	D1	12/13/1985	7:00	12/13/1985	19:30	12.5	1850 BOILER WATER CONDITION
521		Oak Creek #7			МО	12/14/1985	1:28	12/15/1985	4:57	27.48	1005 GENERATING TUBE
521	178	Oak Creek #7	000*	245	D1	12/16/1985	1:00	12/16/1985	19:26	18.43	1850 BLR WATER CONDITION
521	178	Oak Creek #7	000*	265	D1	12/16/1985	19:26	12/16/1985	22:00	2.56	1850 BOILER WATER CONDITONS
						T 1					
521	178	Oak Creek #7	000*	120	D1	12/16/1985	23:28	12/17/1985	1:50	2.36	3416 OTHER FEEDWATER PUMP PROBLEM
521		Oak Creek #7	000*	110	D1	12/21/1985	5:30	12/22/1985	13:03	31.55	880 FLYASH SYSTEM
521		Oak Creek #7	000*	255	D1	12/28/1985	9:53	12/29/1985	1:19	15.43	340 OTHER PULVERIZER PROBLEMS
521		Oak Creek #7			Ū1	12/29/1985	1:19	12/30/1985	17:38	40.31	1005 GENERATING TUBE
521	178	Oak Creek #7	000*	270	D1	1/2/1986	7:30	1/3/1986	21:58	38.46	290 PULVERIZER REDUCED CAPACITY.
521	178	Oak Creek #7			U1	1/3/1986	21:58	1/6/1986	4:48	54.83	1050 SECOND SUPERHEATER.
521		Oak Creek #7			NC	1/8/1986	9:35	1/11/1986	8:14	70:65	290 PULVERIZER-REDUCED CAPACITY
521		Oak Creek #7			МО	1/11/1986	8:14	1/11/1986	9:13	0.98	4302 TURBINE TRIP DEVICES
521		Oak Creek #7	000•	150		1/12/1986	19:45	1/13/1986	5:00	9.25	3411 FEEDWATER PUMP MOTOR
521		Oak Creek #7	000.	110		1/13/1986	5 00	1/14/1986	5:00	24	880 FLYASH SYTEM PROBLEMS
521		Oak Creek #7	000.	150		1/14/1986	5 00	1/16/1986	20:13	63.21	3411 FEEDWATER PUMP MOTOR
521		Oak Creek #7			U3	1/16/1986	20:13	1/19/1986	2:06	53.88	1005 GENERATING TUBE
521		Oak Creek #7	000*	260		2/4/1986	12:30	2/4/1986	20:00	7.5	250 PULVERIZER FEEDERS
521		Oak Creek #7	000.	190		2/4/1986	15.15	2/4/1986	17:00	1.75	250 PULVERIZER FEEDERS
521		Oak Creek #7	000*	110		2/5/1986	14:30	2/5/1986	20:15	5.75	1060 FIRST REHEATER
521		Oak Creek #7			U2	2/5/1986	20:15	2/9/1986	3:17	79.03	1060 FIRST REHEATER
521		Oak Creek #7			MO	2/24/1986	22:23	2/27/1986	6:50	56.45	1050 SECOND SUPERHEATER
521		Oak Creek #7			SF	2/27/1986	6:50	2/27/1986	16:10	9.33	4300 TURBINE SUPERVISORY SYSTEM
521		Oak Creek #7			<u>U1</u>	3/8/1986	21:04	3/11/1986	9:59	60.91	1005 GENERATING TUBE
521		Oak Creek #7	000*	175		3/12/1986	2:00	3/12/1986	9:07	7.11	880 FLYASH HANDLING PROBLEMS
521		Oak Creek #7	000		<u>U1</u>	3/12/1986	22:21	3/16/1986	1:12	74.85	1080 ECONOMIZER TUBE LEAK
521		Oak Creek #7	000*	230		3/19/1986	16:15	3/19/1986	21:10	4.91	1105 GENERATING TUBE LEAK
		Oak Creek #7	000		U1		21:10	3/20/1986	17:11	20.01	1105 GENERATING TUBE LEAK
521		Oak Creek #7	000*	250		3/19/1986 3/22/1986	7:30	3/20/1986	22:20	14.83	9270 WET COAL
521			000				9:27			68.31	1005 GENERATING TUBE LEAK
521 521 521		Oak Creek #7			<u>U1</u>	3/27/1986		3/30/1986	5:46		
		Oak Creek #7			SF	3/30/1986	5:46	3/30/1986	12:08	6.36	9900 OPERATOR ERROR
521 521		Oak Creek #7			MO	4/4/1986	21:40	4/7/1986	1:18	51.63	1070 SECOND REHEATER TUBE LEAK
521		Oak Creek #7		1 .1	U1	4/24/1986	18:54	4/25/1986	18:08	23.23	4840 INSPECTION-GENERATOR GROUND
521		Oak Creek #7			U1	5/2/1986	9:01	5/4/1986	21:35	60.56	1070 SECOND REHEATER
521	178	Oak Creek #7	000	140	וט	5/5/1986	10:20	5/5/1986	13:05	2.75	3410 FEEDWATER PUMP

52	1 17	78 Oa	k Creek #7	000*	240	D1	5/5/1986	13:05	5/5/1986	19:30	6.41	600	DESUPERHEATER/ATTEMPERATOR
52			k Creek #7	000.	275		5/5/1986	19:30	5/7/1986	2:00	30.5		76 HEATER DRAIN PUMP
52	· ·		k Creek #7		-213	U1	5/9/1986	23:49	5/12/1986	4:25	52.6		SECOND SUPERHEATER
52			k Creek #7	000*	265		6/19/1986	15:30	6/19/1986	22:10			
1											6.66		HOTWELL LEVEL HIGH
52			k Creek #7	000*	111		6/19/1986	22:10	6/20/1986	10:25	12.25		REHEAT LEAK
52			k Creek #7		ļ	U1	6/20/1986	10:25	6/22/1986	22:25	60		REHEAT LEAK
52			k Creek #7			МО	6/22/1986	22:25	6/25/1986	7:45	57.33		DESUPERHEATER SPRAY NOZZLES
52			k Creek #7			U2	6/25/1986	7:46	6/29/1986	16:00	104.23		GENERATING TUBE
52			k Creek #7		ļ	U2	7/10/1986	20:02	7/12/1986	12:51	40.81		GENERATING TUBE
52			k Creek #7		L	U1	7/15/1986	14:15	7/15/1986	14:57	0.7		MAINT ERROR-ELECT SWITCHING
52			k Creek #7	•		U2	7/23/1986	16:54	7/25/1986	21:58	53.06		SECOND REHEAT LEAK
52			k Creek #7	000*	245		7/28/1986	15:15	7/29/1986	4:35	13.33		WET COAL
52			k Creek #7	*		U1	7/29/1986	4:35	8/2/1986	22:57	114.36		SECOND SUPERHEATER
52			k Creek #7	000*	230		8/6/1986	22:00	8/7/1986	18:34	20.56		BROKEN STEM 4 CNTL VLV
52			k Creek #7	•		MO	8/7/1986	18:34	8/12/1986	2:57	104.38		REPAIR CONTROL VALVE
52			k Creek #7	000	165		8/18/1986	3:00	8/18/1986	18:18	15.3	1850	BOILER WATER CONDITION
52	1 17	8 Oa	k Creek #7	•		МО	8/18/1986	18:18	8/19/1986	1:54	7.6	3110	CONDENSER TUBE LEAKS
52	1 17	8 Oa	k Creek #7	000*	2 25	D1	8/20/1986	7:00	8/20/1986	16:26	9.43	1850	BOILER WATER CONDITION-SILICA
52	1 17	8 Oa	k Creek #7	*		МО	8/20/1986	16:26	8/22/1986	4:53	36.45	3110	CONDENSER TUBE LEAKS
52	1 17	8 Oa	k Creek #7	000*	185	PD	8/22/1986	21:50	8/23/1986	5:00	7.16	1850	BLR WATER CONDITION SILICA
52	1 17	8 Oa	k Creek #7	000*	155	D1	8/23/1986	5:00	8/24/1986	18:45	37.75	1420	OTHER FD FAN PROBLEMS
52			k Creek #7	000*	230		8/24/1986	18:45	8/28/1986	22:30	99.75		BLR WATER CONDITION SILICA
52			k Creek #7	-		МО	8/28/1986	22:47	9/1/1986	22:10	95.38		GENERATING TUBE LEAK
52			k Creek #7	000*	250		9/6/1986	9:05	9/7/1986	2:30	17.41		PULVERIZER MILLS
52			k Greek #7	000*	180		9/7/1986	2:30	9/7/1986	12:00	9.5		PULVERIZER MILLS
52			k Creek #7	000*	200		9/8/1986	21:30	9/9/1986	6:00	8.5		PULVERIZER MILLS
52			k Creek #7	000*	230		9/16/1986	17:00	9/24/1986	2:00	177		LOW BTU COAL
52			k Creek #7	000*	230		9/24/1986	2:00	10/3/1986	5:05	219.08		SECOND SUPERHEATER
52			k Creek #7		155		10/3/1986	5:05	10/3/1986	14:50	9.75		OTHER FD FAN PROBLEMS
-	1												ANNUAL OUTAGE, OUTAGE
52	1 17	8 Oa	k Creek #7			PO	10/3/1986	21:26	12/31/1986	24:00:00	2162.56		CONTINUES INTO 1987.
52			k Creek #7			PO	1/1/1987	0:01	1/5/1987	20:00	115.98		ANNUAL OUTAGE. STARTED 10/3/86.
52			k Creek #7			U1	1/6/1987	0:55	1/6/1987	3:08	2.21		OTHER HI PRESS TURB PROBLEMS
52			k Creek #7			МО	1/6/1987	21:00	1/7/1987	14:54	17.9		ELECTROSTATIC PRECIP PROBLEM
52			k Creek #7	000*	225		1/9/1987	1:15	1/11/1987	5:57	52.7		BOILER WATER CONDITION
52			k Creek #7			МО	1/11/1987	5:57	1/11/1987	19:01	13.06		OTHER ID FAN PROBLEMS
52		_1	k Creek #7	000*	160		1/13/1987	9:15	1/14/1987	13:55	28.66		71 FD FAN VIBRATION
52			k Creek #7			NC	1/24/1987	5:40	1/24/1987	17:30	11.83		71 FD FAN VIBRATION
50			k Creek #7	000*	200		1/26/1987	17:12	1/27/1987	5:53	12.68		ELECTROSTATIC PRECIP PROBLEM
WEPCO 52			k Creek #7		200	U1	1/27/1987	5:53	1/27/1987	16:00	10.11		ELECTROSTATIC PRECIP PROBLEM
52			k Creek #7			Ŭ1	1/27/1987	16:00	1/27/1987	20:41	4.68		BLR CONTROLS
O 52		+	k Creek #7	···		NC	1/31/1987	5:30	1/31/1987	16:25	10.91		OTHER FD FAN PROBLEMS
52	1		k Creek #7		******	MO	2/3/1987	21:59	2/4/1987	16:17	18.29		GENERATING TUBE
40101 52			k Creek #7			U1	2/9/1987	9:25	2/9/1987	10:18	0.88		COMBUSTION-STEAM CONTROL
52			k Creek #7	• -		MO	2/13/1987	22:43	2/15/1987	0:10	25.45		GENERATING TUBE
52 52			k Creek #7			RS				9:40			Reserve Shutdown
_52	1 1/	ojva	V CIRRY #1			กอ	2/15/1987	0:10	2/15/1987	9:40	9.5	U	Deserve Silutionali

521	178	Oak Creek #7	000.	280	D1	3/1/1987	17:20	3/2/1987	7:30	14.16	1005	GENERATING TUBE
521	178	Oak Creek #7			MO	3/2/1987	23:44	3/5/1987	1:00	49.26	1005	GENERATING TUBE
521	178	Oak Creek #7			SF	3/5/1987	1:00	3/5/1987	12:43	11.71	1710	BOILER CONTROL
521	178	Oak Creek #7			Ū1	3/9/1987	7:05	3/9/1987	8:22	1.28	1799	BLR CONTROLS-FSSS
521	178	Oak Creek #7			MO	3/26/1987	4:04	3/31/1987	2:00	117.93	4264	COMBINED INTERCEPT VLVS
521	178	Oak Creek #7	•		SE	3/31/1987	2:00	4/2/1987	1:48	47.8	1420	OTHER FD FAN PROBLEMS
521	178	Oak Creek #7	000*	160	DT	4/2/1987	1:48	4/2/1987	13:21	11.55	1420	OTHER FD FAN PROBLEMS
521	178	Oak Creek #7	-		U1	4/2/1987	13:21	4/4/1987	9:03	43.7	1050	SECOND SUPERHEATER
521	178	Oak Creek #7	000*	160	D1	4/4/1987	15:00	4/5/1987	1:00	10	1420	71 FD FAN PROBLEM
521	178	Oak Creek #7			NC	4/5/1987	1:00	4/5/1987	13:50	12.83	1420	7) FD FAN PROBLEM
521	178	Oak Creek #7	000*	235		4/23/1987	10:35	4/24/1987	2:00	15.41	8560	ELECTROSTATIC PRECIP PROBLEMS
521	178	Oak Creek #7	000*	210		5/7/1987	18:20	5/7/1987	23:20	5	250	PULVERIZER FDR
521	178	Oak Creek #7			NC	5/7/1987	23:20	5/8/1987	0:30	1.16	250	PULVERIZER FDR
521	178	Oak Creek #7	•		U2	5/18/1987	4:55	5/20/1987	22:27	65.53	1005	GENERATING TUBE
521		Oak Creek #7			NC	5/27/1987	23:30	5/28/1987	5:30	6	250	PUL FDR 74 BELT REPL-71 MILLOV
521		Oak Creek #7	000*	240		6/23/1987	10:00	6/23/1987	21:43	11.71		PRECIP PROBLEM FIELD GROUNDS-2
521		Oak Creek #7	*		МО	6/23/1987	21:43	6/24/1987	8:16	10.55		PRECIP PROBLEM FIELD GROUNDS
521	178	Oak Creek #7	000*	225	D1	7/24/1987	20:10	7/25/1987	2:36	6.43	8560	ELECTROSTATIC PRECIP PROBLEM
												,
521	178	Oak Creek #7	000*	110		7/30/1987	8:00	7/30/1987	13:00	5	880	FLYASH TERTITARY COLLECTOR PROB
521		Oak Creek #7	000*	245		8/6/1987	9:52	8/6/1987	13:15	3.38		PRECIPITATOR FOULING
521	178	Oak Creek #7	000*	230		8/14/1987	11:35	8/14/1987		12.41		WET COAL
521		Oak Creek #7	000*	230		8/15/1987	10:15	8/15/1987	14:00	3.75		WET COAL
521		Oak Creek #7	000*	262		8/17/1987	8:00	8/17/1987	9:25	1.41		PRECIP FOULING
521		Oak Creek #7	-		U2_	8/20/1987	20:29	8/21/1987	5:58	9.48		PRECIP FIELDS OUT
521		Oak Creek #7			МО	10/12/1987	12:19	10/13/1987	7:30	19.18		RPL REHEAT HDR FLANGE GASKET
521		Oak Creek #7	000*	150		10/29/1987	7:08	10/29/1987	7:28	0.33		75 MILL INTERLOCK BYPASSED
521		Oak Creek #7			NC	11/4/1987	0:16	11/4/1987	4:20	4.06		#71 HOTWELL PUMP
521		Oak Creek #7			PO	11/6/1987	21:19	12/27/1987	18:32	1245.21		ANNUAL OUTAGE
521		Oak Creek #7			U2	12/28/1987	13:34	12/29/1987	2:00	12.43		LOSS OF VACUUM
521		Oak Creek #7			U2	12/29/1987	2:01	12/29/1987	18:50	16.81		PRECIPITATOR GROUND
521		Oak Creek #7			МО	12/30/1987	12:56	12/30/1987	14:05	1.15		TURB OVERSPEED TRIP TESTS
521		Oak Creek #7	000*	140		12/31/1987	18:00	12/31/1987	23:59	5.98		FORCE DRAFT 71
521		Oak Creek #7	000*	140		1/1/1988	0:01	1/2/1988	19:54	43.88		FORCED DRAFT 71.
521		Oak Creek #7			MO	1/20/1988	0:19	1/24/1988	14:02	109.71		REMOVE STEAM STRAINERS
521		Oak Creek #7	000*	160		1/25/1988	15:00	1/28/1988	8:30	65.5		FORCED DRAFT FAN - 71
521		Oak Creek #7			RS	1/29/1988	21:37	1/31/1988	23:44	50.11		Reserve Shutdown
521		Oak Creek #7	000*	210		2/9/1988	2:05	2/9/1988	7:14	5.15		PULVERIZER FEEDERS
521	+	Oak Creek #7	000*	200		2/11/1988	23:40	2/12/1988	1:55	2.25		PULVERIZER PROBLEM
521	1	Oak Creek #7	000*	210		2/21/1988	2:00	2/22/1988	5:25	27.41		OTHER PULVERIZER PROBLEMS
521 521 521		Oak Creek #7	000*	250		2/23/1988	14:00	2/25/1988	11:15	45.25		PRECIPITATOR GROUND
		Oak Creek #7			RS .	2/26/1988	21:19	2/28/1988	20:23	47.06		Reserve Shutdown
521 521		Oak Creek #7			NC	3/1/1988	12:00	3/1/1988	15:55	3.91		PULVERIZER PROBLEM
		Oak Creek #7			RS	3/4/1988	21:47	3/6/1988	19:28	45.68		Reserve Shutdown
521	+	Oak Creek #7	000,	260		3/11/1988	18:42	3/11/1988	22:00	3.3		76 HEATER DRAIN PUMP
521	178	Oak Creek #7	000*	195	D1	3/16/1988	20:40	3/17/1988	0:10	3.5	380	IGNITOR MICROPROCESSOR FAILURE

$-\Gamma$	521	178	Oak Creek #	7 000	195	D1	3/17/1988	0:10	3/17/1988	5:30	5.33	340	PULVERIZER PROBLEM
- [521	178	Oak Creek #	7		RS	3/25/1988	21:45	3/27/1988				Reserve Shutdown
1	521		Oak Creek #			U1	4/23/1988	2:38	4/23/1988				OTHER BLR RECIRC PROBLEMS
1	521		Oak Creek #			U2	5/2/1988	2:40					FIRST REHEATER
- }	521		Oak Creek #		200		5/12/1988	17:00					#73 BOILER FEED PUMP
ŀ	521		Oak Creek #		- +	МО	5/21/1988	1:28	5/21/1988				REHEAT STEAM PIPING
	521		Oak Creek #			SF	5/21/1988	21:30			13.5		ELECTROSTATIC PRECIP PROB.
-	521		Oak Creek #		242		5/24/1988	10:15	5/24/1988		1.75		ELECTROSTATIC PRECIP PROB.
- 1 -	521		Oak Creek #			PD	6/4/1988	2:30	6/4/1988				OTHER PULV PROBLEMS
		!! 2.	Our Oreer #	, 000	203	-	0/4/1300	2.50	0/4/1300	17.52	13.30	040	OTTEN OLV I HOBELING
1	521	178	Oak Creek #	7 000	270	D1	6/14/1988	11:40	6/15/1988	2:00	14.33	8560	ELECTROSTATIC PRECIP PROGBLEMS
	521		Oak Creek #		1 270	МО	6/17/1988	19:20	6/18/1988		14.66		ELECTROSTATIC PRECIP PROBLEMS
1	521		Oak Creek #		+	RS	6/18/1988	10:00	6/19/1988		20.85		Reserve Shutdown
-	521		Oak Creek #			U1	6/19/1988	23:13	6/20/1988		9.23		GLAND SEAL SYS REGULAR
	521		Oak Creek #		260		6/21/1988	12:40	6/21/1988		9.33		MAIN TRANSFORMER
	521	-	Oak Creek #					15:00	6/29/1988		4.5		TRAIN 74 FEEDER BELT
- 1	521		Oak Creek #		220	RS	6/29/1988 7/1/1988	23:20	7/4/1988		67.68		Reserve Shutdown
						MO					7.2		ELECTROSTATIC PRECIP PROBLEMS
	521		Oak Creek #		-	MO	7/5/1988	4:20	7/5/1988		18.11		FLYASH GROUNDED PRECIP
	521		Oak Creek #		-		7/22/1988	22:28	7/23/1988				
	521		Oak Creek #		1	МО	7/24/1988	11:36	7/24/1988				PRECIP WIRE PROBLEM
-	521		Oak Creek #		265		8/11/1988	23:00	8/13/1988				FW HTR SAFETY VALVES
L-	521		Oak Creek #			МО	8/13/1988	3:16	8/13/1988		7.05		FDWTR HTR SAFETY VLVS
_	521		Oak Creek #		150		8/22/1988	5:05	8/22/1988		7.91		OTHER FD FAN PROBLEMS
ļ	521		Oak Creek #			NC	8/27/1988	3:00	8/27/1988		5.31		PULVERIZER FEEDER
	521		Oak Creek #		_	RS	9/1/1988	22:00	9/11/1988		237.38		Reserve Shutdown
<u> </u>	521		Oak Creek #			МО	9/14/1988	23:48	9/15/1988		6.3		ELECTROSTATIC PRECIP PROBLEM
	521		Oak Creek #			U1	9/15/1988	11:25	9/17/1988		48.08		GENERATING TUBE
	521	178	Oak Creek #	7		SF	9/17/1988	11:30	9/18/1988		15.7		ASH PIT TROUBLE
	521		Oak Creek #		235		9/19/1988	10:12	9/19/1988		11.8		ELECTROSTATIC PRECIP PROBLEM
	521		Oak Creek #		260		9/26/1988	1 <u>3:</u> 09	9/26/1988		7.85		ELECTROSTATIC PRECIP PROBLEMS
1	521		Oak Creek #		265		10/1/1988	9:40	10/1/1988		10.21		ELECTROSTATIC PRECIP PROBLEMS
	521		Oak Creek #			NC	10/1/1988	19:54	10/2/1988		7.13		PRECIPITATOR FIELD OUT
	521		Oak Creek #		195		10/11/1988	9:25	10/11/1988		3.75		PULVERIZER FEEDER
-	521		Oak Creek #		180		10/20/1988	3:15	10/20/1988		6.5		PULVERIZER FEEDER
_	521		Oak Creek #			RS	10/29/1988	0:19	10/31/1988		55.18		Reserve Shutdown
- 1	521		Oak Creek #			PO	10/31/1988	7:30	12/17/1988	14:30	1159		ANNUAL OUTAGE
	521		Oak Creek #		150	D1	12/20/1988	15:09	12/20/1988	15:20	0.18		72 ID FAN LUBE SYS
	521		Oak Creek #		Ţ ··	MO	12/21/1988	21:21	12/22/1988	5:45	8.39		FD FAN SUCTION DUCTWORK
& (521	178	Oak Creek #	7		SF	12/22/1988	5:45	12/22/1988	10:21	4.6	1799	BOILER CONTROLS
펀	521	178	Oak Creek #	7		U2	12/22/1988	13:14	12/22/1988	20:44	7.5		BOILER CONTROLS
WEPCO	521		Oak Creek #			МО	12/24/1988	4:07	12/25/1988		30.43	4250	BALANCE LOW SPEED TURB ROTOR
) 2	521		Oak Creek #			MO	12/29/1988	20:01	12/29/1988	22:09	2.13		TURB OVERSPEED TRIP TESTS
<u> </u>	521		Oak Creek #			МО	12/29/1988	22:38	12/31/1988		49.36		REMOVE STEAM STRAINERS
ລີ					7								REMOVE STEAM STRAINERS
	521	178	Oak Creek #1	7 +		МО	1/1/1989	0:01	1/3/1989	9:27	57.43	4260	(STARTED 12/29/88 22:38)
	521		Oak Creek #		210		1/6/1989	4:00	1/6/1989		17.1	740	BOILER BOOSTER PUMP MTR BRG
-							1						

Γ	521	178	Oak (Creek #7	*		МО	1/6/1989	21:06	1/8/1989	11:07	38.01	740	BLR BOOSTER PUMP REPLACEMENT
	521	178	Oak (Creek #7	•	7	U2	1/11/1989	8:00	1/12/1989	9:38	25.63		GENERATING TUBE
	521	178	Oak (Creek #7	•		U1	1/20/1989	22:50	1/21/1989	1:59	3.15		BOILER CONTROLS
	521	178	Oak (Creek #7	•		RS	1/27/1989	22:34	1/29/1989	19:26	44.86		Reserve Shutdown
	521			Creek #7			NC	2/3/1989	3:00	2/6/1989	12:00	81		BLR BOOSTER PMP REPLACEMENT
1	521			Creek #7		1	U1	2/7/1989	6:46	2/7/1989	9:08	2.36		GENERATOR VOLTAGE CONTROL
-	521			Creek #7	•	1	U1	2/9/1989	4:36	2/9/1989	5:18	0.7		BLR COMBUSTION CONTROLS
	521			Creek #7		+	RS	3/24/1989	23:19	3/26/1989	23:59	48.66		Reserve Shutdown
- }	521			Creek #7		-	NC	4/5/1989	6:30	4/5/1989	7:10	0.66		REPLACE PYRITE SCRAPPER
	521			Creek #7		200		4/10/1989	11:45	4/10/1989	12:05	0.33		PULVERIZER FEEDER
	521			Creek #7		1 200	U2	4/12/1989	9:19	4/15/1989	1:54	64.58		SECOND SUPERHEATER
	521			Creek #7		+-	RS	4/15/1989	1:54	4/16/1989	17:44	39.83		Reserve Shutdown
-	521			Creek #7	•	245		4/27/1989	9:05	4/27/1989	12:30	3.41		HOTWELL PUMP
	521	— t		Creek #7		150		4/27/1989	12:30	5/4/1989	21:00	176.5		HOTWELL PUMP
- 1	521			Creek #7			RS	4/28/1989	19:11	4/30/1989	23:58	52.78		Reserve Shutdown
	521			Creek #7		205		5/11/1989	3:10	5/12/1989	21:45	42.58		BOILER BOOSTER PUMP
-	521			Creek #7			МО	5/12/1989	21:45	5/14/1989	13:27	39.7		73 BBP MTR FAILURE
- }-	521			Creek #7	*	205		5/15/1989	10:40	5/15/1989	18:37	7.95		HIGH BOILER SILICA
				Creek #7		235		6/6/1989	9:21	6/6/1989	13:00	3.65		PRECIPITATOR PROBLEM
- 1-	521					230		6/12/1989	12:11	6/14/1989	14:30			
-	521			Creek #7								50.31		PULVERIZER MILLS
	521			Creek #7		235		6/27/1989	12:00	6/27/1989	14:45	2.75		PRECIPITATOR PROBLEM
	521			Creek #7		240		7/6/1989	10:24	7/6/1989	13:10	2.76		PULVERIZER FEEDER
	521			Creek #7			NC	7/23/1989	13:30	7/23/1989	14:55	1.41		PULVERIZER MILL
ļ	521	$\overline{}$		Creek #7			RS	8/7/1989	12:01	8/13/1989	19:44	151.71		Reserve Shutdown
	521			Creek #7	*		RS	8/19/1989	2:08	8/21/1989	7:00	52.86		Reserve Shutdown
	521			Creek #7			МО	8/21/1989	7:00	8/22/1989	1:46	18.76		MAIN STEAM PIPING
ļ.,	521			Creek #7		1	RS	8/25/1989	23:50	8/27/1989	17:11	41.35		Reserve Shutdown
	521			Creek #7			NC	9/2/1989	9:23	9/2/1989	10:18	0.91		AIR COOLING SYSTEM
	521			Creek #7	*	125		9/21/1989	18:41	9/22/1989	1:25	6.73		72 FD FAN MOTOR FAILURE
	521	178	Oak (Creek #7	•		RS	10/13/1989	22:12	10/15/1989	19:56	45.73		Reserve Shutdown
	ļ						}							FDWTR PMP/DRIVE LUBE OIL 282000
	521	178	Oak (Creek #7		200	D1	10/16/1989	9:00	10/16/1989	11:10	2.16	3415	000000
Γ														OPERATOR ERROR 000000
	521	178	Oak (Creek #7	•		U1	10/21/1989	19:13	10/21/1989	22:00	2.78	9900	000000
	521	178	Oak (Creek #7	•		RS	10/21/1989	22:00	10/22/1989	6:33	8.55	0	Reserve Shutdown
1-														73 FDWTR PMP THRUST BRG A414230
	521	178	Oak (Creek #7	•	130	PD	12/9/1989	5:30	12/9/1989	18:30	13	3416	000000
	521			Creek #7	•		RS	12/16/1989	3:03	12/17/1989	0:19	21.26		Reserve Shutdown
Ş	521			Creek #7	•	T	RS	1/5/1990	23:28	1/7/1990	19:37	44.15		Reserve Shutdown
Ē	521			Creek #7			RS	1/13/1990	20:30	1/13/1990	22:22	1.86		Reserve Shutdown
Õ	521	178	Oak (Creek #7		200		5/3/1990	3:30	5/3/1990	7:40	4.16		PULVERIZER MILLS
Ó	521			Creek #7			PO	5/8/1990	1:17	6/8/1990	20:55	763.63		PLANNED MAINTENANCE OUTAGE
WEPCO 40104	521			Creek #7		265	_	6/12/1990	13:15	6/12/1990	14:00	0.75		PRECIPITATOR PROBLEMS
04	521			Creek #7		دا ڪي	NC -	6/30/1990	0:30	7/1/1990	21:46	45.26		#73 BLR BOOSTER PMP
	521			Creek #7			U1	7/1/1990	23:13	7/2/1990	0:04	0.85		OPERATOR ERROR
	521			Creek #7		265	1.5	7/10/1990	11:00	7/10/1990	18:20			
	JZ 1	1/0	Jan (JIGGK #/		200	וטו	1/10/1990	11.00	7710/1990	10.20	7.33	3310	CONDENSATE/HOTWELL PUMPS

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521	178	Oak Creek #7		R			7/15/1990	13:53	101.93	0 Reserve Shutdown
521	178	Oak Creek #7	•	R	9/21/1990	23:52	9/23/1990	23:22	47.5	Reserve Shutdown
521	178	Oak Creek #7	•	170 D	1 9/24/1990	7:00	9/24/1990	9:35	2.58	4800 GENERATOR MAIN LEADS
521	178	Oak Creek #7	•	R	S 10/1/1990	22:15	10/2/1990	0:23	2.13	0 Reserve Shutdown
521	178	Oak Creek #7	000*	130 D	1 10/9/1990	8:00	10/9/1990	10:30	2.5	3112 CONDENSER TUBE FOULING
521	178	Oak Creek #7	*	R		22:08	10/28/1990	21:22	47.23	0 Reserve Shutdown
521	178	Oak Creek #7	000*	150 D		21:22	10/30/1990	9:30	36.13	1410 72 FD FAN MOTOR FAILURE
521	178	Oak Creek #7	*	R		1:04	11/4/1990	11:54	34.83	0 Reserve Shutdown
521	178	Oak Creek #7	•	R			11/13/1990	1:59	1.13	0 Reserve Shutdown
521	178	Oak Creek #7	•	R			12/2/1990		65.16	0 Reserve Shutdown
										CONDENSER TUBE FOULING TUBE
521	178	Oak Creek #7	•	U	1 12/4/1990	18:36	12/4/1990	20:06	1.5	3112 SIDE
521	178	Oak Creek #7	•	R		23:51	12/13/1990	7:00	7.15	0 Reserve Shutdown
521	178	Oak Creek #7	*	s	12/13/1990		12/13/1990	10:44	3.73	1799 OTHER CONTROL PROBLEMS
521	178	Oak Creek #7	•	U			12/18/1990	14:09	0.88	1799 OTHER CONTROL PROBLEMS
521	178	Oak Creek #7	•	200 D		12:00	1/2/1991	13:15	1.25	320 74 MILL FOREIGN OBJECT IN MILL
521	178	Oak Creek #7	•	М	0 1/11/1991	22:33	1/12/1991	5:30	6.95	3110 CONDENSER TUBE LEAK
521		Oak Creek #7	•	S		5:30	1/13/1991	4:38	23.13	4261 CONTROL VALVES
521		Oak Creek #7	•	М		23:35	3/4/1991	1:52	50.28	1510 FLUE GAS DUCT
521	178	Oak Creek #7	•	R	3/23/1991	0:24	3/24/1991	1:41	25.28	0 Reserve Shutdown
521	178	Oak Creek #7	•	260 D	3/26/1991	8:16	3/26/1991	22:16	14	8560 ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #7	*	М	3/26/1991	22:16	3/27/1991	5:48	7.53	8560 ELECTROSTATIC PRECIP PROBLEMS
521	178	Oak Creek #7	*	R		23:40	4/14/1991	8:57	9.28	0 Reserve Shutdown
521		Oak Creek #7	•	М		23:58	5/5/1991	21:54	69.93	1510 FLUE GAS DUCT
521	178	Oak Creek #7	•	М		21:42	5/20/1991	4:06	54.4	1005 GENERATING TUBE LEAK
521	178	Oak Creek #7	•	U		11:17	6/10/1991	22:46	59.48	1080 ECONOMIZER LEAK
521		Oak Creek #7	000*	140 D		8:15	7/8/1991	11:40	3.41	1400 FD FAN
521		Oak Creek #7	•	R		23:25	7/29/1991	8:15	128.83	0 Reserve Shutdown
521		Oak Creek #7	•	U		5:24	7/31/1991	7:35	2.18	1750 BURNER MANAGEMENT SYSTEM
521		Oak Creek #7	000*	250 D	7/31/1991	7:35	7/31/1991	22:17	14.7	1850 BOILER WATER CONDITION
521	178	Oak Creek #7	•	U		22:17	7/31/1991	22:43	0.43	1750 BURNER MANAGEMENT SYSTEM
521	178	Oak Creek #7	000*	135 D		5:50	8/15/1991	8:50	3	265 PRIMARY AIR HEATER
521	178	Oak Creek #7	•	U	8/19/1991	7:41	8/19/1991	8:23	0.7	1750 BURNER MANAGEMENT SYSTEM
521	178	Oak Creek #7	•	U		21:45	8/19/1991	22:26	0.68	9900 OPERATOR ERROR
521	178	Oak Creek #7	•	R	9/12/1991	17:34	9/15/1991	5:41	60.11	0 Reserve Shutdown
521	178	Oak Creek #7	*	R	9/20/1991	23:57	9/21/1991	10:56	10.98	0 Reserve Shutdown
521	178	Oak Creek #7	000*	140 D	10/2/1991	14:30	10/2/1991	18:00	3.5	1407 71 FD FAN LUB SYSTEM
521	178	Oak Creek #7	•	M	O 10/7/1991	14:02	10/12/1991	23:31	129.48	1040 FIRST SUPERHEATER LEAK
521	178	Oak Creek #7	*	M	O 10/18/1991	23:04	10/20/1991	17:31	42.45	1040 SUPERHEATER LEAK
521 521 521 521	178	Oak Creek #7	000*	210 D		10:02	11/15/1991	6:45	44.71	741 BLR RECIRCULATION PUMP MTR
521	t · ·	Oak Creek #7		R		23:53	12/8/1991	14:09	38.26	0 Reserve Shutdown
521		Oak Creek #7		R	1/10/1992	11:55	1/12/1992	15:17	51.36	0 Reserve Shutdown
521	178	Oak Creek #7	000*	244 D		17:15	1/20/1992	20:00	2.75	8560 ELECTROSTATIC PRECIP PROBLEMS
521 521	178	Oak Creek #7	000*	210 D		8:00	2/5/1992	8:25	24.41	740 #72 BOILER BOOSTER PUMP
7 521		Oak Creek #7	000*	120 D	2/5/1992	8:25	2/5/1992	11:15	2.83	760 #72 BLR BSTR PMP DISCHARGE VLV
521	178	Oak Creek #7	000*	210 D		11:15	2/6/1992	10:00	22.75	740 #72 BOILER BOOSTER PUMP

521 178 Oak Creek #7 000 220 D1 2/61/992 17:07 27:19/192 17:07 27:19/192 23:39 54.86 Creek #7 PO 27:10/1992 17:07 29:19/992 23:39 54.86 26.85 18:00 PLANNED OUTAGE 57:17/10 Oak Creek #7 PO 57:21/1992 14:36 24:462.58 18:00 PLANNED OUTAGE 57:17/10 Oak Creek #7 PO 57:21/1992 14:36 24:462.58 18:00 PLANNED OUTAGE 57:17/10 Oak Creek #7 PO 57:21/1992 17:29 O.73 18:00 PLANNED OUTAGE 57:17/10 Oak Creek #7 PO 57:21/1992 17:29 O.73 18:00 PLANNED OUTAGE Oak Creek #7 PO 57:21/1992 17:29 S7:21/1992 20:00 33:87 Oak Creek #7 PO 57:21/1992 17:29 S7:21/1992 20:00 33:87 Oak Creek #7 PO 57:21/1992 17:29 Oak Creek #7 PO 57:21/1992 03:00 03:38 Oak Creek #7 PO 57:21/1992 03:00 03:38 Oak Creek #7 PO 57:21/1992 03:00 03:38 Oak Creek #7 PO 57:21/1992 03:00 03:38 Oak Creek #7 PO 57:26/1992 03:00 03:38 Oak Creek #7 PO 57:26/1992 03:00 03:38 Oak Creek #7 PO 57:26/1992 03:00 03:38 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 03:00 Oak Creek #7 PO 57:26/1992 03:00 Oak Creek #7 PO 57:26/1992 03:00 Oak Creek #7 PO 57:26/1992 03:00 Oak Creek #7 PO 57:26/1992 03:00 Oak Creek #7 PO 57:26/1992 03:00 Oak Creek #7 PO 57:26/1992 03:00 Oak Creek #7 PO 57:26/1992												·
521 776 Color Creek #7 PO 2710/1992 0.01 5923/1992 14:36 5923/1992 14:36 5923/1992 17:00 Color Creek #7 PO 5923/1992 17:00 5923/1992 17:00 0.05 17:00 Color Creek #7 PO 5923/1992 17:00 0.73 1800 PLANNED OUTAGE 5923/1992 17:00 0.05 17:00 Color Creek #7 PO 5923/1992 17:20 0.73 1800 PLANNED OUTAGE 5923/1992 17:20 0.73 1800 PLANNED OUTAGE 5923/1992 17:20 0.73 1800 PLANNED OUTAGE 5923/1992 17:00 0.05 5923/1992 17:00 0.05 5923/1992 17:00 0.05 5923/1992 17:00 0.05 5923/1992 17:00 0.05 5923/1992 17:00 0.05 17:00 0.05 17:00 0.05 17:00 0.05 17:00 0.05 17:00 0.05	521	178	Oak Creek #7	000*	220	D1	2/6/1992		2/7/1992	17:07	31.11	740 #72 BOILER BOOSTER PUMP
521 776 Color Creek #7 PO 2710/1992 0.01 5923/1992 14:36 5923/1992 14:36 5923/1992 17:00 Color Creek #7 PO 5923/1992 17:00 5923/1992 17:00 0.05 17:00 Color Creek #7 PO 5923/1992 17:00 0.73 1800 PLANNED OUTAGE 5923/1992 17:00 0.05 17:00 Color Creek #7 PO 5923/1992 17:20 0.73 1800 PLANNED OUTAGE 5923/1992 17:20 0.73 1800 PLANNED OUTAGE 5923/1992 17:20 0.73 1800 PLANNED OUTAGE 5923/1992 17:00 0.05 5923/1992 17:00 0.05 5923/1992 17:00 0.05 5923/1992 17:00 0.05 5923/1992 17:00 0.05 5923/1992 17:00 0.05 17:00 0.05 17:00 0.05 17:00 0.05 17:00 0.05 17:00 0.05	521	178	Oak Creek #7	*		RS	2/7/1992	17:07	2/9/1992	23:59	54.86	0 Reserve Shutdown
521 178 Coak Creek #7	521	178	Oak Creek #7	*		PO	2/10/1992		5/23/1992	14:36	2462.58	1800 PLANNED OUTAGE
521 178 Cook Creek #7 PO 523/1992 16-45 523/1992 17-29 523/1992 17-29 523/1992 22-02 4.55 1710 COMBUSTION CONTROLS 521 176 Cook Creek #7 PO 523/1992 22-02 526/1992 8.37 58.58 B00 PLANNED OUTAGE 521 176 Cook Creek #7 PO 523/1992 22-02 526/1992 8.37 58.58 B00 PLANNED OUTAGE 521 176 Cook Creek #7 PO 528/1992 12-00 5728/1992 12-00 3.38 1710 COMBUSTION CONTROLS 521 176 Cook Creek #7 PO 528/1992 12-00 5728/1992 12-00 4.61 B00 PLANNED OUTAGE 521 176 Cook Creek #7 PO 528/1992 12-00 5728/1992 12-00 4.61 B00 PLANNED OUTAGE 521 176 Cook Creek #7 PO 528/1992 12-00 5728/1992 12-00 5728/1992 12-00 5728/1992 13-00 5728/1992 5728/				000	45	PD	5/23/1992	14:36	5/23/1992	16:45	2.15	1710 COMBUSTION CONTROLS
521 178 Cak Creek #7 FO 57291992 1729 57291992 2302 4.55 1710 COMBUSTION CONTROLS				•								
521 178 Oak Creek #7 PO 522/1992 22.02 5/26/1992 13.03 3.98 1710 COMBUSTION CONTROLS				000*	45	PD						
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521 178 Oak Creek #7 PO 526/1992 12:00 526/1992 12:28 0.46 1800 PLANNED OUTAGE				000*	77							
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521 778 Oak Creek #7 O00* 146 PD 5/26/1992 15.26 5/26/1992 15.26 5/26/1992 15.26 1710 COMBUSTION CONTROLS	<u></u>			000*								
521 178 Oak Creek #7 000) · ·			- 000								
S21 178 Oak Creek #7 PO 5/27/1992 9-42 5/27/1992 10-15 0.55 1800 PLANNED OUTAGE				000*								
521 178 Oak Creek #7 O00* 250 PD 5/27/1992 10.15 5/29/1992 8.10 45.91 17.10 COMBUSTION CONTROLS				1000								
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521 178 Oak Creek #7				- 000								
521 178 Oak Creek #7 PO 6/2/1992 20:50 6/3/1992 3:26 6.6 4309 OTHER TURB INST & CTRL PROBLEMS 521 178 Oak Creek #7 U2 6/10/1992 1:34 6/9/1992 11:23 287.38 1050 SECOND SUPERHEATER LEAK 521 178 Oak Creek #7 U1 6/26/1992 19:06 6/22/1992 11:23 287.38 1050 SECOND SUPERHEATER LEAK 521 178 Oak Creek #7 U1 6/26/1992 19:06 6/26/1992 20:18 1.2 1700 FEEDWATER CONTROLS 521 178 Oak Creek #7 RS 6/30/1992 22:33 7/1/1992 6:30 7.95 0 Reserve Shutdown 521 178 Oak Creek #7 RS 6/30/1992 21:36 7/13/1992 10:50 61:23 0 Reserve Shutdown 521 178 Oak Creek #7 U1 7/13/1992 16:06 7/13/1992 16:57 0.85 1710 COMBUSTION CONTROLS 521 178 Oak Creek #7 U1 7/13/1992 18:37 7/13/1992 19:19 0.7 1710 COMBUSTION CONTROLS 521 178 Oak Creek #7 U1 7/13/1992 18:35 7/18/1992 3:15 8.66 3414 FEEDWATER PUMP CONTROLS 521 178 Oak Creek #7 U1 7/12/1992 9:26 7/22/1992 10:08 0.7 9910 MAINTENANCE ERROR 521 178 Oak Creek #7 U1 8/25/1992 14:55 8/25/1992 16:03 1.13 3415 FDWTR PMP/DRIVE LUBE OIL SYS 521 178 Oak Creek #7 U1 8/25/1992 18:56 9/16/1992 13:10 14:23 0 Reserve Shutdown 521 178 Oak Creek #7 RS 8/26/1992 18:56 9/16/1992 13:10 14:23 0 Reserve Shutdown 521 178 Oak Creek #7 RS 9/11/1992 18:56 9/16/1992 13:10 14:23 0 Reserve Shutdown 521 178 Oak Creek #7 U1 9/23/1992 3:55 9/23/1992 4:40 0.75 1750 BURNER PROBLEMS 521 178 Oak Creek #7 U1 9/23/1992 3:55 9/23/1992 4:40 0.75 1750 BURNER PROBLEMS 521 178 Oak Creek #7 U1 9/23/1992 3:55 9/23/1992 3:31 114:23 0 Reserve Shutdown 521 178 Oak Creek #7 U1 9/23/1992 3:55 9/23/1992 3:31 114:23 0 Reserve Shutdown 521 178 Oak Creek #7 U1 10/16/1992 3:55 9/23/1992 3:31 114:23 0 Reserve Shutdown 521 178 Oak Creek #7												
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521 178 Oak Creek #7 * U1 9/23/1992 3:55 9/23/1992 4:40 0.75 1750 BURNER MANAGEMENT PROBLEMS 521 178 Oak Creek #7 * RS 10/9/1992 23:24 10/11/1992 17:08 41.73 0 Reserve Shutdown 521 178 Oak Creek #7 * U1 10/16/1992 19:28 10/16/1992 23:23 3.91 1710 COMBUSTION CONTROLS 521 178 Oak Creek #7 * U1 10/18/1992 2:00 10/18/1992 3:11 1.18 1799 OTHER BOILER CONTROL PROBLEMS 521 178 Oak Creek #7 000* 180 D1 10/31/1992 16:30 11/1/1992 6:39 14.15 310 PULVERIZER MILLS 521 178 Oak Creek #7 * U1 11/1/1992 8:05 11/2/1992 9:15 1.16 1799 OTHER BLR CONTROL PROBLEMS 521 178 Oak Creek #7 000* 254 D1												
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521 178 Oak Creek #7 000* 254 D1 11/2/1992 8:05 11/2/1992 9:15 1.16 1799 OTHER BLR CONTROL PROBLEMS 521 178 Oak Creek #7 000* 180 D1 11/2/1992 19:30 11/3/1992 5:50 10.33 310 PULVERIZER MILLS				000								
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	521											
521 178 Oak Creek #7 000° 175 D1 11/4/1992 18:35 11/9/1992 3:00 104.41 1420 OTHER FD FAN PROBLEMS	521											
	521	178	Oak Creek #7	000*	175	D1	11/4/1992	18:35	11/9/1992	3:00	104.41	1420 OTHER FD FAN PROBLEMS

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521	178 Oak Creek #7		U1	11/10/1992	17:41	11/10/1992	22:00	4.31	1450 FORCED DRAFT FAN CONTROLS
521	178 Oak Creek #7	000*	175 D1	11/13/1992	16:30	11/15/1992	1:45	33.25	310 PULVERIZER MILLS
521	178 Oak Creek #7	000*	160 D1	11/18/1992	10:15	11/18/1992	11:30	1.25	1475 ID FAN CONTROLS
521	178 Oak Creek #7	•	U1	11/19/1992	14:23	11/19/1992	15:40	1.28	1710 COMBUSTION CONTROLS
521	178 Oak Creek #7	000*	180 D1	11/24/1992	16:10	11/24/1992	17:50	1.66	1475 ID FAN CONTROLS
521	178 Oak Creek #7	000*	175 D1	11/25/1992	7:40	11/25/1992	8:50	1.16	310 PULVERIZER MILLS
521	178 Oak Creek #7	000*	140 D1	11/25/1992	8:50	11/25/1992	12:00	3.16	410 OTHER BURNER PROBLEMS
521	178 Oak Creek #7	000*	175 D1	11/25/1992	12:00	11/25/1992	20:10	8.16	310 PULVERIZER MILLS
521	178 Oak Creek #7	000.	131 D1	12/3/1992	15:40	12/3/1992	16:20	0.66	3415 FDWTR PMP/DRIVE LUBE OIL SYS
521	178 Oak Creek #7	000*	220 D1	12/4/1992	16:45	12/4/1992	19:30	2.75	410 OTHER BURNER PROBLEMS
521	178 Oak Creek #7	1000	U1	12/14/1992	13:03	12/14/1992	14:03	2.73	1710 COMBUSTION CONTROLS
521				+					1480 ID FAN MOTORS-VARIABLE SPEED
	178 Oak Creek #7		U1 RS	12/22/1992	17:40	12/22/1992	19:32	1.86	
521	178 Oak Creek #7	2221		12/24/1992	21:13	12/27/1992	20:50	71.61	0 Reserve Shutdown
521	178 Oak Creek #7	000,	245 D1	1/4/1993	9:30	1/5/1993	8:00	22.5	310 PULVERIZER MILL
521	178 Oak Creek #7		NC	1/22/1993	22:00	1/25/1993	2:45	52.75	1420 OTHER FD FAN PROBLEM
521	178 Oak Creek #7		NC	2/13/1993	0:01	2/15/1993	17:00	64.98	740 BOILER RECIRCULATION PUMPS
521	178 Oak Creek #7	•	U1	2/23/1993	3:13	2/23/1993	3:47	0.56	1710 COMBUSTION CONTROLS
521	178 Oak Creek #7	000	240 D1	2/24/1993	16:45	2/24/1993	18:00	1.25	1710 COMBUSTION CONTROLS
521	178 Oak Creek #7	•	U1	3/18/1993	19:00	3/18/1993	21:40	2.66	1710 COMBUSTION CONTROLS
521	178 Oak Creek #7	*	U1	3/21/1993	8:30	3/21/1993	9:30	1	1710 COMBUSTION CONTROLS
521	178 Oak Creek #7	•	SF	3/21/1993	9:44	3/21/1993	10:31	0.78	385 IGNITERS
521	178 Oak Creek #7	000*	130 D1	3/21/1993	16:30	3/22/1993	19:00	26.5	1480 OTHER ID FAN PROBLEMS
521	178 Oak Creek #7	•	U1	4/3/1993	9:09	4/3/1993	10:35	1.43	1710 COMBUSTION CONTROLS
521	178 Oak Creek #7		U1	4/3/1993	20:38	4/3/1993	21:26	0.8	3499 OTHER FDWTR SYS PROBLEMS
521	178 Oak Creek #7	•	U1	4/12/1993	15:18	4/12/1993	16:02 ¹	0.73	3499 OTHER FDWTR SYSTEM PROBLEMS
521	178 Oak Creek #7	•	245 D1	4/15/1993	8.00	4/16/1993	0:01	16.01	9270 WET COAL
521	178 Oak Creek #7	- ·	240 D1	4/16/1993	10 00	4/16/1993	23:00	13	9270 WET COAL
521	178 Oak Creek #7		U2	4/24/1993	22:01	4/26/1993	6:24	32.38	400 BURNER WINDBOX FIRES
521	178 Oak Creek #7		U2	4/26/1993	11:51	4/26/1993	14:59	3.13	4265 TURBINE DRAIN & VENT VALVES
521	178 Oak Creek #7		MO	4/30/1993	21:27	5/3/1993	5:36	56.15	360 BURNER
521	178 Oak Creek #7	 • -	МО	5/3/1993	8:04	5/8/1993	5:15	117.18	360 BURNER
521	178 Oak Creek #7		U1	5/8/1993	9:24	5/8/1993	10:17	0.88	1750 BURNER MANAGEMENT SYSTEM
521	178 Oak Creek #7	+	U1	5/15/1993	9:47	5/15/1993	16:30	6.71	4430 RLAND SEAL SYSTEM
521	178 Oak Creek #7		170 D1	6/17/1993	10:37	6/17/1993	16:20	5.71	3410 FEEDWATER PUMP
521	178 Oak Creek #7		165 D1	6/17/1993	10:38	6/17/1993	16:20	5.7	620 ATTEMPERATOR PROBLEMS
521	178 Oak Creek #7		RS	6/18/1993	20:29	6/22/1993	2:05	77.6	0 Reserve Shutdown
521	178 Oak Creek #7		170 D1	6/22/1993	2:05	6/23/1993	13:25	35.33	3410 FEEDWATER PUMP
521	178 Oak Creek #7	— 	165 D1	6/22/1993	2:06	6/23/1993	13:25	35.31	620 ATTEMPERATOR PROBLEMS
521	178 Oak Creek #7		NC	6/23/1993	22:00	6/24/1993	6:30	8.5	3411 FEEDWATER PUMP DRIVE-MOTOR
	178 Oak Creek #7		RS	6/25/1993	0:31	6/25/1993	2:59	2.46	0 Reserve Shutdown
521 521	178 Oak Creek #7		NC	6/27/1993	7:45	6/28/1993	1:00	17.25	1410 FORCED DRAFT FAN MOTOR
521	·							7.86	3149 OTHER LOSS OF VACUUM
製 521 521 0 521	178 Oak Creek #7		U2	7/7/1993	5:46	7/7/1993	13:38		3121 EXPANSION JOINT
521	178 Oak Creek #7	-	U2	7/7/1993	15:01	7/8/1993	17:27	26.43	1410 FD FAN MOTOR
521	178 Oak Creek #7	000*	185 D1	7/9/1993	1:00	7/9/1993	23:35	22.58	
	178 Oak Creek #7	-	MO	7/9/1993	23:35	7/11/1993	15:54	40.31	3121 EXPANSION JOINT
521	178 Oak Creek #7	000*	210 D1	7/14/1993	10:00	7/15/1993	0:04	14.06	3110 CONDENSER TUBE LEAKS

	4701		0 1 "7	T. T		140	7/45/4000	0.04	7/40/4000	40.05	25.05	0404	EVOANGION (OUT
521			Creek #7	7004		MO	7/15/1993		7/18/1993	13:25	85.35		EXPANSION JOINT
521	h		Creek #7	000*	265		8/13/1993		8/13/1993	15:00	3.5		WET COAL
521	178	Oak	Creek #7	· _		U1	8/17/1993	21:16	8/17/1993	22:57	1.68		ID FAN CONTROL
521	178	Oak	Creek #7	000*	165	D1	8/19/1993	8:48	8/19/1993	11:50	3.03	1480	OTHER ID FAN PROBLEMS
521	178	Oak	Creek #7	000*	260	D1	8/30/1993	11:00	8/30/1993	21:45	10.75	9270	WET COAL
521	178	Oak	Creek #7	•		U1	9/5/1993	2:39	9/5/1993	4:13	1.56	9270	WET COAL
521			Creek #7	1-		U1	9/5/1993		9/5/1993	5:41	0.78	3401	FDWTR FUMP DRIVE CONTROLS
521			Creek #7			МО	9/5/1993		9/5/1993	12:36	4.08		TURB DRAIN & VENT VALVES
521	i		Creek #7			U1	9/5/1993		9/5/1993	18:00	2.01		OTHER FOWTR PROBLEMS
521			Creek #7	000*	175	D1	10/10/1993		10/11/1993	11:40	29.66		OTHER FORCED FAN PROBLEMS
521			Creek #7	000*	165		10/19/1993		10/19/1993	12:00	5.75		FEEDWATER PUMP DRIVE MOTOR
521	L		Creek #7	1000		NC	10/25/1993		10/26/1993	5:05	6.58		FEEDWATER PUMP
521			Creek #7			NC	11/13/1993		11/15/1993	0:30	48.48		FORCE DRAFT FANS
521			Creek #7	 		PO	11/25/1993		12/31/1993	23:59	907.26		MAJOR TURBINE OVERHAUL
321	-170	Jak	Oleek #7			. 0	11/23/1330	4.70	12/31/1993	20.55	307.20	4400	MAJOR TURBINE OVERHAUL
	470	3 -1-	O1- #7	1.		DO.	1/4/4004	0.00	3/7/1994	24.20	1581.61	4400	STARTED 11/25/93 04:43
521	1/6	Jak	Creek #7			PO	1/1/1994	0:02	3/7/1994	21:39	1361.01	4400	MAINTENANCE ERROR - DC
	470	O-1-	0	.		PO	0/0/100/	10:41	0/0/1004	44.04	0.00	0010	
521			Creek #7				3/8/1994	L	3/8/1994 3/9/1994	11:31	0.83		SWITCHING
521			Creek #7	-		PO	3/8/1994	· · · · · · · · · · · · · · · · · · ·		4:32	6.4		GENERATOR VOLTAGE CONTROL
521			Creek #7			PO	3/11/1994		3/11/1994	23:57	2.56		TURBINE OVERSPEED TRIP TEST
521			Creek #7	000.	150		3/14/1994		3/14/1994	10:51	2.85		ECONOMIZER LEAK
521			Creek #7			U2	3/14/1994		3/16/1994	5:26	42.58		ECONOMIZER LEAK
521			Creek #7			U1	3/22/1994		3/22/1994	19:38	3.95		PROCESS COMPUTER
521			Creek #7	-		RS	3/26/1994		3/28/1994	6:00	50.38		Reserve Shutdown
521	h		Creek #7	-		МО	3/28/1994		3/31/1994	7:58	73.96		MAIN STOP VALVES
521			Creek #7	1•		U3	4/5/1994		4/7/1994	3:58	28.75		SECOND REHEATER
521			Creek #7	•		МО	5/2/1994		5/6/1994	21:28	95.86		LP TURBINE SHAFT SEALS
521			Creek #7	*		U1	6/13/1994	22:27	6/14/1994	3:27	5		PROCESS COMPUTER
521	178	Oak	Creek #7	000*	260		6/28/1994		6/28/1994	13:00	7		HEATER DRAIN PUMP
521	178	Oak	Creek #7	•		NC	7/9/1994	3:00	7/10/1994	6:30	27.5	3310	CONDENSATE PUMP
521	178	Oak	Creek #7	000*	220	D1	8/9/1994	13:30	8/9/1994	22:00	8.5	3112	COND. TUBE FOULING TUBE SIDE
521	178	Oak	Creek #7	000*	205	D1	10/10/1994	10:00	10/10/1994	13:00	3	330	PULVERIZER COAL LEAK
521	178	Oak	Creek #7			U1	10/10/1994	23:22	10/11/1994	0:10	0.8	1710	COMBUSTION CONTROLS
521	178	Oak	Creek #7	000*	240	D1	10/11/1994	8:00	10/12/1994	1:25	17.41	330	PULVERIZER COAL LEAK
521	178	Oak	Creek #7	•		U1	10/29/1994	3:43	10/29/1994	5:03	1.33	9900	OPERATOR ERROR
521	178	Oak	Creek #7	*		U1	11/3/1994	10:42	11/3/1994	11:51	1.15	1710	COMBUSTION CONTROLS
521	178	Oak	Creek #7	*		U1	11/6/1994		11/6/1994	17:57	0.85	1710	COMBUSTION CONTROLS
521	I		Creek #7	-		Ū1	11/7/1994		11/7/1994	8:44	1.01	1710	COMBUSTION CONTROLS
			Creek #7			RS	11/22/1994		11/24/1994	0:20	26.31	0	Reserve Shutdown
≤ 521			Creek #7	- i		МО	11/24/1994		11/27/1994	13:49	85.48		BURNERS
521 521 521 521 521 521 521			Creek #7	000*	255		11/29/1994		11/29/1994	21:30	4.5		BOILER WATER CONDITION
S 521			Creek #7	000*	140		12/30/1994		12/31/1994	23:59	39.73		FDWTR PUMP DRIVE MOTOR
521			Creek #7	-1-20	<u> ۳</u>	NC	1/1/1995		1/2/1995	9:45	33.71		FDWTR PUMP DRIVE MOTOR
521			Creek #7	000	240		2/2/1995		2/4/1995	5:04	42.81		TURBINE GOVERNOR SYS
521 521			Creek #7	-	+ ===	МО	2/4/1995		2/5/1995	6:09	25.08		TURBINE GOVERNOR SYS
521			Creek #7			U1	2/5/1995		2/5/1995	23:23	10.78		OTHER TURB CONTROL PROBLEMS
521	170	<u>vak</u>	UIEER #/			101	2/3/1993	12.30	2/3/1995	23.23	10.78	4309	OTTICH TUND CONTINUE FROBLEMS

									·			
521	178	Oak Creek #7	•		U2	2/6/1995	20:48	2/7/1995	8:40	11.86		CIRCULATING WATER VLVS
521	178	Oak Creek #7	•		U1	2/8/1995	2:03	2/8/1995	3:04	1.01	741	BOILER RECIRCULATION PMP MTR
521	178	Oak Creek #7	000*	204	D1	2/20/1995	9:05	2/20/1995	10:35	1.5	4301	TURBINE GOVERNOR SYSTEM
521	178	Oak Creek #7	•		U1	3/1/1995	3:40	3/1/1995	6:05	2.41	3271	INTAKE GRATING FOULING
521		Oak Creek #7	000*	263	D1	3/1/1995	18:00	3/2/1995	2:00	8	1850	BOILER WATER CONDITION
521		Oak Creek #7	•		МО	3/31/1995	23:00	4/8/1995	18:42	187.7		TURBINE GOVERNOR SYSTEM
521		Oak Creek #7	000*	240		8/20/1995	17:30	8/21/1995	10:46	17.26		WET COAL
521		Oak Creek #7			U1	8/21/1995	10:46	8/21/1995	13:48	3.03		INDUCED DRFT FAN MOTOR & DRIVES
521		Oak Creek #7	000*	150		8/21/1995	13:48	8/22/1995	20:50	31.03		INDUCED DRFT FAN MTR AND DRIVES
521		Oak Creek #7	- 000	130	RS	9/3/1995	11:45	9/3/1995	17:00	5.25		Reserve Shutdown
521		Oak Creek #7			MO	9/3/1995	17:00	9/3/1995	22:00	5.25		CONDENSER TUBE LEAKS
521		Oak Creek #7	•		RS	9/3/1995	22:00	9/4/1995	9:47	11.78		Reserve Shutdown
521		Oak Creek #7			PO	9/13/1995	9:00	9/13/1995	10:15	1.25		HEATER DRAIN PUMP
· ·			nont	040								PULVERIZER MILLS
521		Oak Creek #7	000*	240		9/18/1995	9:40	9/20/1995	14:40	53		
521		Oak Creek #7			RS	9/30/1995	0:06	10/1/1995	23:25	47.31		Reserve Shutdown
521	178	Oak Creek #7			U2	10/6/1995	23:17	10/8/1995	19:43	44.43	1000	BOILER TUBE LEAKS
					_							OTHER SLAG&ASH REMOVAL
521		Oak Creek #7	000*	125		10/29/1995	17:00	:0/30/1995	8:45	15.75		PROBLEMS
521		Oak Creek #7			PO	1/1/1996	0:00	1/28/1996	15:31	663.51		Waterside Boiler tube cleaning.
521		Oak Creek #7	000*	200		2/10/1996	18:00	2/11/1996	13:00	19	920	
521	-	Oak Creek #7	000*	160	D2	2/23/1996	2:30	2/25/1996	11:30	57	1400	
521		Oak Creek #7			U1_	3/2/1996	5:06	3/2/1996	7:59	2.88	9910	
521	178	Oak Creek #7	*		U1	3/21/1996	6:52	3/21/1996	7:30	0.63	1710	
521	178	Oak Creek #7	•		U1	3/26/1996	15:22	3/26/1996	16:20	0.96	1710	
521	178	Oak Creek #7	000*	220	D4	4/26/1996	10:00	4/26/1996	20:30	10.5	335	
521	178	Oak Creek #7	000*	260	D4	4/28/1996	8:50	4/30/1996	12:00	51.16	345	nil
521	178	Oak Creek #7	000*	233	D4	5/2/1996	11:45	5/2/1996	13:30	1.75	280	Normal
521	178	Oak Creek #7	000*	150	D1	5/11/1996	8:08	5/11/1996	9:00	0.86	1470	
521		Oak Creek #7	000*	120		5/13/1996	10:30	5/13/1996	12:00	1.5	1470	
521		Oak Creek #7	•		U1	5/21/1996	7:12	5/21/1996	8:04	0.86	1480	
521		Oak Creek #7	*		RS	5/27/1996	0:07	5/27/1996	8:24	8.28		Reserve Shutdown
521		Oak Creek #7	•		U1	6/11/1996	11:27	6/11/1996	12:42	1.25	1799	
521		Oak Creek #7	000*	135		6/17/1996	8:00	6/19/1996	21:00	61	1400	
521		Oak Creek #7			RS	7/3/1996	0:30	7/4/1996	4:59	28.48		Reserve Shutdown
521		Oak Creek #7	•		U1	7/5/1996	9:00	7/9/1996	21:58	108.96	1000	
521		Oak Creek #7	000*	165		7/15/1996	6:45	7/15/1996	13:35	6.83	1420	
521		Oak Creek #7	000*	220		7/30/1996	5:00	7/30/1996	12:00	7		Normal
521		Oak Creek #7	•		U1			8/5/1996	1:04	24.06	1000	
521 521		Oak Creek #7	000*	120		8/4/1996	1:00				1470	
			000*			8/23/1996	7:30	8/23/1996	10:30	3 76	4261	
521		Oak Creek #7	000*		<u>U1</u>	8/30/1996	10:48	8/30/1996	13:34	2.76		Inil
521		Oak Creek #7	000*	150		9/4/1996	5:48	9/4/1996	16:11	10.38	1470 1470	
521 521 521		Oak Creek #7	000*	260		9/4/1996	16:11	9/5/1996	15:50	23.65		
. 221		Oak Creek #7	000*	220		9/5/1996	15:50	9/5/1996	16:30	0.66	250	
521		Oak Creek #7	000*	160		9/5/1996	16:30	9/5/1996	19:00	2.5	340	and the second s
521		Oak Creek #7	000*	220		9/5/1996	19:00	9/5/1996	23:00	4	250	
521	178	Oak Creek #7	000*	150	וט	9/5/1996	23:00	9/6/1996	6:50	7.83	1470	<u> </u>

		.,										
52		Oak Creek #7	•	l	U1	9/9/1996	12:45	9/17/1996	1:25	180.66	1000	
52	1 178	Oak Creek #7	000*	150		9/17/1996	13:30	9/18/1996	8:00	18.5	3112	nil
52	1 178	Oak Creek #7	000*	250	D1	9/18/1996	8:00	9/18/1996	20:00	12	3112	
52		Oak Creek #7	000*	225	D1	9/19/1996	7:00	9/20/1996	0:01	17,01	3112	
52		Oak Creek #7	000*	250		10/7/1996	19:00	10/8/1996	2:30	7.5		Normal
52		Oak Creek #7	000*	180		10/10/1996	7:30	10/11/1996	3:00	19.5	3112	
52		Oak Creek #7	000*	220		11/17/1996	18:30	11/18/1996	0:01	5.51	250	
		Oak Creek #7	000*	210		11/18/1996	8:00	11/18/1996	14:30	6.5	250	
52				210	U1	1/14/1997	1:10	1/16/1997	21:03	67.88		Furnace Wall
52		Oak Creek #7	0010	250								
52		Oak Creek #7	00.0			2/3/1997	12:00	2/4/1997	17:15	29.25		Induced Draft Fan
52		Oak Creek #7	00.0	255		2/5/1997	9:30	2/5/1997	23:59	14.48		Coal Blending
52		Oak Creek #7	00•0	210		2/17/1997	18:40	2/18/1997	6:30	11.83		Pulverizer Fire
52		Oak Creek #7			RS	4/20/1997	1:08	4/20/1997	4:01	2.88		Reserve Shutdown
52		Oak Creek #7	00.0	250		4/22/1997	19:14	4/23/1997	3:00	7.76		Superheat Tube Leak
52	1 178	Oak Creek #7	00*0	230	D1	4/23/1997	3:00	4/25/1997	18:40	63.66	1050	Superheat Tube Leak
	1	T			<u></u>							
52	1 178	Oak Creek #7	•		МО	4/25/1997	18:40	5/1/1997	12:08	137.46	1488	Maintenance Outage to Wash Air Heaters
												75 Mill Inspect Fdr for Cause of Under
52	1 178	Oak Creek #7		į	NC	5/7/1997	23:35	5/8/1997	3:00	3.41	250	Weight Leveling Bar
52		Oak Creek #7	00.0	120		7/3/1997	5:00	7/3/1997	12:00	7		Bottom Ash Clinker Grinder
52		Oak Creek #7	. 00 0	120	NC	8/2/1997	2:00	8/4/1997	4:00	50		Rebuild 74 Mill Rollers
52		Oak Creek #7	00.0	105		8/4/1997	23:00	8/6/1997	4:00	29		Condenser Tube Fouling
			00.0	220		9/3/1997	12:00	9/3/1997	22:00	10		Condenser Tube Fouling Condenser Tube Fouling
52	1/6	Oak Creek #7	00 0	220	וטו	9/3/1997	12.00	9/3/1997	22.00	10	3112	Unit Tripped When Boiler Maste r Went
		0-1: 01: #7	 		บา	9/24/1997	20:20	9/25/1997	2:55	6.58	1750	Into Auto
52		Oak Creek #7	00*0	230		10/2/1997	12:02	10/7/1997	13:30	121.46		Heater Drain Pumps
52	1 1/6	Oak Creek #7	00*0	230	ייי	10/2/1997	12.02	10/7/1997	13.30	121.40	3501	Reduced Capacity to Isolate & Replace
		0.1.0	0000	400	- D	10/05/1007	00.00	10/00/1007	44.00	40	000	
52		Oak Creek #7	00*0	130		10/25/1997	23:30	10/26/1997	11:30	12		Clinker Grinder
52		Oak Creek #7	00-0	215		10/27/1997	7:00	10/27/1997	19:00	12		Condenser Tube Fouling
52		Oak Creek #7	00.0	120		11/26/1997	22:15	11/27/1997	0:01	1.76		71 ID Fan Motor Drive
52		Oak Creek #7	00*0	150		1/4/1998	21:00	1/6/1998	4:30	31.5		Feedwater Pump Drive/Lube Oil System
52	1 178	Oak Creek #7	00*0	265		3/4/1998	16:17	3/4/1998	19:00	2.71		Coal Blending
52	1 178	Oak Creek #7	•	T	МО	4/10/1998	4:15	4/27/1998	6:03	409.8	1488	Maintenance Outage
52	1 178	Oak Creek #7	00*0	160	D1	4/28/1998	6:00	5/9/1998	17:15	275.25	3411	Feedwater Pump Drive Motor
52	1 178	Oak Creek #7	00.0	220		5/15/1998	7:10	5/15/1998	8:00	0.83	1471	72 ID fan VFD Fault BO Ground Alarm
52		Oak Creek #7	00*0	160		5/27/1998	7:20	5/27/1998	8:00	0.66		Igniters
52		Oak Creek #7	00*0	195		6/8/1998	20:00	6/8/1998	22:25	2.41		Pulverizer Coal Leak
52		Oak Creek #7	00*0	160		6/16/1998	18:01	6/16/1998	20:09	2.13		72 ID Fan UFD Trip High Coolant Temp
52		Oak Creek #7	00.0	197		7/5/1998	11:30	7/5/1998	17:00	5.5		Circulating Water Pump
≨52 52		Oak Creek #7		220		7/8/1998	14:41	7/8/1998	14:52	0.18		73 Feeder Trip
뒤 52	14.14	Oak Cleak #7		_220	יטן.		'7.7.		14.52		230	73 Feduci Tip
يّ ۔َ	4 4 70	0-1: 01: #7	0010	070	D4	7/11/1000	17:20	7/10/1000	2:00	0.5	0400	Other Mines leaves Condensing Dephases
52 52 52 52 52 52 52	11.17	B Oak Creek #7	00*0	273	וטן	7/11/1998	17:30	7/12/1998	3:00	9.5	3199	Other Miscellaneous Condensing Problems
<u>.</u> .		0-1-0-1	00:0			0/0/4000	0.00	D/4/4000	00.00		0400	Charles and Cardon in D. 14
52	. 1	Oak Creek #7		255		8/3/1998	8:00	8/4/1998	22:00	38		Other Miscellaneous Condensing Problems
52		8 Oak Creek #7	00.0	240		8/5/1998	9:45	8/5/1998	21:00	11.25		Condenser Back Pressure
52	1 17	B Oak Creek #7	00°0	260	D1	8/6/1998	10:00	8/7/1998	1:00	15	3280	Condenser Back Pressure

	170 0 1 0 1 117	70000	20212	1						, , , , , , , , , , , , , , , , , , ,
521	178 Oak Creek #7	00*0	233 D1	8/7/1998	8:30	8/7/1998	23:00	14.5		Condenser Back Pressure
521	178 Oak Creek #7	00*0	240 D1	8/8/1998	10:45	8/8/1998	12:10	1.41		Condenser Back Pressure High
521	178 Oak Creek #7	00*0	240 D1	8/10/1998	17:20	8/10/1998	23:30	6.16	3199	Condenser Back Pressure
521	178 Oak Creek #7	00*0	250 D1	8/11/1998	8:00	8/11/1998	19:15	11.25	3199	Condenser Back Pressure
521	178 Oak Creek #7	00.0	140 D1	8/11/1998	19:15	8/11/1998	23:58	4.71	3199	Condenser Back Pressure - Moss Fouling
521	178 Oak Creek #7	00*0	127 D1	8/11/1998	23:58	8/12/1998	13:53	13.91		Condenser Back Pressure - Moss Fouling
521	178 Oak Creek #7	00*0	230 D1	8/14/1998	10:00	8/14/1998	23:00	13		Condenser Back Pressure
521	178 Oak Creek #7	00*0	220 D1	8/15/1998	7:00	8/15/1998	23:00	16		Condenser Back Pressure
521	178 Oak Creek #7	00*0	240 D1	8/16/1998	7.00	8/16/1998	23:30	16.5		Condenser Back Pressure
521	178 Oak Creek #7	00*0	232 D1	8/17/1998	8:00	8/17/1998	22:00	14		Condenser Back Pressure
521	178 Oak Creek #7	00*0	260 D1	8/18/1998	6:00	8/18/1998	11:25	5.41		Condenser Back Pressure
521	178 Oak Creek #7	00*0	160 D1	8/18/1998	11:25	8/19/1998	23:30	36.08		Condenser Back Pressure
521	178 Oak Creek #7	00*0	265 D1	8/20/1998	8:00	8/20/1998	15:00	7		Condenser Back Pressure
521	178 Oak Creek #7	00*0	265 D1	8/20/1998	23:00	8/21/1998	4:30	5.5		Condenser Back Pressure
521	178 Oak Creek #7	00*0	265 D1	8/21/1998	4:43	8/24/1998	16:14	83.51		Condenser Back Pressure
521	178 Oak Creek #7	00*0	180 D1	8/24/1998	16:14	8/27/1998	8:31	64.28		Coal Crushers Including Motor
521	178 Oak Creek #7	00*0	265 D1	8/27/1998	8:31	9/1/1998	11:00	122.48	2100	Condenser Back Pressure
521	178 Oak Creek #7	00.0	250 D1	9/1/1998	11:00	9/4/1998	10:30	71.5		Condenser Back Pressure
521	178 Oak Creek #7	00.0	200 D1		10:30	9/5/1998	20:45	34.25		Pulverizer Feeders
			160 D1	9/4/1998						Condenser Back Pressure
521	178 Oak Creek #7	00.0		9/8/1998	7:00	9/8/1998	10:00	3		
521	178 Oak Creek #7	00*0	120 D1	9/8/1998	10:00	9/10/1998	12:45	50.75		Condenser Back Pressure
521	178 Oak Creek #7		<u>U1</u>	9/14/1998	7:52	9/14/1998	14:17	6.41		Traveling Screen Fouling
521	178 Oak Creek #7	00.0	200 D1	9/14/1998	14:17	9/14/1998	23:00	8.71		Boiler Water Condition
521	178 Oak Creek #7		U1	9/15/1998	15:45	9/15/1998	18:00	2.25		Traveling Screen Fouling
521	178 Oak Creek #7		МО	11/12/1998	0:28	11/16/1998	16:11	111.71	3620	Changing Out Main Transformer Oil Pump
521	178 Oak Creek #7	00*0	225 D1	11/18/1998	13:00	11/20/1998	16:03	51.05		73 Mill Exhauster Fan Repair
521	178 Oak Creek #7	4	U1	11/30/1998	7:37	11/30/1998	8:20	0.71		Other Pulverizer Problems
521	178 Oak Creek #7	00*0	220 D4	12/8/1998	7:00	12/17/1998	0:00	209		75 Mill
521	178 Oak Creek #7	00*0	220 D4	12/17/1998	9:15	12/17/1998	10:30	1.25		73 Mill Overhaul
521	178 Oak Creek #7	00*0	240 D4	12/17/1998	10:30	12/30/1998	5:20	306.83	345	73 Mill Overhaul
521	178 Oak Creek #7	00*0	210 D1	12/30/1998	5:20	12/30/1998	5:50	0.5	3199	Condenser Back Pressure
521	178 Oak Creek #7	•	200 D1	1/5/1999	10:30	1/10/1999	17:30	127	1400	Forced Draft Fans
521	178 Oak Creek #7	*	210 D1	1/22/1999	19:00	1/22/1999	21:00	2	1488	Air Heater
521	178 Oak Creek #7	*	MO	1/29/1999	22:40	2/1/1999	14:53	64.21	1420	Forced Draft Damper Repairs
521	178 Oak Creek #7	*	U1	2/5/1999	9:47	2/5/1999	11:34	1.78	1750	Burner Management System
521	178 Oak Creek #7	+	МО	2/27/1999	0:03	3/10/1999	11:30	275.45		Bottom Ash System
521	178 Oak Creek #7		140 D1	3/13/1999	11:00	3/13/1999	11:50	0.83		71 ID Fan Motor - Variable Speed Drive
521	178 Oak Creek #7		U1	3/18/1999	9:26	3/18/1999	10:09	0.71	9900	Operator Error
521	178 Oak Creek #7	•	215 D2	3/24/1999	9:00	3/25/1999	9:00	24		Coal Conveyors
- :::::::::::::::::::::::::::::::::::::	178 Oak Creek #7		220 D1	4/1/1999	12:45	4/1/1999	14:20	1.58		73 Mill
S341	170 Oak Oleek #7		220 01	4/1/1333	12.43	4/ 1/ 1999	14.20	1.30	310	Fires in 75 Milt Due to Pyrite Sweeps Being
521 521 521 521	178 Oak Creek #7	· .	230 D1	4/7/1999	11:55	4/9/1000	0.24	10.40	200	Broken
521	178 Oak Creek #7		230 D1			4/8/1999	0:24 7:51	12.48		Boiler Control Problems
521	178 Oak Creek #7		170 D1	4/13/1999	6:39	4/13/1999		1.2		
521	1/6 Oak Creek #/	_	וטטו	4/20/1999	5:30	4/20/1999	12:00	6.5		Pulverizer Coal Leak
	470 Oak Carali #7	.	000 54	4/00/4000	40.00	4/00/4 000	0.00	100 10		Exhauster Wheel Replacement & Tile
521	178 Oak Creek #7		280 D1	4/20/1999	12:00	4/28/1999	9:08	189.13	340	Repairs

		·				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						T
					000 54	4/00/4000	0.00		04.40	000.40		Exhauster Wheel Replacement & Tile
ļ	521		Oak Creek #7		260 D1	4/28/1999	9:08	5/10/1999	21:18	300.16		Repairs
	521		Oak Creek #7		220 D1	5/10/1999	21:18	5/11/1999	6:00	8.7		Pulverizer Skidding
\	521		Oak Creek #7	*	280 D1	5/13/1999	17:03	5/14/1999	9:00	15.95		Pulverizer Motors & Drives
	521		Oak Creek #7		U1	5/24/1999	2:34	5/24/1999	5:19	2.75		Boiler Air Control Problems
- I	521		Oak Creek #7	•	150 D1	5/26/1999	12:00	5/26/1999	14:00	2		Traveling Water Screen Fouling
	521		Oak Creek #7	•	U1	6/12/1999	11:30	6/12/1999	23:00	11.5		Feedwater Level Controls
L	521		Oak Creek #7		МО	6/12/1999	23:00	6/13/1999	10:32	11.53		Condenser Tube Leak
1_	521		Oak Creek #7	00*0	220 D1	6/14/1999	10:00	6/14/1999	12:30	2.5		Pulverizer Feeders - Wet Coal
	521		Oak Creek #7	•	165 D1	7/21/1999	13:49	7/21/1999	14:30	0.68		71 ID Van UFD Trouble
	521		Oak Creek #7	•	165 D1	7/21/1999	17:12	7/21/1999	19:00	1.8		71 ID Fan UFD Trouble
	521		Oak Creek #7	*	145 D1	8/13/1999	20:17	8/13/1999	21:30	1.21		Traveling Water Screen Fouling
	521		Oak Creek #7		U1	8/17/1999	9:07	8/17/1999	17:18	8.18		Traveling Water Screen Fouling
\	521		Oak Creek #7	*	U1	8/27/1999	3:43	8/27/1999	5:21	1.63		#2 Intercept Valve Limit Switch
	521	178	Oak Creek #7	•	RS	9/4/1999	0:43	9/7/1999	1:25	72.69	0	Reserve Shutdown
	521	178	Oak Creek #7	*	235 D1	9/30/1999	5:40	9/30/1999	15:00	9.33	250	Pulverizer Feeders
	521	178	Oak Creek #7	•	U1	10/4/1999	6:10	10/4/1999	8:15	2.08	1710	Combustion Control
	521	178	Oak Creek #7	•	U1	10/7/1999	8:05	10/11/1999	7:28	95.38	1000	Furnace Wall
	521	178	Oak Creek #7	*	NC	10/21/1999	12:50	10/30/1999	0:28	203.63	345	Pulverizer Overhaul
1	521	178	Oak Creek #7	•	PO	10/30/1999	0:28	11/22/1999	13:32	565.06		Planned Maintenance Outage
	521		Oak Creek #7	•	U1	11/23/1999	16:44	11/23/1999	17:51	1,11		Combustion Control
-	521		Oak Creek #7	*	140 D1	12/7/1999	5:00	12/7/1999	13:01	8.01		Air Heater Main Drive Coupling Trouble
<u> </u>	521		Oak Creek #7	•	140 D1	12/8/1999	5:00	12/8/1999	8:30	3.5		Reassembling Main Drive
	521		Oak Creek #7	•	145 D1	12/10/1999	7:30	12/10/1999	17:30	10		Air Heater Drive (Air Drive Failed)
	521		Oak Creek #7	•	U1	12/21/1999	17:40	12/21/1999	19:24	1.73		Combustion Control
	521		Oak Creek #8	218	D1	1/4/1975	3:15	1/4/1975	5:45	2.5	3999	
	521		Oak Creek #8	218	D1	1/4/1975	5:45	1/4/1975	18:00	12.25	3999	
- 1	521		Oak Creek #8	148	D1	1/11/1975	7:30	1/11/1975	13:30	6	1455	,
1	521		Oak Creek #8		Ú1	1/12/1975	10:17	1/13/1975	8:15	21.96	1060	
	521		Oak Creek #8		U1	1/13/1975	8:33	1/13/1975	23:07	14.56	1799	
	521		Oak Creek #8		U1	1/13/1975	23:07	1/14/1975	20:31	21.4	1060	
	521		Oak Creek #8	233	D1	1/21/1975	18:45	1/22/1975	10:35	15.83	3999	
	521		Oak Creek #8	133	D1	1/21/1975	21:30	1/22/1975	6:50	9.33	1455	
	521		Oak Creek #8	128	D1	1/29/1975	11:30	1/30/1975	4:00	16.5	1486	
	521		Oak Creek #8		PO	2/2/1975	7:55	3/2/1975	6:00	670.08	1999	
	521		Oak Creek #8	238	D1	3/3/1975	22:30	3/5/1975	1:15	26.75	340	
	521		Oak Creek #8		U1	3/15/1975	7:00	3/17/1975	6:07	47.11	1100	
_	521		Oak Creek #8	233	D1	3/22/1975	10:01	3/22/1975	15:30	5.48	340	
	521		Oak Creek #8		U1 -	3/28/1975	0:29	3/28/1975	8:19	7.83	1999	
۳.	521		Oak Creek #8	238	D1	3/28/1975	8:19	3/28/1975	15:30	7.18	3999	
WEPCO	521		Oak Creek #8	228	D1	3/28/1975	21:00	3/29/1975	5:35	8.58	3999	
Ž	521		Oak Creek #8	228	D1	4/8/1975	18:30	4/9/1975	6:45	12.25	3999	
C A	521	188	Oak Creek #8	- ===	U1	4/12/1975	20:51	4/13/1975	7:07	10.26	8560	
40112	521		Oak Creek #8	248	D1	4/19/1975	13:16	4/19/1975	14:37	1.35	340	
12	521	188	Oak Creek #8		MO	4/26/1975	5:30	4/27/1975	8:14	26.73	4499	
	521		Oak Creek #8	208	D1	5/1/1975	15:30	5/2/1975	5:45	14.25	340	
_						5, 1, 10, 10, 1			3			<u></u>

521	188 Oak Creek #8	208	D1	E/0/407E	00.00	E/0/1075	40.45	40.75	040	
	 			5/2/1975	23:30	5/3/1975	10:15	10.75	340	
521	188 Oak Creek #8	163	PD	5/3/1975	0:01	5/3/1975	3:30	3.48	340	
521	188 Oak Creek #8	228	D1	5/8/1975	2:04	5/8/1975	5:45	3.68	340	
521	188 Oak Creek #8	138	D1	5/10/1975	2:00	5/10/1975	18:45	16.75	1455	
521	188 Oak Creek #8		U1	5/17/1975	0:08	5/18/1975	21:39	45.51	1000	·
521	188 Oak Creek #8	228	D1	6/3/1975	14:00	6/3/1975	15:15	1.25	340	
521	188 Oak Creek #8	228	PD	6/8/1975	2:00	6/8/1975	6:25	4.41	340	
521	188 Oak Creek #8	228	PD	6/10/1975	0:01	6/14/1975	13:20	109.31	340	
521	188 Oak Creek #8	133	D1	6/12/1975	15:15	6/12/1975	22:20	7.08	1486	
521	188 Oak Creek #8	228	D1	6/14/1975	13:30	6/14/1975	14:10	0.66	340	
521	188 Oak Creek #8		U1	6/14/1975	23:48	6/15/1975	6:30	6.7	8560	
521	188 Oak Creek #8	133	D1	6/15/1975	6:30	6/15/1975	13:00	6.5	1486	
521	188 Oak Creek #8	233	D1	6/23/1975	21:55	6/24/1975	10:15	12.33	3999	
521	188 Oak Creek #8	183	D1	6/23/1975	23:45	6/26/1975	11:30	59.75	340	
521	188 Oak Creek #8		U1	7/2/1975	5:51	7/4/1975	15:16	57.41	4609	
521	188 Oak Creek #8	226	D1	7/9/1975	0:01	7/9/1975	12:00	11.98	340	
521	188 Oak Creek #8	216	D1	7/28/1975	0:30	7/28/1975	12:40	12.16	340	
521	188 Oak Creek #8		U1	8/15/1975	21:12	8/17/1975	2:03	28.85	1060	
521	188 Oak Creek #8		МО	8/29/1975	1:18	9/2/1975	0:53	95.58	620	
521	188 Oak Creek #8		U1	9/4/1975	3:38	9/5/1975	7:17	27.65	1000	
521	188 Oak Creek #8		U1	9/6/1975	1:28	9/18/1975	10:14	296.76	620	
521	188 Oak Creek #8	236	D1	9/22/1975	3:30	10/9/1975	12:00	416.5	340	
521	188 Oak Creek #8	159	D1	9/30/1975	1:00	9/30/1975	6:30	5.5	1455	
521	188 Oak Creek #8	133	U1 -	10/11/1975	4:30	10/11/1975	6:32	2.03	9320	
521	188 Oak Creek #8	122	D1	10/22/1975	23:00	10/11/1975	8:40	9.66	1455	
521	188 Oak Creek #8	235	D1	10/24/1975	3:30	10/25/1975	14:10	34.66	3999	
521	188 Oak Creek #8	138	PD	11/1/1975	0:15	11/4/1975	2:30	74.25	1455	
521	188 Oak Creek #8	230	D1	11/6/1975	15:45	11/7/1975	5:35	13.83	3999	
521	188 Oak Creek #8	230	U1	11/9/1975	0:38	11/9/1975	17:22	16.73	1999	
521	188 Oak Creek #8		U1	11/15/1975	23:28	11/16/1975	4:48	5.33	8560	
521	188 Oak Creek #8		U1	11/22/1975	6:30	11/23/1975	21:10	38.66	1000	
521	188 Oak Creek #8	238	D1	11/24/1975	4:30	11/24/1975	7:30	3	1590	
521	188 Oak Creek #8	230	U1	11/27/1975	22:04	11/29/1975	7:05	33.01	530	
521	188 Oak Creek #8		U1	12/1/1975	18:34	12/3/1975	22:45	52.18	1005	
521	188 Oak Creek #8	238	D1	12/1/1975	2:15	12/11/1975	6:00	3.75	3999	
	188 Oak Creek #8	238	D1	12/14/1975		12/14/1975	19:15	1.5	340	
521 521	188 Oak Creek #8	230	NC	12/16/1975	17:45 10:15	12/14/1975	8:45	142.5	3440	
	188 Oak Creek #8	240	D1				6:15	5.75	3440	
521				12/17/1975	0:30	12/17/1975			340	
521	188 Oak Creek #8	238	D1	12/17/1975	9:40	12/17/1975	16:30	6.83	340	
521	188 Oak Creek #8	188	D1	12/17/1975	15:53	12/17/1975	18:40	2.78		
521 521 521	188 Oak Creek #8	228	D1	12/17/1975	21:00	12/18/1975	10:40	13.66	340	
	188 Oak Creek #8	248	D1	12/18/1975	22:05	12/19/1975	6:40	8.58	340	
221	188 Oak Creek #8		<u>U1</u>	12/20/1975	23:58	12/21/1975	7:55	7.95	8560	
521	188 Oak Creek #8	258	D1	12/22/1975	17:00	12/23/1975	19:00	26	3440	
521	188 Oak Creek #8	190	PD	12/24/1975	0:01	12/30/1975	2:00	145.98	340	
521	188 Oak Creek #8	229	D1	1/1/1976	1:50	1/1/1976	5:00	3.16	340	

504	188 Oak Creek #8	260	D1	1/5/1976	12.40	1/9/1976	17:30	00.00	0440	
521		235	PD		13:40			99.83	3440	
521	188 Oak Creek #8			1/11/1976	0:30	1/11/1976	7:30	7	340	
521	188 Oak Creek #8	240	PD	1/12/1976	4:00	1/12/1976	9:30	5.5	340	
521	188 Oak Creek #8	244	PD	1/13/1976	0:45	1/17/1976	21:15	116.5	340	
521	188 Oak Creek #8	94	D1	1/13/1976	7:05	1/13/1976	7:35	0.5	1455	
521	188 Oak Creek #8		U1	1/13/1976	7:39	1/13/1976	7:58	0.31	1455	
521	188 Oak Creek #8	134	D1	1/23/1976	4:00	1/23/1976	6:00	2	1455	
521	188 Oak Creek #8		U1	1/29/1976	0:21	1/29/1976	23:48	23.45	1060	
521	188 Oak Creek #8	234	PD	1/30/1976	23:30	1/31/1976	4:30	5	340	
521	188 Oak Creek #8	216	D1	2/5/1976	23:00	2/6/1976	4:30	5.5	340	
521	188 Oak Creek #8		PO	2/11/1976	23:15	2/28/1976	14:08	398.88	1999	
521	188 Oak Creek #8	224	D1	2/28/1976	20:20	2/29/1976	6:00	9.66	3999	
521	188 Oak Creek #8		U1	3/13/1976	1:44	3/14/1976	11:11	33.45	1040	
521	188 Oak Creek #8		U1	3/19/1976	0:32	3/20/1976	17:30	40.96	1000	
521	188 Oak Creek #8	237	D1	3/24/1976	16:00	3/24/1976	20:00	4	340	
521	188 Oak Creek #8		U1	3/26/1976	23:39	3/28/1976	6:45	31.1	1000	ii.
521	188 Oak Creek #8		MO	3/26/1976	23:39	3/28/1976	6:45	31.1	1999	
521	188 Oak Creek #8		U1	4/10/1976	0:02	4/11/1976	21:23	45.35	1455	
521	188 Oak Creek #8	119	D1	4/13/1976	0:01	4/13/1976	5:00	4.98	1455	
521	188 Oak Creek #8	124	D1	4/16/1976	0:30	4/17/1976	5:42	29.2	1455	
521	188 Oak Creek #8		U1	4/16/1976	23:20	4/17/1976	5:42	6.36	8560	
521	188 Oak Creek #8	234	D1	4/19/1976	11:00	4/19/1976	20:30	9.5	9270	
521	188 Oak Creek #8	134	D1	4/21/1976	2:30	4/21/1976	5:00	2.5	1455	
521	188 Oak Creek #8	146	PD	4/23/1976	23:30	4/25/1976	6:00	30.5	1455	
521	188 Oak Creek #8		U1	4/28/1976	21:58	4/29/1976	6: 33	8.58	8560	
521	188 Oak Creek #8	123	D1	5′6/1976	15:15	5/7/1976	11:00	19.75	1455	
521	188 Oak Creek #8	123	D1	5/7/1976	14 20	5/7/1976	21:30	7.16	1455	
521	188 Oak Creek #8	133	D1 -	5/12/1976	23.30	5/13/1976	1:45	2.25	4620	
521	188 Oak Creek #8	123	D1	5/13/1976	1:45	5/13/1976	4:00	2.25	1455	
521	188 Oak Creek #8	123	D1	5/16/1976	0:01	5/16/1976	19:50	19.81	1455	
521	188 Oak Creek #8		U1	5/19/1976,	23:28	5/20/1976	3:36	4.13	8560	
521	188 Oak Creek #8	226	D1	5/20/1976	15:15	5/20/1976	19:30	4.25	340	
521	188 Oak Creek #8	123	D1	5/21/1976	12:30	5/21/1976	23:45	11.25	1455	
521	188 Oak Creek #8	123	D1	5/26/1976	21:30	5/27/1976	4:15	6.75	1455	
521	188 Oak Creek #8	133	D1	5/28/1976	0:01	5/29/1976	10:30	34.48	1455	
521	188 Oak Creek #8		U1	6/2/1976	23:56	6/4/1976	1:09	25.21	1000	
521	188 Oak Creek #8	128	D1	6/4/1976	6:00	6/5/1976	11:10	29.16	3410	
521	188 Oak Creek #8	233	D1	6/10/1976	12:33	6/10/1976	18:15	5.7	3999	
521	188 Oak Creek #8		U1	6/12/1976	23:45	6/13/1976	18:41	18.93	8560	
	188 Oak Creek #8		МО	6/12/1976	23:45	6/13/1976	18:41	18.93	1999	
WE 521 521 521 521	188 Oak Creek #8	240	D1	6/29/1976	5:00	7/3/1976	22:15	113.25	340	
G 521	188 Oak Creek #8	.	U1	6/30/1976	23:18	7/1/1976	10:09	10.85	8560	
± 521	188 Oak Creek #8		MO	6/30/1976	23:18	7/1/1976	10:09	10.85	1999	
521 521 4 521	188 Oak Creek #8	240	D1	7/6/1976	9:00	7/6/1976	16:30	7.5	340	
521	188 Oak Creek #8		MO	7/18/1976	10:14	7/18/1976	15:31	5.28	8560	- · · · · · · · · · · · · · · · · · · ·
521	188 Oak Creek #8	132	D1	7/18/1976	15:31	7/18/1976	20:30	4.98	1455	

ſ	521 188 Oak Creek #8	140	D1	7/22/1976	18:00	7/23/1976	6:00	12	1455	
į.	521 188 Oak Creek #8		U1	7/24/1976	1:44	7/26/1976	3:01	49.28	1000	
ŀ	521 188 Oak Creek #8		MO	7/24/1976	1:44	7/26/1976	3:01	49.28	1999	
-			MO	7/31/1976	0:22	8/1/1976	17:18	49.28	1999	
}										
-	521 188 Oak Creek #8		MO	7/31/1976	0:22	8/1/1976	17:18	40.93	1060	
]	521 188 Oak Creek #8	230	D1	8/6/1976	1:00	8/6/1976	4:10	3.16	340	
-	521 188 Oak Creek #8	_ -	МО	8/7/1976	1:16	8/7/1976	21:34	20.29	1060	
].	521 188 Oak Creek #8	140	D1	8/7/1976	21:34	8/8/1976	18:15	20.68	1455	
-	521 188 Oak Creek #8	135	<u>D1</u>	8/9/1976	0:01	8/9/1976	5:50	5.81	3410	
	521 188 Oak Creek #8	227	PD_	8/13/1976	23:10	8/16/1976	11:45	60.58	340	
-	521 188 Oak Creek #8	185	D1	8/14/1976	0:30	8/16/1976	11:45	59.25	340	
1	521 188 Oak Creek #8	95	PD	8/15/1976	0:01	8/16/1976	6:15	30.23	1455	
j.	521 188 Oak Creek #8	140	PD	8/16/1976	6:15	8/16/1976	10:00	3.75	1455	
-	521 188 Oak Creek #8	235	PD	8/17/1976	23:30	8/18/1976	4:45	5.25	340	
_	521 188 Oak Creek #8	140	D1	8/24/1976	23:30	8/26/1976	11:20	35.83	1455	
	521 188 Oak Creek #8	232	D1	8/31/1976	9:40	8/31/1976	10:45	1.08	340	
]	521 188 Oak Creek #8		MO	8/31/1976	23:08	9/1/1976	4:12	5.06	8560	
1_	521 188 Oak Creek #8	105	D1	9/7/1976	12:00	9/9/1976	6:00	42	3310	
1	521 188 Oak Creek #8		MO	9/10/1976	23:31	9/13/1976	0:14	48.71	1590	
1_	521 188 Oak Creek #8	228	D1	9/16/1976	11:45	9/16/1976	13:45	2	340	
1	521 188 Oak Creek #8		U1	9/17/1976	23:38	9/19/1976	21:47	46.15	1000	
Γ	521 188 Oak Creek #8		MO	9/17/1976	23:38	9/19/1976	21:47	46.15	1999	
[521 188 Oak Creek #8	133	D1	9/21/1976	22:15	9/22/1976	5:15	7	1455	
Ī	521 188 Oak Creek #8	128	D1	9/24/1976	1:00	9/24/1976	4:15	3.25	1455	
Γ	521 188 Oak Creek #8		МО	9/24/1976	23:14	9/25/1976	5:12	5.96	8560	
Ī	521 188 Oak Creek #8	123	D1	9/25/1976	5:12	9/26/1976	21:15	40.05	1455	
-	521 188 Oak Creek #8	223	D1	9/27/1976	12:30	9/28/1976	3:00	14.5	340	
T	521 188 Oak Creek #8	73	D1	9/27/1976	23:45	9/28/1976	3:00	3.25	1455	
1	521 188 Oak Creek #8		МО	9/28/1976	22:29	9/29/1976	4:15	5.76	8560	
}-	521 188 Oak Creek #8	193	D1	9/30/1976	10:01	9/30/1976	12:40	2.65	340	
-	521 188 Oak Creek #8	233	D1	10/4/1976	21:00	10/5/1976	3:30	6.5	340	
f	521 188 Oak Creek #8		МО	10/5/1976	23:00	10/6/1976	6:15	7.25	340	
<u>}</u> -	521 188 Oak Creek #8	223	D1	10/6/1976	19:45	10/7/1976	4:00	8.25	340	
<u>†</u>	521 188 Oak Creek #8	163	D1	10/6/1976	21:30	10/7/1976	4:00	6.5	340	
-	521 188 Oak Creek #8	223	D1	10/7/1976	6:00	10/7/1976	20:30	14.5	340	
ŀ	521 188 Oak Creek #8	163	D1	10/9/1976	6:00	10/11/1976	11:45	53.75	1455	
-	521 188 Oak Creek #8	238	D1	10/16/1976	20:00	10/17/1976	19:30	23.5	340	
٠.	521 188 Oak Creek #8	240	PD	10/18/1976	22:00	10/19/1976	3:30	5.5	350	
	521 188 Oak Creek #8	191	PD	10/19/1976	3:00	11/11/1976	4:00	553	340	
	521 188 Oak Creek #8	184	D1	10/20/1976	7:30	11/11/1976	3:20	523.83	340	
_ ₹	521 188 Oak Creek #8	124	D1	10/20/1976	14:30	10/20/1976	22:10	7.66	340	
ΕP	521 188 Oak Creek #8	64	D1 -	10/20/1976	14:30	10/20/1976	21:30	7.00	340	
WEPCO						10/20/1976		3.75	340	
-	521 188 Oak Creek #8	124	<u>D1</u>	10/21/1976	7:30		11:15		1455	
40115	521 188 Oak Creek #8	79	D1	10/23/1976	1:40	10/25/1976	0:01	46.35		
. 15	521 188 Oak Creek #8	125	D1	11/1/1976	0:01	11/1/1976	3:30	3.48	340	
	521 188 Oak Creek #8	140	D1	11/11/1976	22:15	11/12/1976	8:00	9.75	1455	

501	100	Oak Creek #8	140	D1	11/12/1976	22:15	11/13/1976	16:15	18	1455	
521		Oak Creek #8	129	D1	11/14/1976	0:01	11/14/1976	14:00	13.98	1455	
521				PD							
521		Oak Creek #8	224	D1	11/22/1976	0:01	11/29/1976	8:10	176.15	340	
521		Oak Creek #8	129		12/3/1976	9:30	12/5/1976	18:50	57.33	1455	
521		Oak Creek #8	140	D1	12/10/1976	22:20	12/11/1976	7:55	9.58	1455	
521		Oak Creek #8		U1	12/17/1976	19:50	12/19/1976	22:39	50.81	1005	
521		Oak Creek #8	229	D1	12/24/1976	12:00	12/24/1976	15:00	3	30	
521		Oak Creek #8		U1	12/24/1976	20:05	12/25/1976	5:46	9.68	8560	
521		Oak Creek #8	139	D1	1/12/1977	16:15	1/13/1977	8:00	15.75	1455	
521		Oak Creek #8	139	D1	1/14/1977	0:30	1/14/1977	6:25	5.91	340	
521		Oak Creek #8	139	D1	1/18/1977	21:00	1/19/1977	10:00	13	1455	
521		Oak Creek #8		U1	1/23/1977	0:20	1/23/1977	15:14	14.9	8560	
521		Oak Creek #8	224	D1	2/1/1977	7:00	2/6/1977	11:15	124.25	340	
521		Oak Creek #8	139	D1	2/3/1977	6:30	2/5/1977	1:30	43	1455	
521		Oak Creek #8		U1	2/9/1977	1:30	2/10/1977	2:21	24.85	530	
521		Oak Creek #8	132	D1	2/10/1977	2:21	2/12/1977	16:05	61.73	1455	
521		Oak Creek #8	214	D1	2/15/1977	5:00	2/20/1977	5:45	120.75	340	
521		Oak Creek #8		U1	3/5/1977	23:46	3/6/1977	7:01	7.25	1999	
521	188	Oak Creek #8	234	D1	3/9/1977	9:00	3/9/1977	17:00	8	340	
521	188	Oak Creek #8	254	D1	3/10/1977	1:45	3/10/1977	4:00	2.25	340	
521	188	Oak Creek #8		МО	3/10/1977	22:26	3/11/1977	2:33	4.11	8560	
521	188	Oak Creek #8	164	D1	3/15/1977	0:30	3/22/1977	6:00	173.5	1400	
521		Oak Creek #8		U1	3/26/1977	22:55	3/27/1977	19:22	20.45	1000	
521		Oak Creek #8	224	D1	3/28/1977	7:00	3/28/1977	10:00	3	1400	
521		Oak Creek #8		MO	4/3/1977	0:01	4/3/1977	11:00	10.98	4830	
521	188	Oak Creek #8	164	PD	4/13/1977	0:45	4/13/1977	5:00	4.25	340	
521	188	Oak Creek #8	114	D1	4/14/1977	13:50	4/15/1977	2:00	12.16	340	
521		Oak Creek #8		PO	4/16/1977	21:55	7/4/1977	21:30	1895.58	1999	
521		Oak Creek #8	137	D1	7/5/1977	22:00	7/6/1977	4:45	6.75	1455	
521	188	Oak Creek #8		U1	7/6/1977	5:52	7/6/1977	6:15	0.38	1400	
521		Oak Creek #8	137	D1	7/6/1977	23:45	7/7/1977	5:15	5.5	1455	
521		Oak Creek #8		U1	7/10/1977	0:18	7/11/1977	0:48	24.5	4550	
521		Oak Creek #8	239	D1	7/13/1977	23:05	7/14/1977	10:45	11.66	340	
521		Oak Creek #8	232	PD	7/20/1977	20:30	7/21/1977	9:15	12.75	340	
521		Oak Creek #8	222	PD	7/21/1977	19:00	7/22/1977	9:30	14.5	340	
521		Oak Creek #8	227	D1	7/23/1977	9:05	7/23/1977	14:10	5.08	340	
521		Oak Creek #8	207	D1	7/28/1977	22:00	7/29/1977	3:00	5	340	
521		Oak Creek #8	242	D1	7/29/1977	9:30	7/29/1977	14:45	5.25	340	
521		Oak Creek #8	232	D1	7/29/1977	22:26	7/30/1977	4:00	5.56	340	
521		Oak Creek #8		U1	7/31/1977	14:43	8/2/1977	12:21	45.63	1000	
521	<u> </u>	Oak Creek #8		U1	8/4/1977	7:26	8/4/1977	8:00	0.56	1999	
521		Oak Creek #8	227	D1	8/8/1977	5:00	8/8/1977	14:25	9.41	340	
521		Oak Creek #8	182	D1	8/8/1977	6:30	8/8/1977	14:30	8	3999	
521	···	Oak Creek #8	212	D1	8/9/1977	23:20	8/10/1977	3:50	4.5	3999	
521		Oak Creek #8	222	D1	8/15/1977	4:30	8/15/1977	15:35	11.08	340	
521		Oak Creek #8	227	D1	8/16/1977	23:10	8/17/1977	4:00	4.83	340	
- 521		Law Olook no		101	5, 10, 1511	20.10	5, , , , , , , , ,	7.001	7.00	5-0	

	501	100	Oals Croals #5	<u> </u>		U1	0/40/4077	00.00	0/00/4077	0.00	40.04	4000	
	521		Oak Creek #8				8/19/1977	23:33	8/22/1977	0:28	48.91	1060	
1	521		Oak Creek #8			U1	8/31/1977	14:51	9/3/1977	11:41	68.83	1040	
	521		Oak Creek #8			U1	9/5/1977	1:18	9/5/1977	20:35	19.28	1060	
	521		Oak Creek #8			U1	9/6/1977	3:03	9/7/1977	0:51	21.8	1060	
	521	188	Oak Creek #8	3	235	D1	9/7/1977	22:20	9/13/1977	21:00	142.66	340	
	521	188	Oak Creek #8	3	228	D1	9/20/1977	0:10	9/20/1977	6:35	6.41	340	
	521	188	Oak Creek #8	3		U1	9/27/1977	3:50	9/27/1977	4:27	0.61	1455	
	521	188	Oak Creek #8	3	233	D1	9/27/1977	13:30	9/27/1977	15:35	2.08	340	
1	521		Oak Creek #8		258	D1	10/4/1977	0:01	11/10/1977	14:15	902.23	340	
	521		Oak Creek #8		188	D1	10/5/1977	13:55	10/5/1977	22:30	8.58	340	
	521		Oak Creek #8		158	D1	10/14/1977	2:30	10/14/1977	10:20	7.83	340	
	521		Oak Creek #8			U1	10/15/1977	1:17	10/17/1977	12:58	59.68	895	
	521		Oak Creek #8			U1	10/20/1977	8:50	10/20/1977	9:13	0.38	740	
	521		Oak Creek #8			U1	10/28/1977	23:50	10/30/1977	21:13	45.38	1100	
· ·	521		Oak Creek #8		159	D1	11/7/1977	0:45	11/7/1977	9:15	8.5	1455	
	521		Oak Creek #8		159	D1	11/9/1977	20:35	11/10/1977	5:45	9.16	1455	
	521		Oak Creek #8		140	D1	11/12/1977	8:35	11/13/1977	20:30	35.91	1455	
	521		Oak Creek #8		120	D1	11/15/1977		11/15/1977	5:30	2.75	895	
	521		Oak Creek #8		210	PD	11/16/1977	2:45 5:30	11/22/1977	19:00	157.5	340	,
) — ·	521		Oak Creek #8		229	D1	11/23/1977	5:00	11/23/1977	12:10	7.16	340	
F	521		Oak Creek #8		240	D1	12/2/1977		12/2/1977	15:45	2.91	340	
ļ			Oak Creek #8		229	D1		12:50				340	
	521		Oak Creek #8				12/6/1977	5:00	12/6/1977	21:30	16.5	340	
	521				240	D1	12/9/1977	12:30	12/9/1977	21:15	8.75		
h	521		Oak Creek #8		210	D1	12/10/1977	0:01	12/10/1977	14:15	14.23	3999	
	521		Oak Creek #8		250	D1	12/20/1977	5:45	12/21/1977	0:15	18.5	340	
ļ	521		Oak Creek #8			U1	12/25/1977	21:12	12/27/1977	5:51	32.65	1305	
	521		Oak Creek #8			U1	12/29/1977	1:24	12/31/1977		70.6	1000	
	521		Oak Creek #8			U1	1/1/1978	0:01	1/3/1978	11:08	59.11	1000	
	521		Oak Creek #8		241	D1	1/11/1978	5:30	1/11/1978	7:30	2	3999	
	521		Oak Creek #8		241	D1	1/12/1978	12:00	1/13/1978	2:00	14	340	
	521		Oak Creek #8		191	D1	1/12/1978	12:25	1/12/1978	12:50	0.41	340	
1-	521		Oak Creek #8		241	D1	1/14/1978	8:25	1/14/1978	14:15	5.83	340	
-	521		Oak Creek #8		256	D1	1/16/1978	19:00	1/16/1978	22:10	3.16	340	
	521		Oak Creek #8		241	PD	1/17/1978	15:00	1/17/1978	20:45	5.75	350	
	521		Oak Creek #8		246	D1	1/18/1978	23:30	1/19/1978	7:00	7.5	340	
·	521		Oak Creek #8			U1	1/21/1978	0:58	1/22/1978	1:42	24.73	1000	
	521		Oak Creek #8		230	D1	2/1/1978	21:30	2/2/1978	0:25	2.91	340	
	521		Oak Creek #8			U1	2/7/1978	22:08	2/8/1978	5:45	7.61	380	
<u>.</u>	521		Oak Creek #8		221	D1	2/15/1978	6:45	2/15/1978	9:05	2.33	1400	
	521	188	Oak Creek #8	3	231	D1	2/23/1978	21:15	2/24/1978	5:30	8.25	340	
WE BOO	521	188	Oak Creek #8	3	241	D1	2/25/1978	7:15	2/25/1978	9:15	2	340	
ó !	521	188	Oak Creek #8	3	261	D1	2/26/1978	13:15	2/27/1978	9:00	19.75	1005	
	521		Oak Creek #8		246	D1	2/28/1978	8:00	2/28/1978	10:20	2.33	340	
10117	521	188	Oak Creek #8	3		U1	2/28/1978	20:34	3/2/1978	16:42	44.13	1000	
1	521	188	Oak Creek #8	3		U1	3/2/1978	19:17	3/2/1978	19:36	0.31	4309	
	521		Oak Creek #8		160	D1	3/3/1978	9:00	3/3/1978	19:00	10	340	The second of th
			Jan Ciden We	<u> </u>			5,0,13,0	3.00	5,5,7570	.0.00		<u> </u>	

			15.	24-11-2-1	2 - 121		2.22			
521	188 Oak Creek #8	241	D1	3/3/1978	23:45	3/6/1978	3:00	51.25	340	
521	188 Oak Creek #8	201	D1	3/4/1978	18:00	3/4/1978	23:30	5.5	340	<u> </u>
521	188 Oak Creek #8	186	D1	3/5/1978	8:00	3/5/1978	14:15	6.25	340	
521	188 Oak Creek #8	276	D1	3/6/1978	3:00	3/11/1978	12:30	129.5	340	
521	188 Oak Creek #8	266	D1	3/11/1978	12:30	3/14/1978	17:15	76.75	340	
521	188 Oak Creek #8	235	D1	3/15/1978	7:30	3/15/1978	9:30	2	340	
521	188 Oak Creek #8	241	D1	3/26/1978	6:00	3/28/1978	1:30	43.5	340	
521	188 Oak Creek #8	226	D1	3/28/1978	1:30	3/28/1978	12:00	10.5	340	
521	188 Oak Creek #8	241	D1	3/28/1978	12:00	3/29/1978	11:10	23.16	340	
521	188 Oak Creek #8		U1	4/1/1978	0:18	4/2/1978	11:02	34.73	1000	
521	188 Oak Creek #8	220	D1	4/2/1978	21:00	4/26/1978	4:00	559	340	
521	188 Oak Creek #8	165	D1	4/5/1978	15:00	4/6/1978	5:00	14	340	
521	188 Oak Creek #8	195	D1	4/6/1978	10:30	4/7/1978	0:01	13.51	1999	
521	188 Oak Creek #8	130	D1	4/11/1978	17:00	4/12/1978	5:00	12	3410	
521	188 Oak Creek #8	100	D1	4/18/1978	21:30	4/19/1978	4:30	7	340	
521	188 Oak Creek #8	100	U1	4/24/1978	14:30	4/25/1978	13:09	22.65	1060	
521	188 Oak Creek #8	205	D1	4/25/1978	16:00	4/26/1978	4:45	12.75	4899	
521	188 Oak Creek #8	203	PO	4/29/1978	5:17	5/29/1978	6:22	721.08	1999	
521	188 Oak Creek #8		U1	5/29/1978	11:57	5/29/1978	14:39	2.7	1799	
<u> </u>		175	D1	5/31/1978	23:00	6/1/1978	6:00		1455	
521	188 Oak Creek #8	275	D1	6/1/1978		6/1/1978	21:20	2.83	340	
521	188 Oak Creek #8				18:30					
521	188 Oak Creek #8	145	D1	6/1/1978	23:00	6/2/1978	5:00	6	1455	
521	188 Oak Creek #8	250	D1	6/3/1978	7:00	6/20/1978	21:15	422.25	340	
521	188 Oak Creek #8	190	D1	6/7/1978	21:45	6/9/1978	3:48	30.05	340	
521	188 Oak Creek #8	140	D1	6/9/1978	22:30	6/11/1978	8:40	34.16	1455	
521	188 Oak Creek #8	170	D1	6/11/1978	8:40	6/11/1978	13:00	4.33	340	
521	188 Oak Creek #8	140	D1	6/11/1978	19:30	6/12/1978	10:30	15	1455	
521	188 Oak Creek #8	140	D1	6/12/1978	21:00	6/13/1978	8:30	11.5	1455	
521	188 Oak Creek #8	140	D1	6/13/1978	22:00	6/14/1978	7:15	9.25	1455	
521	188 Oak Creek #8	140	D1	6/15/1978	0:01	6/15/1978	4:30	4.48	1455	
521	188 Oak Creek #8	140	D1	6/17/1978	22:25	6/18/1978	12:30	14.08	1455	
521	188 Oak Creek #8	250	D1	6/20/1978	22:00	6/21/1978	7:45	9.75	340	
521	188 Oak Creek #8	229	D1	7/2/1978	9:45	7/2/1978	19:30	9.75	340	
521	188 Oak Creek #8	152	D1	7/8/1978	6:00	7/9/1978	15:40	33.66	1.455	
521	188 Oak Creek #8	149	D1	7/11/1978	0:15	7/11/1978	10:30	10.25	1455	
521	188 Oak Creek #8	229	D1	7/16/1978	20:01	7/17/1978	13:20	17.31	3999	
521	188 Oak Creek #8	152	D1	7/23/1978	7:30	7/23/1978	15:35	8.08	1455	
521	188 Oak Creek #8	222	D1	7/27/1978	15:00	7/28/1978	4:15	13.25	1850	
521	188 Oak Creek #8	229	D1	7/28/1978	21:05	7/29/1978	14:40	17.58	340	
521	188 Oak Creek #8		U1	7/29/1978	23:22	7/30/1978	19:24	20.03	8560	
521	188 Oak Creek #8		U1	8/1/1978	7:40	8/1/1978	9:38	1.96	860	
521 521 521 521	188 Oak Creek #8	-	U1	8/1/1978	23:16	8/1/1978	23:50	0.56	4700	
	188 Oak Creek #8		U1	8/5/1978	0:50	8/6/1978	0:55	24.08	4700	
521	188 Oak Creek #8	259	D1	8/16/1978	0:01	8/16/1978	12:00	11.98	340	} ·
521 521	188 Oak Creek #8	-	U1	8/19/1978	23:18	8/20/1978	5:50	6.53	4700	
521	188 Oak Creek #8		МО	8/20/1978	7:45	8/20/1978	16:58	9.21	4830	
	יו יוסטוליי וויסטוליי		1::101	5/20/15/0		3,23,1073	10.00	3.21	7000	

1	521	188 Oak Creek #8	180	D1	3/3/1979	4:00	3/5/1979	5:45	49.75	3999	
	521	188 Oak Creek #8	60	D1	3/3/1979	7:30	3/4/1979	12:50	29.33	920	
- 1	521	188 Oak Creek #8	180	D1	3/6/1979	23:30	3/7/1979	6:30	7	3999	
1	521	188 Oak Creek #8	95	D1	3/9/1979	6:30	3/10/1979	0:42	18.2	4269	
	521	188 Oak Creek #8		U1	3/10/1979	0:42	3/11/1979	19:08	42.43	4269	
-	521	188 Oak Creek #8	140	D1	3/18/1979	0:01	3/18/1979	22:28	22.45	1455	
-	521	188 Oak Creek #8		U1	3/18/1979	13:28	3/18/1979	22:28	9	895	
-	521	188 Oak Creek #8	240	D1	3/20/1979	14:30	3/22/1979	3:00	36.5	340	
-	521	188 Oak Creek #8	270	D1	3/22/1979	3:00	3/27/1979	13:30	130.5	3440	
	521	188 Oak Creek #8	140	D1	3/27/1979	13:30	3/27/1979	18:00	4.5	920	
	521	188 Oak Creek #8	90	D1	3/27/1979	21:00	3/28/1979	2:00	5	920	
	521	188 Oak Creek #8	261	D1	3/30/1979	0:15	3/31/1979	0:15	24	3999	
	521	188 Oak Creek #8	261	D1	4/3/1979	23:30	4/4/1979	14:10	14.66	3999	
- [-	521	188 Oak Creek #8		U1	4/7/1979	5:03	4/10/1979	14:44	81.68	1040	
1	521	188 Oak Creek #8	236	D1	4/12/1979	23:45	4/13/1979	6:30	6.75	4899	
	521	188 Oak Creek #8	ļ <u>-</u>	PO	4/21/1979	5:15	6/14/1979	10:10	1300.91	1999	
"	521	188 Oak Creek #8	245	D1	6/14/1979	10:10	6/17/1979	2:30	64.33	340	
1 1	521	188 Oak Creek #8	155	D1	6/15/1979	17:45	6/16/1979	0:05	6.33	1455	
-	521	188 Oak Creek #8		U1	6/21/1979	23:10	6/21/1979	23:32	0.36	9900	
	521	188 Oak Creek #8		U1	7/18/1979	5:16	7/19/1979	15:28	34.2	1799	
1-	521	188 Oak Creek #8		U1	7/31/1979	17:37	8/1/1979	5:37	12	1100	
ļ	521	188 Oak Creek #8	254	D1	8/1/1979	16:15	8/2/1979	4:30	12.25	340	
ļ:-	521	188 Oak Creek #8	139	D1	8/16/1979	8:45	8/16/1979	15:35	6.83	8325	
+-	521	188 Oak Creek #8	1	U1	8/16/1979	15:35	8/17/1979	8:17	16.7	8325	
	521	188 Oak Creek #8		U1	8/27/1979	15:38	8/30/1979	8:48	65.16	920	
1-	521	188 Oak Creek #8		U1	9/4/1979	18:10	9/6/1979	8:00	37.83	1060	
	521	188 Oak Creek #8		U1	9/6/1979	8:00	9/10/1979	15:59	103.98	1455	
-	521	188 Oak Creek #8	244	D1	9/13/1979	11:50	9/13/1979	21:33	9.71	3999	
-	521	188 Oak Creek #8	169	D1	9/14/1979	5:00	9/16/1979	12:15	55.25	1455	
\vdash	521	188 Oak Creek #8	239	PD	9/16/1979	12:15	9/16/1979	19:00	6.75	740	
1-	521	188 Oak Creek #8		U1	9/21/1979	23:48	9/24/1979	4:25	52.61	1000	
-	521	188 Oak Creek #8	269	D1	9/24/1979	10:30	10/20/1979	5:15	618.75	340	
	521	188 Oak Creek #8	+ ===	U1	9/28/1979	22:44	10/1/1979	4:03	53.31	1000	
	521	188 Oak Creek #8	195	D1	10/16/1979	17:05	10/16/1979	20:51	3.76	340	
-	521	188 Oak Creek #8	200	D1	10/17/1979	8:50	10/18/1979	0:01	15.18	340	
	521	188 Oak Creek #8	250	D1	10/22/1979	7:48	10/23/1979	5:55	22.11	340	
1_	521	188 Oak Creek #8	175	D1	10/22/1979	21:00	10/23/1979	5:55	8.91	3999	<u> </u>
-	521	188 Oak Creek #8	230	D1	10/31/1979	12:00	10/31/1979	12:45	0.75	340	
	521	188 Oak Creek #8	240	D1	11/2/1979	22:00	11/3/1979	19:30	21.5	340	· ——— · · · · · · · · · · · · · · · · ·
≨	521	188 Oak Creek #8	220	D1	11/6/1979	7:30	12/29/1979	8:45	1297.25	340	
WEPCO	521	188 Oak Creek #8	170	D1	11/11/1979	3:00	11/11/1979	15:40	12.66	340	
<u>g</u> .	521	188 Oak Creek #8	150	D1	11/18/1979	7:25	11/18/1979	14:15	6.83	340	
	521	188 Oak Creek #8	130	U1	11/22/1979	5:08	11/26/1979	2:20	93.2	1060	
40120	521	188 Oak Creek #8	140	D1	11/25/1979	12:00	11/27/1979	5:50	41.83	1455	
ö	521	188 Oak Creek #8	141	D1	12/1/1979	3:00	12/2/1979	7:00	28	1455	
	521	188 Oak Creek #8	+- 	U1	12/1/1979	21:23	12/1/1979	21:43	0.33	1799	
	_5_1	100 Oak Oldek #0	11	101	(2) 1/10/3	21.20	12 1/13/3	21.70	0.00	1799	

Γ	521	188 Oak Creek #8	46	D1	12/2/1979	6:30	12/2/1979	14:00	7.5	340	
F	521	188 Oak Creek #8		Ū1	12/14/1979	0:25	12/25/1979	13:09	276.73	1040	
- 1	521	188 Oak Creek #8	216	D1	12/29/1979	8:45	12/29/1979	21:30	12.75	340	
	521	188 Oak Creek #8	210	D1	12/29/1979	21:30	12/31/1979		50.5	340	
-	521	188 Oak Creek #8	226	D1	1/1/1980	11:15	1/1/1980	16:55	5.66	340	
- 1	521	188 Oak Creek #8	210	D1	1/1/1980	16:55	1/31/1980	7:02	710.11	340	
- 1	521	188 Oak Creek #8		U1	1/5/1980	22:53	1/7/1980	6:26	31.55	1000	
ŀ	521	188 Oak Creek #8		U1	1/19/1980	22:52	1/21/1980	0:38	25.76	1000	
H	521	188 Oak Creek #8	115	D1	1/29/1980	4:50	1/29/1980	22:19	17.48	1000	
-	521	188 Oak Creek #8	113	U1	1/29/1980	22:19	1/31/1980	7:27	33.13	1000	
- -	521	188 Oak Creek #8	225	D1	1/31/1980	17:00	1/31/1980	22:00	5	340	
- 1-	521	188 Oak Creek #8	235	PD	2/2/1980	7:00	2/28/1980	1:00	618	340	
	521	188 Oak Creek #8	200	U1	2/2/1980	23:40	2/3/1980	17:56	18.26	1799	
-	521	188 Oak Creek #8		U1	2/9/1980	0:48	2/11/1980	7:25	54.61	1000	
-	521	188 Oak Creek #8	175	D1	2/20/1980		2/21/1980	2:55	2.91	340	
- }	521	188 Oak Creek #8	175	U1	2/22/1980	22:17	2/25/1980	9:48	59.51	1000	
-	521	188 Oak Creek #8	190	D1	2/27/1980	14:00	2/28/1980	2:00	12	1850	
-	521	188 Oak Creek #8	251	D1	2/28/1980	2:00	2/28/1980	7:30	5.5	1850	
-	521	188 Oak Creek #8	218	D1	2/28/1980	7:30	2/28/1980	11:00	3.5	1850	
] .	521	188 Oak Creek #8	230	D1	2/28/1980	11:00	2/29/1980	6:00	19	1850	
- }-	521	188 Oak Creek #8	230	D1	2/29/1980	8:50	3/1/1980	14:00	5.16	1850	
- [-		188 Oak Creek #8	230	U1					9.46		
- -	521 521	188 Oak Creek #8		U1	3/1/1980 3/5/1980	21:42 1:47	3/2/1980 3/6/1980	7:10 8:57	31.16	8560 1060	
Į	521	188 Oak Creek #8	000	D1				7:00		1490	
-	521	188 Oak Creek #8	230 240	D1	3/10/1980 3/11/1980	10:00 7:00	3/11/1980 4/2/1980	3:00	<u>21</u> 524	1490	
-		188 Oak Creek #8			3/13/1980	1:30	3/13/1980	5:55	4.41	340	
-	521	188 Oak Creek #8	190	D1 D1	3/14/1980	8 20	3/13/1980	9:20	4.41	3999	
 -	521	188 Oak Creek #8	225		3/14/1980		3/14/1980		6.01	3999	
-	521	188 Oak Creek #8		D1 PD		9.20	3/14/1980	16:15 3:00	6.91 3.5		
- -	521		200		3/14/1980	23:30				340 340	
٠ إ	521	188 Oak Creek #8	200	D1	3/19/1980	23:15	3/20/1980	6:00	6.75		
-	521	188 Oak Creek #8	210 225	D1	3/24/1980		3/24/1980	22:15	8.16	340 1490	
- 1	521	188 Oak Creek #8 188 Oak Creek #8	225 _	MO	4/2/1980	3:00	4/3/1980	23:44	44.73 229.05		
- {-	521	188 Oak Creek #8		U1	4/3/1980	23:44 0:49	4/13/1980	12:47	6.55	1486 3110	
	521	188 Oak Creek #8	186	D1	4/19/1980 4/20/1980	8:00	4/19/1980 4/20/1980	7:22	5.08	1455	
-	521	188 Oak Creek #8	266	D1	4/20/1980	16:45	4/20/1980		14.25	340	
	521	188 Oak Creek #8	200	U1	4/28/1980		4/22/1980	7:00 3:53	35.78	1060	
_	521	188 Oak Creek #8		U1	4/30/1980	16:06 6:23	4/30/1980	6:45	0.36	9900	
ΣE	521	188 Oak Creek #8		U1	5/5/1980	0:42	5/7/1980	10:35	57.88	1040	
<u> </u>	521	188 Oak Creek #8		U1	5/7/1980	13:36	5/8/1980	23:42	34.09	1060	and the second section of the second section is a second section of the second section of the second section s
WEPCO	521								2.66	250	
40	521	188 Oak Creek #8	220	D1	5/24/1980	13:00	5/24/1980	15:40 17:41		3440	
40121	521	188 Oak Creek #8		U1	5/25/1980	3:00	5/26/1980		38.68	3440	
1	521	188 Oak Creek #8	225	D1	5/30/1980	15:30	5/30/1980	18:04	2.56		
	521	188 Oak Creek #8	195	PD	6/4/1980	0:20	6/4/1980	4:30	4.16	3410	
	521	188 Oak Creek #8		U1	6/7/1980	23:46	6/8/1980	6:17	6.51	8325	
L	521	188 Oak Creek #8	240	D1	6/9/1980	13:45	6/29/1980	10:05	476.33	340	

											
	521	188 Oak Creek #8	175	D1	6/14/1980	18:20	6/14/1980	20:30	2.16	340	
-	521	188 Oak Creek #8	185	D1	6/20/1980	23:15	6/21/1980	20:10	20.91	740	
	521	188 Oak Creek #8	175	D1	6/26/1980	0:15	6/27/1980	3:45	27.5	340	
f.	521	188 Oak Creek #8		U1	6/30/1980	14:11	7/2/1980	3:43	37.53	1060	
-	521	188 Oak Creek #8		U1	7/2/1980	3:47	7/2/1980	6:01	2.23	4750	
- 1	521	188 Oak Creek #8		U1	7/13/1980	0:46	7/14/1980	5:16	28.5	1060	
	521	188 Oak Creek #8		U1	7/15/1980	15:16	7/17/1980	23:41	56.41	1040	
	521	188 Oak Creek #8		U1	7/19/1980	8:28	7/21/1980	0:14	39.76	1060	
1 -	521	188 Oak Creek #8		U1	7/22/1980	18:35	7/25/1980	1:23	54.8	1060	
- 1	521	188 Oak Creek #8	124	D1	8/1/1980	5:45	8/1/1980	8:45	3	1100	
-	521	188 Oak Creek #8		U1	8/1/1980	16:50	8/4/1980	7:05	62.25	1060	
	521	188 Oak Creek #8	234	D1	8/5/1980	10:09	8/6/1980	16:45	30.6	340	
Г	521	188 Oak Creek #8		U1	8/10/1980	23:49	8/13/1980	4:29	52.66	1060	
1	521	188 Oak Creek #8		U1	8/25/1980	23:40	8/28/1980	4:15	52.58	1000	
i	521	188 Oak Creek #8		PO	8/30/1980	4:19	10/18/1980	0:53	1172.56	1999	
-	521	188 Oak Creek #8	220	D1	10/18/1980	0:53	10/19/1980	13:00	36.11	340	
	521	188 Oak Creek #8	175	D1	10/19/1980	5:10	10/19/1980	21:00	15.83	340	
	521	188 Oak Creek #8	200	D1	10/20/1980	8:00	10/21/1980	2:45	18.75	8560	
	521	188 Oak Creek #8		U1	10/21/1980	17:41	10/23/1980	5:54	36.21	1000	
ļ	521	188 Oak Creek #8	225	D1	10/30/1980	14:45	10/30/1980	19:34	4.81	340	
	521	188 Oak Creek #8	240	D1	11/1/1980	0:30	11/1/1980	10:45	10.25	340	
j	521	188 Oak Creek #8	240	D1	11/15/1980	14:00	11/15/1980	19:45	5.75	3999	
-	521	188 Oak Creek #8	260	D1	11/28/1980	13:00	12/3/1980	23:00	154	3440	
-	521	188 Oak Creek #8	121	D1	12/3/1980	4:15	12/3/1980	10:48	6.55	1850	
	521	188 Oak Creek #8		U1	12/3/1980	10:48	12/4/1980	4:48	18	1850	
	521	188 Oak Creek #8	236	D1	12/7/1980	7:00	12/7/1980	9:30	2.5	3999	
	521	188 Oak Creek #8	210	D1	12/9/1980	7:30	12/9/1980	8:30	1	1850	
-	521	188 Oak Creek #8	220	D1	12/9/1980	8:30	12/9/1980	11:40	3.16	1850	
	521	188 Oak Creek #8		U1	12/11/1980	0:14	12/12/1980	6:12	29.96	1400	
	521	188 Oak Creek #8		МО	12/14/1980	2:10	12/14/1980	2:36	0.43	4309	
	521	188 Oak Creek #8	240	D1	12/14/1980	4:45	12/14/1980	11:55	7.16	340	
	521	188 Oak Creek #8		U1	12/15/1980	20:17	12/17/1980	0:28	28.18	1040	
	521	188 Oak Creek #8	266	D1	12/28/1980	16:10	12/29/1980	5:00	12.83	5890	
-	521	188 Oak Creek #8	270	D1	12/29/1980	9:45	12/30/1980	19:00	33.25	3999	
l	521	188 Oak Creek #8	260	D1	1/4/1981	23:00	1/7/1981	5:00	54	3440	
	521	188 Oak Creek #8		U1	1/9/1981	23:20	1/11/1981	12:38	37.3	1000	
	521	188 Oak Creek #8	260	D1	1/11/1981	12:38	1/13/1981	18:39	54.01	3441	
€	521	188 Oak Creek #8		U1	1/13/1981	18:39	1/16/1981	3:08	56.48	1040	
WEPCO	521	188 Oak Creek #8		Ų1	1/18/1981	22:16	1/21/1981	20:38	70.36	1040	
Č	521	188 Oak Creek #8	246	D1	1/22/1981	7:10	1/22/1981	10:00	2.83	3410	
) 4	521	188 Oak Creek #8	255	D1	1/23/1981	7:50	1/24/1981	16:00	32.16	3440	
40122	521	188 Oak Creek #8	185	D1	1/24/1981	9:30	1/24/1981	12:20	2.83	340	
22	521	188 Oak Creek #8		U1	1/27/1981	16:26	1/31/1981	5:10	84.73	1400	
	521	188 Oak Creek #8	240	D1	2/2/1981	5:00	2/2/1981	21:30	16.5	3999	
	521	188 Oak Creek #8	240	D1	2/7/1981	21:30	2/8/1981	6:45	9.25	3999	
- 1	521	188 Oak Creek #8	240	D1	2/8/1981	6:45	2/8/1981	12:25	5.66	1850	
		-,		<u>, </u>			==:::==:		0.00	.000	<u> </u>

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Г	521	188 Oak Creek #8	107	D1	2/10/1981	0:20	2/10/1981	5:25	5.08	3310	
Ι,	521	188 Oak Creek #8	200	D1	2/12/1981	18:30	2/12/1981	20:00	1.5	340	
-1	521	188 Oak Creek #8	250	D1	2/17/1981	13:00	2/23/1981	7:00	138	340	
1	521	188 Oak Creek #8	270	D1	2/23/1981	7:00	2/23/1981	9:00	2	340	
	521	188 Oak Creek #8	261	D1	2/23/1981	9:00	3/8/1981	6:00	309	340	
	521	188 Oak Creek #8	221	D1	2/27/1981	12:00	2/27/1981	12:30	0.5	340	
	521	188 Oak Creek #8		U1	3/7/1981	2:41	3/8/1981	6:00	27.31	8560	
1-	521	188 Oak Creek #8		U1	3/8/1981	6:00	3/10/1981	1:25	43.41	1455	
- 1-	521	188 Oak Creek #8	140	D1	3/10/1981	1:25	3/10/1981	9:00	7.58	3410	
}	521	188 Oak Creek #8	136	D1	3/10/1981	9:00	3/13/1981	12:45	75.75	1455	
	521	188 Oak Creek #8	136	U1	3/12/1981	8:00	3/12/1981	18:37	10.61	3999	
- -	521	188 Oak Creek #8	235	PD	3/13/1981		3/12/1981	23:26	34.68	340	
-						12:45		21:38	22.2	1000	
-	521	188 Oak Creek #8	140	U1	3/14/1981	23:26	3/15/1981				
-	521	188 Oak Creek #8	146	D1	3/17/1981	0:45	3/17/1981	5:45	5	1455	
-	521	188 Oak Creek #8	230	PD	3/25/1981	4:00	4/10/1981	23:00	403	340	
	521	188 Oak Creek #8	180	<u>D1</u>	3/30/1981	1:15	4/8/1981	8:30	223.25	3411	
ļ	521	188 Oak Creek #8		<u>U1</u>	3/30/1981	22:38	4/1/1981	12:57	38.31	1040	
-	521	188 Oak Creek #8	180	D1	4/9/1981	12:00	4/9/1981	12:30	0.5	340	
1_	521	188 Oak Creek #8	70	D1	4/9/1981	15:44	4/9/1981	22:00	6.26	340	
	521	188 Oak Creek #8	180	PD	4/10/1981	23:00	4/12/1981	1:50	26.83	340	
L	521	188 Oak Creek #8	230	PD	4/12/1981	1:50	4/15/1981	8:00	78.16	340	
	521	188 Oak Creek #8	225	PD	4/15/1981	8:00	4/16/1981	4:30	20.5	340	
	521	188 Oak Creek #8	250	PD	4/16/1981	4:30	4/29/1981	4:00	311.5	340	
	521	188 Oak Creek #8	200	D1	4/27/1981	23:45	4/28/1981	3:50	4.08	340	
	521	188 Oak Creek #8	110	D1	5/5/1981	23:59	5/6/1981	6:00	6.01	1100	
	521	188 Oak Creek #8	230	PD	5/6/1981	23:30	5/7/1981	4:25	4.91	3999	
	521	188 Oak Creek #8	135	PD	5/8/1981	0:01	5/8/1981	5:30	5.48	1100	
1	521	188 Oak Creek #8	100	D1	5/10/1981	0:01	5/10/1981	7:00	6.98	1100	
	521	188 Oak Creek #8	240	D1	5/10/1981	22:10	5/11/1981	0:45	2.58	340	
	521	188 Oak Creek #8	150	PD	5/16/1981	5:00	5/16/1981	23:45	18.75	1455	
	521	188 Oak Creek #8		U1	5/18/1981	9:47	5/21/1981	4:01	66.23	1040	
-	521	188 Oak Creek #8	235	D1	6/3/1981	13:15	6/4/1981	0:50	11.58	340	
	521	188 Oak Creek #8	235	PD	6/6/1981	23:49	6/7/1981	9:45	9.93	340	
	521	188 Oak Creek #8		MO	6/6/1981	23:49	6/7/1981	9:45	9.93	8580	
-	521	188 Oak Creek #8	250	D1	6/7/1981	9:45	6/11/1981	3:00	89.25	7930	
	521	188 Oak Creek #8	275	D1	6/11/1981	3:00	6/15/1981	18:00	111	7930	
	521	188 Oak Creek #8	270	D1	6/15/1981	18:00	6/19/1981	22:34	100.56	7930	
< '	521	188 Oak Creek #8		U1	6/19/1981	22:34	6/21/1981	2:31	27.95	1040	
WEPCO	521	188 Oak Creek #8	270	D1	6/21/1981	2:31	6/22/1981	8:40	30.15	7930	
PC	521	188 Oak Creek #8		U1	6/21/1981	3:31	6/21/1981	7:31	4	380	
	521	188 Oak Creek #8		U1	6/29/1981	23:15	7/1/1981	7:00	31.75	1060	
40123	521	188 Oak Creek #8	274	D1	7/1/1981	7:00	7/15/1981	11:00	340	1490	
12:	521	188 Oak Creek #8	249	D1	7/13/1981	12:00	7/13/1981	14:00		1799	
•	521	188 Oak Creek #8	209	D1	7/15/1981	7:20	7/15/1981	11:00	3.66	9650	
	521	188 Oak Creek #8	254	D1	7/15/1981	11:00	8/5/1981	10:35	503.58	9650	±=
	521	188 Oak Creek #8	2.54	U1	7/21/1981	16:15	7/27/1981	13:09	140.89	1040	
┖	541	100 Uak Cieck #0		101	1121/1981	10.15	11211 1901)	13.03	170.03	1040	<u></u>

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521	188	Oak Creek #8	000*	150 D1	1/11/1982	21:00	1/13/1982	6:00	33	3811	SERVICE WATER SYS PREVENTED PULLING ASH
* _521	100	Oak Creek #8	-	U1	1/10/1982	6:16	1/10/1982	20:15	13.98	3414	FROZEN RUPTURED HI PRES HSE
012	<u>-</u>	, , , , , , , , , , , , , , , , , , , ,				·· -	1/10/1982				BBP DIFF PRES INSTR, INSTRUMENT FROZE UP
o ♣ 521	188	Oak Creek #8		U1	1/4/1982	10:19	1/6/1982	8:03	45.73	4261	2-CONTROL VALVE, REPAIR CROSSHEAD
521	188	Oak Creek #8	000.	26 D1	1/2/1982	2:45	1/10/1982	3:00	192.25	340	83 MILL, EXPLOSION
521		Oak Creek #8	000*	66 D1	1/1/1982	0:01	1/2/1982	2:45	26.73		COAL QUALITY
521		Oak Creek #8	220	D1	12/31/1981	16:15	12/31/1981		7.75	9290	
521		Oak Creek #8	216	D1	12/31/1981	8:00	12/31/1981	16:15	8.25	340	
521		Oak Creek #8	220	D1	12/30/1981	11:00	12/31/1981	8:00	21	9290	
521		Oak Creek #8	260	D1	12/22/1981	12:00	12/30/1981	11:00	191	340	
521		Oak Creek #8	200	D1	12/22/1981	0:29	12/22/1981	12:00	11.51	340	
521		Oak Creek #8	250	D1	12/20/1981	17:00	12/22/1981	0:29	31.48	340	
521		Oak Creek #8	240	D1	12/15/1981	14:00	12/16/1981	22:00	32	340	
521		Oak Creek #8		U1	12/11/1981	22:42	12/12/1981	1:22	2.66	740	
521		Oak Creek #8		U1	12/11/1981	20:52	12/11/1981	22:10	1.3	1455	
521		Oak Creek #8	200	U1	12/2/1981	22:46	12/7/1981	9:56	107.16	1000	
521		Oak Creek #8	256	D1	12/2/1981	16:15	12/10/1981	3:00	178.75	1455	
521		Oak Creek #8	216	D1	12/1/1981	22:00	12/2/1981	16:15	18.25	340	
521		Oak Creek #8	256	D1	12/1/1981	17:15	12/1/1981	22:00	4.75	1455	
521		Oak Creek #8	225	D1	11/30/1981	21:00	12/1/1981	7:00	34	340	
521		Oak Creek #8	165	D1	11/29/1981	1:15	11/29/1981	16:15	15	1400	
521		Oak Creek #8	255	D1	11/28/1981	21:00	11/29/1981	3:00	6	340	
521		Oak Creek #8		U1	11/21/1981	13:12	11/23/1981	4:05	38.88	1000	
521		Oak Creek #8	245	D1	11/21/1981	6:30	11/21/1981	13:12	6.7	8560	
521		Oak Creek #8	1 1	U1	11/10/1981	14:52	11/10/1981	22:54	8.03	340	
521		Oak Creek #8		PO	9/26/1981	2:57	11/10/1981	11:44	1088.78	1999	
521		Oak Creek #8	254	D1	9/22/1981	10:00	9/23/1981	12:00	26	250	
521		Oak Creek #8	234	D1	9/19/1981	6:30	9/22/1981	7:00	72.5	1850	
521		Oak Creek #8	1	U1	9/19/1981	0:18	9/19/1981	6:32	6.23	3110	
521		Oak Creek #8	234	D1	9/18/1981	11:00	9/19/1981	0:15	13.25	1850	
521		Oak Creek #8	230	D1	9/17/1981	2:00	9/18/1981	11:00	33	1850	
521		Oak Creek #8	 	<u>U1</u>	9/14/1981	0:34	9/15/1981	2:37	26.05	1060	
521		Oak Creek #8	+ = = =	U1	9/9/1981	1:32	9/11/1981	20:17	66.75	1000	
521		Oak Creek #8	265	D1	9/2/1981	10:00	9/9/1981	1:32	159.53	9650	
521		Oak Creek #8	240	D1	8/31/1981	5:00	9/2/1981	10:00	53	9650	
521		Oak Creek #8	254	D1	8/28/1981	4:00	8/29/1981	3:00	23	9650	
521		Oak Creek #8	263	D1	8/26/1981	13:51	8/28/1981	4:00	38.15	3310	
521		Oak Creek #8	+-54	U1	8/24/1981	0:44	8/26/1981	13:50	61.1	1060	
521		Oak Creek #8	254	D1	8/16/1981	17:30	8/24/1981	0:46	175.26	3310	
521		Oak Creek #8	124	PD	8/14/1981	5:00	8/16/1981	17:30	60.5	1455	
521		Oak Creek #8	239	D1	8/11/1981	17:30	8/11/1981	23:59	6.48	340	
521		Oak Creek #8		U1	8/7/1981	5:57	8/9/1981	7:03	49.1	1040	
521	188	Oak Creek #8	254	D1	8/5/1981	10:35	8/11/1981	17:30	150.91	3310	T

521	188	Oak Creek #8	000*	36	D1	1/13/1982	6:00	1/17/1982	3:00	93	1850	HIGH SILICA IN BOILER WATER
												BOILER CONTROLS SWINGING ABOVE
521	188	Oak Creek #8			NC	1/22/1982	3:00	2/4/1982	5:01	314.01	1710	225MW NEED TO BE ADJUSTED
	<u> </u>				† <u>`</u>	1 11211002		2 // 1002			::	ELEV 121 SO. FRACTURED WELD ON
521	188	Oak Creek #8			U2	1/31/1982	21:29	2/4/1982	5:01	79.53	1060	REHEAT PENDENT TUBE
\		Journal of Contract		 		1 1/01/1502		27,302		70.00	1000	HIGH BOILER WATER SILICA DUE TO
1		<u>.</u>						.				RECENT RETURN TO SERVICE
521	188	Oak Creek #8	000*	168	D1	2/4/1982	16:45	2/5/1982	3:00	10.25	1850	PERFORM BLOWDOWN
		Our Orcor #0	- 000	100	 	2771302	10.73	23,1302		10.23	1000	BOILER WATER CHEMISTRY, HIGH
521	188	Oak Creek #8	000*	240	D1	2/5/1982	3:00	2/6/1982	3:00	24	1850	SILICA
J	100	Oak Oleek #0	000	240	D	2/3/1302		20/1902	3.00		1030	BOILER SUPERHEATER, LEAK
521	199	Oak Creek #8			U1	2/9/1982	0:33	2/10/1982	2:27	25.9	1050	SUPERHEAT OUTLET TUBE IN ATTIC
		Oak Cisek #6			 	2/3/1302	0.33	2/10/1902		20.5		FLYASH SYSTEM, HIGH ASH LEVELS
521	100	Oak Creek #8	000*	210	D1	2/11/1982	7:00	2/12/1982	9:00	26		RESULTS IN STACK OPACITY
521	100	Oak Creek #6	000	210	<u> </u>	2/11/1902	7.00	2/12/1902	9.00		. 880	POOR PRECIPITATOR PERFORMANCE
F04	400	Oak Caall #0	000*	040	n.	0/10/1000	7:00	0/40/4000	17:00	40	0500	
521	188	Oak Creek #8	000*	240	וטו	2/12/1982	7:00	2/12/1982	17:00	10	8560	CAUSING HIGH OPACITY
												84 MILL OUT FOR JAM TUBE REVISION
	400					0/10/1000	44.00	011011000				WET COAL CAUSING CONTROL
521	188	Oak Creek #8	000*	205	D1	2/19/1982	11:00	2/19/1982	20:40	9.66	310	PROBLEMS
1									Ï	.		PRECIPITATOR, HIGH OPACITY WHEN
									[_		BLOWING SOOT BLOWERS DROPPED
521	188	Oak Creek #8	000*	225	D1	2/28/1982	18:00	3/1/1982	2:00	8	8560	LOAD
1			1									82 ID FAN INLET VANE JAMMED IN THE
521	188	Oak Creek #8	000*	195	<u>D1</u>	3/8/1982	4:30	3/8/1982	10:30	6	1480	60 % OPEN POSITION.
						1				,		FLYASH SYSTEM, SYS OUT TO
		_						İ		ł		REPLACE AND REPAIR PRIMARY SEP
521	188	Oak Creek #8	000*	205	D1	3/9/1982	9:15	3/10/1982	2:00	16.75	880	GATES
								İ				FLY ASH SYSTEM ELECTRIC FAILURE
521		Oak Creek #8	000*	175		3/14/1982	9:12	3/14/1982	10:15	1.04		SYSTEM GROUNDED
521	188	Oak Creek #8	000*	125	D1	3/14/1982	10:15	3/14/1982	17:15	7		FLY ASH SYSTEM ELEC GROUNDED
						1				į		MAKE NECESSARY REPAIRS TO STACK
521	188	Oak Creek #8	·		МО	3/26/1982	23:57	3/28/1982	1:28	25.51	1590	
						!				1		84 PULVERIZER, REPAIR COAL LEAK IN
521		Oak Creek #8	000*	210		4/3/1982	20:00	4/4/1982	22:15	26.25		PIPE TO FURNACE
521	188	Oak Creek #8	000*	215	D1	4/5/1982	1:00	4/5/1982	5:30	4.5		82 FEEDER MOTOR GROUNDED
									}	ļ		FLY ASH SYSTEM, NUMEROUS SYSTEM
ı									1	}	,	MECHANICAL FAILURES-MAKE
521	188	Oak Creek #8	000*	150	D1	4/5/1982	13:15	4/6/1982	5:30	16.25		IMMEDIATE REPAIRS
							- 1		Ţ			AIR HEATER SEAL LEAKAGE PLUS WET
521		Oak Creek #8	000*	250		4/8/1982	1:30	5/11/1982	7:00	797.5		COAL
521	188	Oak Creek #8	000*	200		4/20/1982	5:00	4/21/1982	1:00	20		HIGH SILICA IN BOILER WATER
521	188	Oak Creek #8			U1	4/27/1982	23:50	4/30/1982	18:54	67.06	1040	BOILER, REPAIR SUPERHEAT LEAK
•						1	T	T				
_521		Oak Creek #8			U1	5/9/1982	14:51	5/11/1982	1:48	34.95		REPAIR LEAKING ECONOMIZER TUBES
521	188	Oak Creek #8			U1	5/12/1982	9:46	5/16/1982	16:08	102.36	1050	SUPERHEAT TUBE RUPTURE

		, 	<u> </u>					т				
1	1		1			1		ļ				PRECIPITATOR, REMOVE DOWNED
52	188	Oak Creek #8			U1	5/19/1982	18:49	5/20/1982	4:33	9.73		WIRE
							1					REPLACE PARTED FEEDER BELT FOR
52	188	Oak Creek #8	000*	170	D1	6/6/1982	12:00	6/6/1982	16:45	4.75	250	84 PULVERIZER
												SOOTBLOWER SYSTEM FAILURE
52	188	Oak Creek #8	000*	165	D1	6/8/1982	17:00	6/8/1982	19:30	2.5		NECESSITATED PREFERED LOADING
52	188	Oak Creek #8			U1	6/16/1982	7:39	6/16/1982	14:20	6.68		UNIT TRIPPED, OIL TORCH FAILURE
52		Oak Creek #8			U1	7/2/1982	23:00	7/5/1982	6:32	55.53		BOILER, LEAK IN ECONOMIZER
1												REPAIR RUPTURED SUPERHEAT
52	188	Oak Creek #8			U1	7/9/1982	11:22	7/10/1982	22:41	35.31	1	PENDANT TUBE
	1					†						BOILER, UNIT TRIPPED BECAUSE OF
52	188	Oak Creek #8			U1	7/16/1982	1:04	7/16/1982	3:12	2.13		MILLS PLUGGED WITH WET COAL
			_			1						ELECTROSTATIC PRECIP, REMOVE
'										l		BROKEN WIRE TO CLEAR GROUNDED
52	188	Oak Creek #8			U2	7/16/1982	18:01	7/17/1982	5:09	11.13		NORTH CENTER
	1.00											83 GRAVIMETRIC FEEDER, BELT TORE
52	188	Oak Creek #8	000*	150	D1	7/19/1982	6:20	7/20/1982	7:00	24.66		UP-REPLACED BELT
	+											PULVERIZERS, REDUCED MILLING
52	188	Oak Creek #8	000*	200	D1	7/23/1982	1:00	7/25/1982	2:30	49.5		CAPACITY DUE TO WET COAL
	+ 100		-		=							81 MILL SYSTEM OUT FOR
52	188	Oak Creek #8	000*	160	D1	8/14/1982	1:30	8/14/1982	19:00	17.5		MISCELLANEOUS REPAIRS
<u> </u>	100	Can Olcon #6	- 000		<u> </u>	0/1-1/1002			10.00			REPAIR LEAK ON LOW LOAD BYPASS
52	188	Oak Creek #8	000*	150	D1	8/17/1982	22:00	8/18/1982	0:52	2.86		LINE ON 82 BOILER FEED PUMP
JE	100	Oak Oleck #6	1000	100	<u>. </u>	0/1//1002		0/10/1002	0.52	2.00	1700	EINE ON OF BOILETT CEDT ON
1							,					REPLACE 82 BOILER FEED PUMP LOW
52	188	Oak Creek #8	000*	150	D1	8/18/1982	0:52	8/18/1982	8:38	7.76		LOAD BYPASS ELBOW AT CONDENSER
<u> </u>	100	Can Crook #0	000	.00	-	0/10/1302	- 0.52	0/10/1002		7.70		85 MILL OUT FOR INSPECTION FOR
52	188	Oak Creek #8	000*	160	D1	8/21/1982	16:45	8/21/1982	19:00	2.25		CAUSE OF HIGH VIBRATION
	100	Our Oleck #0	1000	100	, , , , , , , , , , , , , , , , , , ,	0/21/1302	10.40	0/21/1002	10.00	2,20		FLYASH SYSTEM OUT TO REPAIR
52	188	Oak Creek #8	000*	115	D1	8/22/1982	5:45	8/22/1982	10:05	4.33		PRIMARY COLLECTOR
52		Oak Creek #8	- 000	110	U1	9/4/1982	16:22	9/27/1982	2:09	537.78		RUPTURED SUPERHEATER PENDANT
52		Oak Creek #8			U3	9/27/1982	21:15	9/28/1982	11:54	14.65		BALANCE ID FAN
JE	100	Our Grook #0			-	0/2//1002		3/20/1302	11.57	14.00		82 I.D. FAN, BLADE REPAIRS IN
52	188	Oak Creek #8	000*	150	Di	9/28/1982	11:54	10/3/1982	21:30	129.6		PROGRESS
<u> </u>	100	July Orock Ho	- 1000	100		0/20/1302	11.54	10/0/1302	21.00	123.0		82 I.D. FAN, BLADE REPAIRS IN
52	188	Oak Creek #8	000*	150	D1	9/28/1982	11:54	10/3/1982	21:30	129.6		PROGRESS
	100	Oak Oleek #0	000	130	<u> </u>	3/20/1302	11,54	10/3/1302	21.50	123.0		AIR HEATER BASKETS IN POOR
E0:	1 100	Oak Creek #8	000*	240	D4	10/3/1982	21:30	າປ/12/1982	6:30	201		CONDITION
	+		000	240								REPAIR REHEATER TUBE LEAK
52 52 52		Oak Creek #8			U1	10/15/1982	23:25	10/17/1982	1:14	25.81		
52	1 100	Oak Creek #8		 -	U2	10/17/1982	1:22	10/17/1982	2:45	1.38		TURBINE OIL COOLER TROUBLE FLYASH SYSTEM, HIGH LEVELS IN
) 50.	100	Ook Crook #0	000*	005	D4	10/00/1000	10.45	10/01/1000	4.00	14.05		
52	100	Oak Creek #8	000*	205	ועו	10/20/1982	10:45	10/21/1982	1:00	14.25		PRECIPITATOR HOPPERS
52	1 100	Only Croals #6	000*	170	D 4	10/00/1000	44.45	10/00/1000	4.55	47.05		WARM-UP GUNS, GUN TIPS PLUGGED-
52	1 188	Oak Creek #8	000*	175	וען	10/28/1982	11:15	10/29/1982	4:30	17.25		CLEANED ALL GUNS
		0.1.0				10/00//05=	40.00	10/00/100=			1	PULVERIZER, OIL LEAK ON #1
_ 52	11 188	Oak Creek #8	000	175	D1	10/29/1982	16:30	10/30/1982	16:00	23.5	310	JOURNAL ROLLER BEARING

521 188 Oak Creek #8 000* 240 D1 11/2/1982 10:30 11/4/1982 8:00 521 188 Oak Creek #8 U1 11/9/1982 22:43 11/10/1982 23:21 521 188 Oak Creek #8 000* 175 D1 11/13/1982 5:30 11/14/1982 2:00	45.5 8550	PRECIPITATOR, FAULTY CONTROL
521 188 Oak Creek #8 U1 11/9/1982 22:43 11/10/1982 23:21	45.5 8550	
		COMPONENT FIELD B-02
521 188 Oak Creek #8 000° 175 D1 11/13/1982 5:30 11/14/1982 2:00	24.63 1000	BOILER, REPAIR WATER WALL LEAK
		HIGH SILICA IN BOILER WATER
521 188 Oak Creek #8 000* 130 D3 11/14/1982 8:00 11/14/1982 13:30		BALANCE 82 ID FAN
521 188 Oak Creek #8 000* 230 D1 11/15/1982 8:00 11/16/1982 6:40		HIGH BOILER SILICA
521 188 Oak Creek #8 000* 230 D1 11/16/1982 8:30 11/18/1982 1:30	41 1850	BOILER, HIGH SILICA BLOWING DOWN
		84 MILL FEEDER, REPLACE BROKEN
521 188 Oak Creek #8 000* 180 D1 11/18/1982 2:00 11/18/1982 5:45	3.75 250	BELT
		BOILER WATER, REDUCE PRESSURE
		AND LOAD UNTIL SILICA LEVEL
521 188 Oak Creek #8 000° 190 D1 11/23/1982 14:30 11/26/1982 5:45		RETURNS TO SAFE AMT.
521 188 Oak Creek #8 000* 130 D1 11/28/1982 18:00 11/29/1982 1:30	7.5 1850	BOILER, HIGH SILICA
521 188 Oak Creek #8 000* 220 D1 11/29/1982 1:30 12/1/1982 1:30	72 1850	BOILER, HIGH SILICA
521 188 Oak Creek #8 000* 120 D1 11/30/1982 12:00 11/30/1982 17:00	5 3110	REPAIR CONDENSER LEAK 1 TUBE
521 188 Oak Creek #8 U1 12/2/1982 14:35 12/5/1982 4:48	62.21 1040	REPAIR SUPERHEAT LEAK.
521 188 Oak Creek #8 000* 175 D1 12/5/1982 22:45 12/7/1982 1:45	27 3352	HIGH SILICA.
		HIGH SILICA CONCENTRATION IN
521 188 Oak Creek #8 000* 225 D1 12/7/1982 1:45 12/8/1982 1:45	24 3352	BOILER WATER
		CONVECTION SUPERHEAT LEAK IN
521 188 Oak Creek #8 U2 12/8/1982 12:59 12/9/1982 3:00	14.01 1040	ATTIC.
		83 & 84 MILLS OUT OF SERVICE FOR
521 188 Oak Creek #8 000° 175 D2 12/9/1982 22:00 12/10/1982 6:30	8.5 330	REPAIRS.
		REPAIR 85 MILL GRAVIMETRIC FEEDER
521 188 Oak Creek #8 000* 160 D2 12/29/1982 17:30 12/29/1982 21:20		BELT
521 188 Oak Creek #8 000* 260 D1 1/1/1983 0:01 1/1/1983 1:02	1.01 266	AIR HEATER BASKETS COLLAPSED
		ANNUAL OUTAGE FOR TURBINE AND
521 188 Oak Creek #8 PO 1/1/1983 1:02 3/14/1983 7:00 1	1733.96 4400	BOILER
		STARTUP CHECK OUT OF COMPUTER
521 188 Oak Creek #8 SE 3/14/1983 7:00 3/17/1983 8:25	73.41 380	FOR BOILER FLAME GUARD SYSTEM
		START-UP CHECKOUT OF IGNITION
521 188 Oak Creek #8 000° 10 PD 3/17/1983 8:25 3/19/1983 5:18	44.88 380	CONTROL SYSTEM
		RAN OVERSPEED TEST-RESET GOV HI
521 188 Oak Creek #8 MO 3/18/1983 7:45 3/18/1983 8:34	0.81 4460	SPEED STOP
		81 ID FAN OUT OF SERVICE
521 188 Oak Creek #8 000° 150 D1 3/19/1983 23:30 3/20/1983 19:00	19.5 1455	EXCESSIVE VIBRATION
		82 AND 73 BOILER FEED PUMPS OUT
521 188 Oak Creek #8 000* 150 D1 3/19/1983 14:20 3/19/1983 23:30	9.16 3410	OF SERVICE
		REPAIRS TO IGNITION SYSTEM
521 188 Oak Creek #8 U2 3/19/1983 5:18 3/19/1983 10:40	5.36 380	CONTROLS
521 188 Oak Creek #8 U2 3/19/1983 5:18 3/19/1983 10:40		HIGH LEVEL OF SILICA IN BOILER
5 321 100 Oak Cleek #6 1000 200 D1 3/20/1903 19:00 3/21/1903 10:30		WATER
521 188 Oak Creek #8 000* 125 D1 3/21/1983 18:30 3/23/1983 5:55		FLYASH SYSTEM NOT PULLING
521 188 Oak Creek #8 000* 230 D1 3/23/1983 13:45 3/25/1983 1:50	36.08 1850	HIGH BOILER WATER SILICA

-			,		T		· · · · · · · · · · · · · · · · · · ·			,			<u>, </u>
								ļ					OR MILL CVCTEM OUT OF SERVICE BUE
	521	100	Oak Creek #8	000*	250	D1	3/28/1983	18:30	3/28/1983	21:00	2.5	250	83 MILL SYSTEM OUT OF SERVICE DUE TO FEEDER CONTROL PROBLEMS
-	521		Oak Creek #8	000*	165	1	3/28/1983	21:00	3/29/1983	9:00	12		REHEAT LEAK 2 CELL FRONT WALL
-	521		Oak Creek #8	000*	235		3/29/1983	9:00	3/31/1983	20:31	59.51		REHEAT LEAK
	- 52	100	Oak Cleek #0	-1000	200	<u> </u>	3/29/1903	9.00	3/3//1903	20,31	39.51	1000	PAIR REHEAT LEAK ON FRONT
	521	100	Oak Creek #8			U2	3/31/1983	20:31	4/3/1983	6:05	57.56	1060	WALL
1.:	321	100	Oak Citek #6			02	3/31/1903	20.51	4/3/1903	0.00	57.50	1000	UNIT TRIP ON BOILER BOOSTER PUMP
	521	199	Oak Creek #8		i	U1	4/3/1983	18:24	4/3/1983	18:54	0.5	740	DIFFERENTIAL PRESSURE
-	521		Oak Creek #8		 	U1	4/3/1983	16:34	4/3/1983	18:08	1.56		REPAIRS TO FSSS CONTROL SYSTEM
	- 521	100	Oak Older #0			01	4/3/1903		7/0/1303	10.00	1.50	300	84 MILL EXHAUSTER FAN VIBRATION
١													AND REDUCED CAPACITY DUE TO
1	521	188	Oak Creek #8	000*	240	D1	4/6/1983	2:00	4/6/1983	21:00	19	310	WEAR FROM OTHER MILLS
-						<u> </u>							#84 MILL EXHAUSTER FAN DRIVE
1	521	188	Oak Creek #8	000*	260	D1	4/7/1983	18:00	4/13/1983	17:45	143.75	200	SHAFT SHEARED
-	521		Oak Creek #8	000*	215		4/16/1983	8:40	4/17/1983	3:44	19.06		#2 CONTROL VALVE STEM BROKEN
-			<u> </u>				1			<u>_</u>			REPAIR #2 INLET CONTROL VALVE ON
	521	188	Oak Creek #8			U1	4/17/1983	3:44	4/23/1983	20:52	161.13	4261	TURBINE
-	521		Oak Creek #8	000*	200	D1	4/24/1983	2:00	4/26/1983	2:00	48	1850	HIGH SILICA IN BOILER WATER
	521	188	Oak Creek #8			MO	4/29/1983	22:05	5/3/1983	5:09	79.06	1510	REPAIR #4 STACK BREECHING SEALS
													83 MILL NOISY EXHAUSTER FAN
	521	188	Oak Creek #8	000*	250	D1	5/10/1983	21:35	5/11/1983	6:00	8.41		BEARING
							ļ						SEVEN PRECIPITATOR FIELDS
				1 1		ĺ	·						TRIPPED-REPLACE CONTROL
L	521		Oak Creek #8	000*		D1	5/14/1983	6:45	5/14/1983	9:00	2.25		TRANSFORMER
L	521	188	Oak Creek #8	000*	140	D1	5/14/1983	9:00	5/14/1983	10:45	1.75	8560	PRECIPITATOR PROBLEMS
	1		11										REMOVE GROUND FROM 8B3
1_	521	188	Oak Creek #8		ì	U3	5/14/1983	23.06	5/15/1983	6:56	7.83	8560	PRECIPITATOR FIELD
ļ									_ i				PRECIPITATOR FIELD B-3 GROUNDED,
-	521	188	Oak Creek #8	000*	_240	,D2	5/17/1983	1:30	5/17/1983	8:00	6.5	8560	HIGH STACK OPACITY
١		400		2224	005	24	5474000	0.00	5/43/4000	40.45		2522	PRECIPITATOR FIELD B-3 GROUNDED,
1.	521		Oak Creek #8	000*	205		5/17/1983	8:00	5/17/1983	10:45	2.75		STACK EMISSION
-	521	188	Oak Creek #8			U1	5/17/1983	22:21	5/18/1983	4:38	6.28	8560	PRECIPITATOR FIELD GROUND ELECTROSTATIC PRECIPITATOR
	504	400	Cale Crack #9	000*	240	D-1	5/00/1000	0.00	E/0E/4000	1.20	47.5	9560	PROBLEMS
-	521	188	Oak Creek #8	000	240	וטו	5/23/1983	2:00	5/25/1983	1:30	47.5	0000	ELECTROSTATIC PRECIPITATOR
- {	521	100	Oak Creek #8	000*	260	D ₄	5/25/1983	1:30	5/27/1983	1:00	47.5	9560	PROBLEMS
•	521		Oak Creek #8	000*	200		5/27/1983	1:00	5/27/1983	10:15	9.25		INSPECTION OF 84 MILL PULVERIZERS
	521		Oak Creek #8	000-	270		5/27/1983	10:15	5/28/1983	7:00	20.75		83 MILL OUT-OTHER MILL CONDITIONS
_		1	Oak Oleek #0	1000	210	<u> </u>	3/2//1303	'\ <u>0.13</u>	3/20/1903	7.00	20.73		#83 O.O.S. #84 REPLACE
₹	521	188	Oak Creek #8	000*	200	D1	5/28/1983	7:00	5/28/1983	14:05	7.08	310	ROLLERS(MILLS)
Ä			- 31. 0.001. 10 .	- -		-	5,25,1000		5,25,1550	17.00			RUPTURED STEAM GENERATING TUBE
0	521	188	Oak Creek #8	}		U1	6/4/1983	12:31	6/6/1983	17:28	52. 9 5	1005	ELEV 121
40					 -	† **	†			:::20			#81 BOILER FEED PUMP COUPLING
WEPCO 40128	521	188	Oak Creek #8	000*	160	D1	6/8/1983	9:00	6/8/1983	9:30	0.5	3410	PLUG FOR GREASE IS LOOSE
œ					1	1				0.00	J.U		

521 188 Oak Creek #8 000° 240 D1 6/11/1983 1:00 6/12/1983 10:00 33 8560 PROBLEMS					 -						1			ELECTROCTATIO PRECIDITATOR
521 188 Oak Creek #8 U2 6/12/1983 14:57 6/15/1983 8:25 65.46 BOILER FORCED QUTAGE SUPERHEAT	1.		400					24444222	4 00	242422		1		ELECTROSTATIC PRECIPITATOR
S21 188 Oak Creek #8		21	188	Oak Creek #8	000	240	D1	6/11/1983	1:00	6/12/1983	10:00	33	8560	PROBLEMS
S21 188 Oak Creek #8	1	ı										•		
S21 188 Oak Creek #8 000° 240 D2 6/12/1983 10:00 6/12/1983 14:57 4.94 310 IMMTS LOADING									1		- 1	ŀ		BOILER FORCED OUTAGE SUPERHEAT
S21 188 Oak Creek #8 000° 240 D2 6/12/1983 10:00 6/12/1983 14:57 4.94 310 LIMITS LOADING 521 188 Oak Creek #8 000° 240 D1 6/17/1983 8:00 6/18/1983 0:05 16:08 330 LIMITS LOADING 330 LIMITS LOADI	5	21	188	Oak Creek #8			U2	6/12/1983	14:57	6/15/1983	8:25	65.46	1050	PLATEN ASSEMBLY LEAK
S21 188 Oak Creek #8 000° 240 Dz 6/12/1983 10:00 6/12/1983 14:57 4:94 310 LIMITS LOADING														83 MILL OUT OF SERVICE FOR REPA
S21 188 Oak Creek #8 000° 240 Dz 6/12/1983 10:00 6/12/1983 14:57 4:94 310 LIMITS LOADING										1	1	1		IRS, CONDITION OF REMAINING MILLS
S21 188 Cak Creek #8 000° 240 D1 6/17/1983 8.00 6/18/1983 0.05 16.08 340 SCRAPERS	1 5	21	188	Oak Creek #8	000*	240	D2	6/12/1983	10:00	6/12/1983	14:57	4.94	310	
521 185 Oak Creek #8 000° 240 D1 6/17/1983 8:00 6/18/1983 0:05 16:08 340 SCRAPERS 521 188 Oak Creek #8 000° 250 D1 6/20/1983 21:00 6/21/1983 6:00 9 30 DAMAGED TO BE REPLACED 521 188 Oak Creek #8 000° 260 D1 6/24/1983 12:00 6/24/1983 16:00 4 310 EMAUSTER FAN BEARINGS 521 188 Oak Creek #8 ' U1 7/14/1983 7:32 7/17/1983 3:54 68:36 1050 RUPTURED SUPERHEAT TUBE 521 188 Oak Creek #8 ' U1 7/18/1983 19:28 7/20/1983 11:40 40:2 1050 ASSEMBLY TUBE LEAK 521 188 Oak Creek #8 ' U1 7/26/1983 10:00 7/28/1983 4:55 42:91 1450 LOW EXCESS AIR-FANS AT CAPACITY 521 188 Oak Creek #8 ' U1 8/1/1983 0:30 8/9/1983 11:30 11:30 T1 1480 B1 DFAN OUT FOR BALANCING 521 188 Oak Creek #8 000° 140 D2 8/9/1983 0:30 8/9/1983 11:30 T1 1480 B1 DFAN OUT FOR REPAIRS HIGH 521 188 Oak Creek #8 000° 135 D2 8/16/1983 11:30 8/10/1983 17:10 29:66 1480 STACK OPACITY 521 188 Oak Creek #8 000° 135 D2 8/16/1983 16:45 8/19/1983 11:05 18:3 25:0 OUT CONVEYOR 521 188 Oak Creek #8 000° 250 D1 8/18/1983 16:45 8/19/1983 11:05 18:3 25:0 OUT CONVEYOR 521 188 Oak Creek #8 000° 270 D1 8/28/1983 16:45 8/19/1983 11:05 18:3 25:0 OUT CONVEYOR 521 188 Oak Creek #8 000° 270 D1 8/28/1983 16:45 8/19/1983 11:05 18:3 25:0 OUT CONVEYOR 521 188 Oak Creek #8 000° 270 D1 8/28/1983 16:45 8/19/1983 11:05 18:3 25:0 OUT CONVEYOR 521 188 Oak Creek #8 000° 270 D1 8/28/1983 16:45 8/19/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55 8/21/1983 16:55		7						ļ						
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S21 188 Oak Creek #8 000* 260 D1 6/24/1983 12:00 6/24/1983 16:00 4 310 EXHAUSTER FAN BEARINGS 521 188 Oak Creek #8 * U1 7/14/1985 7:32 7/17/1983 3:54 68:36 1050 RUPTURED SUPERHEAT TUBE BOILER SUPERHEAT TUBE BOILER SUPERHEAT TUBE BOILER SUPERHEAT TUBE BOILER SUPERHEAT PLATEN 40.2 1050 ASSEMBLY TUBE LEAK 521 188 Oak Creek #8 000* 265 D1 7/26/1983 10:00 7/26/1983 11:40 40.2 1050 ASSEMBLY TUBE LEAK 7/26/1983 10:00 7/26/1983 11:40 40.2 1050 ASSEMBLY TUBE LEAK 7/26/1983 10:00 7/26/1983 4:49 71.9 1050 LEAK REPAIR FRONT WATER WALL TUBE 521 188 Oak Creek #8 001 101 7/26/1983 4:55 7/31/1983 4:49 71.9 1050 LEAK REPAIR SUPERHEAT LEAK ELEV 121 87/1983 6:24 127.56 1040 SOUTH REPAIR SUPERHEAT LEAK ELEV 121 88/1983 6:24 127.56 1040 SOUTH 88/1983 11:30 8/9/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT LEAK ELEV 121 88/1983 0:30 8/9/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT LEAK ELEV 121 88/1983 16:45 8/19/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT LEAK ELEV 121 88/1983 16:45 8/19/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT LEAK ELEV 121 88/1983 16:45 8/19/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT LEAK ELEV 121 88/1983 16:45 8/19/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT LEAK ELEV 121 88/1983 16:45 8/19/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT LEAK ELEV 121 88/1983 16:45 8/19/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT LEAK ELEV 121 88/1983 16:45 8/19/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT DIVISION WALL 8/19/1983 16:45 8/19/1983 17:10 29.66 1490 STACK OPACITY REPAIR SUPERHEAT DIVISION WALL 8/19/1983 16:55 9/2/1983 16:55 9/2/1983 17:10 19/2/1983 17:10 19/2/1983 17:10 19/2/1983 17:10 19/2/1983 17:10 19/2/1983 17:10 19/2/1983 1				Cak Crook iic	- 1000		<u> </u>	5,20,1000		9/2 17 1000		—— "		
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521 188 Oak Creek #8													-	REPAIR INBOARD FAN BRG SEAL 81
521 188 Oak Creek #8	5	21	188	Oak Creek #8	000*	135	D2	8/16/1983	22:20	8/17/1983	5:45	7.41	1480	INDUCED FAN
521 188 Oak Creek #8														REPAIR 83 MILL GRAV FEEDER CLEAN
521 188 Oak Creek #8	5	21	188	Oak Creek #8	000*	250	D1	8/18/1983	16:45	8/19/1983	11:05	18.33	250	OUT CONVEYOR
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521 188 Oak Creek #8	ļ . "			04.00000			<u> </u>	9, 10, 1003		0.227.000		52.00		
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521 188 Oak Creek #8	_ ا	24	100	Oak Craak #9	000*	270	D ₁	0/05/1000	2.00	9/09/4099	16.55	96.01	2200	·
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521 188 Oak Creek #8 000* 200 D1 9/12/1983 1:30 9/13/1983 3:00 25.5 1850 HIGH SILICA IN BOILER WATER 521 188 Oak Creek #8 000* 260 D1 9/13/1983 8:10 9/17/1983 2:20 90.16 310 MILL CONDITION-NEED OVERHAUL 83 MILL OUT AND 82 MILL OUT FOR	3						_							
521 188 Oak Creek #8 000* 200 D1 9/12/1983 1:30 9/13/1983 3:00 25.5 1850 HIGH SILICA IN BOILER WATER 521 188 Oak Creek #8 000* 260 D1 9/13/1983 8:10 9/17/1983 2:20 90.16 310 MILL CONDITION-NEED OVERHAUL 83 MILL OUT AND 82 MILL OUT FOR	5 _5	21	188	Oak Creek #8	000*	250	D1	9/6/1983	2:00	9/8/1983	14:53	60.88	290	TO WORN MILLS
521 188 Oak Creek #8 000* 200 D1 9/12/1983 1:30 9/13/1983 3:00 25.5 1850 HIGH SILICA IN BOILER WATER 521 188 Oak Creek #8 000* 260 D1 9/13/1983 8:10 9/17/1983 2:20 90.16 310 MILL CONDITION-NEED OVERHAUL 83 MILL OUT AND 82 MILL OUT FOR	Ž	1			. [İ	1		
83 MILL OUT AND 82 MILL OUT FOR		21												
83 MILL OUT AND 82 MILL OUT FOR	<u> </u>							oli terrena a come e de la color						
83 MILL OUT AND 82 MILL OUT FOR	3 .5	21	188	Oak Creek #8	000*	260	D1	9/13/1983	8:10	9/17/1983	2:20	90.16	310	
521 188 Oak Creek #8 000* 200 PD 9/17/1983 2:20 9/17/1983 17:00 14.66 340 ROLLER ADJUSTMENT											1	Ţ		83 MILL OUT AND 82 MILL OUT FOR
	5	21	188	Oak Creek #8	000*	200	PD	9/17/1983	2:20	9/17/1983	17:00	14.66	340	ROLLER ADJUSTMENT

												
521	188	Oak Creek #8			U1	9/18/1983	13:00	9/20/1983	9:44	44.73	1140	SUPERHEAT PENDANT TUBE RUPTURE
												83 MILL OUT/84 MILL OUT FOR ROLLER
521	188	Oak Creek #8	000*	200	D1	9/18/1983	2:20	9/18/1983	9:15	6.91	340	ADJUSTMENT
521		Oak Creek #8	1.		U1	9/21/1983	13:04	9/26/1983	1:20	108.26		WATER TUBE LEAK
Y = 1		oun orden no										BROKEN PYRITE SCRAPERS ON 84
521	188	Oak Creek #8	000*	160	D1	9/27/1983	1:55	9/28/1983	3:30	25.58	310	MILL-83 ALSO OUT FOR REPAIRS
521		Oak Creek #8	000*	260	D1	9/28/1983	3:30	10/2/1983	3:30	96	310	UNIT LIMITED DUE TO WORN MILLS
521	188	Oak Creek #8	000*	180		10/2/1983	3:30	10/2/1983	18:55	15.41	310	82 AND 83 MILLS OUT OF SERVICE
521	188	Oak Creek #8	000*	260	D1	10/2/1983	18:55	10/4/1983	18:15	47.33	310	MILL CONDITIONS-MILLS WORN
						1			-	İ		WATER AND STEAM TUBE LEAKS
					_							OPERATING AT REDUCED PRESSURE
521		Oak Creek #8	000*	203		10/4/1983	18:15	10/6/1983	7:40	37.41		1950 PSIG THROTTLE
521	188	Oak Creek #8	000.	260	D1	10/6/1983	7:40	10/6/1983	13:50	6.16	290	MILL CONDITIONS-#83 MILL OUT
				-		10/0/1000	40.50	4074400	40.40	00.00		WATER AND STEAM TUBE LEAKS
521	188	Oak Creek #8	000*	203	וט	10/6/1983	13:50	10/7/1983	16:13	26.38	1090	OPERATING AT REDUCED PRESSURE
504	400	Oak Carele #0	1.		U1	10/7/1000	16:10	10/11/1000	7.00	00.70	1000	REPAIR WATER AND STEAM TUBE
521	188	Oak Creek #8			UI	10/7/1983	16:13	10/11/1983	7:00	86.78	1090	LEAKS GENERATOR LOCKED OUT BEFORE
521	100	Oak Creek #8	1.		U1	10/11/1983	7:00	10/12/1983	5:30	22.5	4720	SYNCHRONIZING
32.1	100	Oak Cleek #0			01	10/11/1965	7.00	10/12/1903	3.50	22.3	4/20	LOW OIL ON B PHASE BUSHING ON OIL
521	188	Oak Creek #8			U1	10/12/1983	5:31	10/12/1983	14:34	9.05	4810	CIRCUIT BREAKER
521		Oak Creek #8	000*	225		10/13/1983	1:30	10/14/1983	1:30	24		HIGH SILICA IN BOILER WATER
<u> </u>		Jan Jiobk iro	-			10,10,1000						MILL CONDITIONS-PULVERIZERS
521	188	Oak Creek #8	000*	260	D1	10/14/1983	1:30	10/16/1983	9:20	55.83	340	WORN
		·									-	MILL CONDITIONS-PULVERIZERS
521	188	Oak Creek #8	000*	260	D1	10/16/1983	14:00	10/18/1983	1:45	35.75	340	WORN
,												REDUCED LOAD TO REPLACE STUCK
521	188	Oak Creek #8	000*	200	D2	10/16/1983	9:20	10/16/1983	14:00	4.66	310	ROLLER #82 MILL
		,				1				į		81 MILL OVERHAUL 82-84-85 MILLS IN
521	188	Oak Creek #8	000*	260	D1	10/18/1983	13:00	10/19/1983	2:00	13	290	POOR SHAPE
			1						1			81-2 AND 86-7 HEATER DRAIN PUMPS
	400	0-1-0	0000	040	L.	40/40/4000	,	10/10/1000	40.00	44.05	0504	OUT-HIGH CONDENSER HOTWELL
521	188	Oak Creek #8	000*	240	וט	10/18/1983	1:45	10/18/1983	13:00	11.25	3501	LEVEL AS A RESULT
504	100	Oak Crisk #8	000*	220	D4	10/10/1000	2,00	10/00/1000	01.25	12 50	1005	WATERWALL LEAK-REDUCED PRESSURE
521	188	Oak Creek #8	000	220	וט	10/19/1983	2:00	10/20/1983	21:35	43.58	1005	WATER TUBE LEAK BOILER OUT FOR
521	199	Oak Creek #8			U2	10/20/1983	21:35	10/26/1983	12:30	134.91	1005	REPAIR
_321	100	Oak Cleek #0	-		UZ	10/20/1963	21.00	10/20/1903	12.30	104.81	1003	CHEMICAL PLUGGING OF WATER
521	188	Oak Creek #8	000*	200	D1	10/26/1983	19:00	10/27/1983	8:00	13	1300	WALL TUBES
521		Oak Creek #8	000	165		10/27/1983	8:00	10/27/1983	18:45	10.75		#81 & #84 MILLS OUT-OVERHAUL
				:25	-	1		. 1915				81-2 AND 86-7 HEATER DRAIN PUMPS
										j		OUT, FLASHING OF HEATERS CAUSES
521	188	Oak Creek #8	000*	250		10/27/1983	18:45	10/28/1983	5:45	11	3501	HIGH HOTWELL
521	188	Oak Creek #8	000*	270	D1	10/28/1983	20:20	11/5/1983	15:45	187,41	340	MILL CONDITIONS
												· · · · · · · · · · · · · · · · · · ·

									,			
									}			81 LOW PRESSURE BOILER FEED
521	188	Oak Creek #8	000*	140	D1	10/28/1983	5:45	10/28/1983	9:15	3.5	3410	PUMP BEING REPACKED
1					l							81 LOW PRESSURE BOILER FEED
521	188	Oak Creek #8	000*	140	D1	10/28/1983	10:30	10/28/1983	12:30	2	3410	PUMP BEING REPACKED
					Ī ————							HIGH CONDENSER HOTWELL LEVEL-#1
			i				İ					& 2 AND #86 FEEDWATER HEATER
521	188	Oak Creek #8	000*	250	D1	10/28/1983	16:15	10/28/1983	20:20	4.08	3501	DRAIN PUMPS O.O.S.
521	188	Oak Creek #8	000*	170	D1	11/5/1983	15:45	11/5/1983	21:40	5.91		SUPERHEAT PENDANTS FOULING
521	188	Oak Creek #8	•		U1	11/5/1983	21:40	11/6/1983	18:18	20.63	1040	REPAIR SUPERHEAT LEAK
521	188	Oak Creek #8	000*	225	D1	11/7/1983	0:45	11/7/1983	6:05	5.33	1850	HIGH SILICA IN BOILER WATER
521	188	Oak Creek #8	*		U1	11/7/1983	8:44	11/10/1983	8:41	71.94	1040	REPAIR SUPERHEAT LEAK
521	188	Oak Creek #8	•	·.	U1	11/11/1983	5:35	11/13/1983	18:24	60.81		REPAIR SUPERHEAT LEAK
521		Oak Creek #8	•		U1	11/15/1983	18:42	11/24/1983	22:00	219.3	1040	REPAIR SUPERHEAT LEAK
521		Oak Creek #8	*		МО	11/24/1983	22:00	12/1/1983	1:00	171		WATER SIDE FOULING CLEANING
521		Oak Creek #8	*		U1	12/1/1983	1:01	12/11/1983	17:01	256		REPAIR WATER TUBE LEAKS
521		Oak Creek #8	000*	200		12/12/1983	2:00	12/12/1983	3:31	1.51		HIGH SILICA IN BLR WATER
												BBP DIFFERENTIAL TRIP DURING
521	188	Oak Creek #8	*		U1	12/12/1983	3:31	12/12/1983	4:29	0.96	740	TESTING
521		Oak Creek #8	000*	200		12/12/1983	4:29	12/13/1983	2:30	22.01		HIGH SILICA IN BLR WATER
521		Oak Creek #8	000*	250		12/13/1983	2:30	12/15/1983	1:45	47.25		HIGH SILICA IN BLR WATER
521		Oak Creek #8	000*	270		12/15/1983	1:45	12/16/1983	1:45	24		HIGH SILICA IN BLR WATER
<u> </u>	1				-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						BLR RECIRCULATION PMP PRESSURE
521	188	Oak Creek #8	000*	270	D1	12/16/1983	1:45	12/16/1983	5:50	4.08	770	LOW
521		Oak Creek #8	- 000*	100		12/17/1983	18:15	12/19/1983	12:00	41.75		FLYASH SYSTEM PROBLEMS
521		Oak Creek #8	000*	186		12/19/1983	12:00	12/19/1983	17:00	5		FLYASH SYSTEM PROBLEMS
521		Oak Creek #8	000*	135		12/19/1983	18:00	12/20/1983	6:00	12		FLYASH SYSTEM PROBLEMS
521	+	Oak Creek #8	•		U1	12/22/1983	1:53	12/23/1983	6:45	28.86	1040	SUPERHEAT LEAK
521		Oak Creek #8	- -		U1	12/23/1983	6:46	12/23/1983	11:48	5.03		HIGH VIB ON B LOW PRESS TURB
521		Oak Creek #8	•		U1	12/27/1983	3:00	12/28/1983	3:09	24.15		SUPERHEAT LEAK
- 	1.00	Guit Groot #6										
												REDUCED PRESS SUPHT TUBE, EVENT
521	188	Oak Creek #8	000*	270	D1	12/29/1983	4:30	12/31/1983	24:00:00	67.5	1350	CONTINUES IN '84 SEE EVENT NO. 1
321	100	Oak Oleek #0	- 000	210	D1	12/23/1300	4.30	12/31/1900	24.00.00	07.5		REDUCED PRESS, SUPHT TUBE.
l		1			1							EVENT STARTED 12/29/83 04:30, '83
501	100	Ook Crook #9	000*	270	D1	1/1/1984	0:00	1/6/1984	11:05	131.08	1250	EVENT NO. 113.
521		Oak Creek #8	000*	245		1/6/1984	11:05	1/8/1984	13:45	50.66		HEATER DRAIN PUMPS
521		Oak Creek #8		261				1/11/1984	1:15	59.5		HEATER DRAIN PUMPS
521	+	Oak Creek #8	000*	270		1/8/1984	13:45		1:15	120		REDUCED PRESS. FOR RELIABILITY
521		Oak Creek #8	000*	250		1/11/1984	1:15	1/16/1984		77.91		OVERHAUL 85 MILL
521		Oak Creek #8	000*			1/16/1984	1:15	1/19/1984	7:10	43.83		OVERHAUL 85 MILL
521	+	Oak Creek #8	000*	270 260		1/19/1984	7:10	1/21/1984	3:00	147.39		OVERHAUL 85 MILL
521		Oak Creek #8	000*			1/21/1984	3:00	1/27/1984	6:24			ELECTROSTATIC PRECIP PROBLEMS
521 521 521		Oak Creek #8	000*	245		1/27/1984	6:24	1/27/1984	8:00	1.6		OVERHAUL 85 MILL
521 521 521		Oak Creek #8	000*	260 245		1/27/1984	8:00 1:00	1/29/1984 1/29/1984	1:00	10		ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #8	000*	260			··		11:00	118.5		OVERHAUL 85 MILL
		Oak Creek #8	000*			1/29/1984	11:00	2/3/1984	9:30			OPERATION AT REDUCED POWER
521	188	Oak Creek #8	000*	200	וטו	2/3/1984	9:30	2/3/1984	22:28	12.96	1200	OFERATION AT REDUCED FOWER

							 					I EN
15	521	188 Oak Creek #8			U2	2/3/1984	22:28	2/4/1984	19:31	21.05		FIRST REHEATER DESLAGGING
	21	188 Oak Creek #8	000*	260		2/5/1984	1:30	2/5/1984	5:15	3.75		85 MILL OVERHAUL
5	21	188 Oak Creek #8	000*	130		2/5/1984	5:15	2/5/1984	6:30	1.25		82 FEEDWTR PUMP LUBE OIL SYS
	521	188 Oak Creek #8	000*	260		2/5/1984	6:30	2/7/1984	18:09	59.65		85 MILL OVERHAUL
5	21	188 Oak Creek #8	000*	192		2/7/1984	18:10	2/7/1984	21:20	3.16	350	83 MILL REPAIR COAL LEAKS
5	21	188 Oak Creek #8	000*	260		2/7/1984	21:20	2/9/1984	7:55	34.58		85 MILL OVERHAUL
[5	21	188 Oak Creek #8	000	265	D1	2/9/1984	7:55	2/11/1984	1:45	41.83		85 MILL OVERHAUL
_ 5	21	188 Oak Creek #8	000*	240		2/11/1984	1:45	2/11/1984	12:05	10.33		ELECTROSTATIC PRECIP PROBLEMS
	21	188 Oak Creek #8	000	265		2/11/1984	12:05	2/13/1984	10:23	46.3		85 MILL OVERHAUL
5	21	188 Oak Creek #8	000*	230	D1	2/13/1984	10:23	2/13/1984	15:00	4.61		WET COAL
5	21	188 Oak Creek #8	000*	110		2/13/1984	15:00	2/13/1984	17:00	2	880	FLYASH HANDLING
[_5	21	188 Oak Creek #8	000*	265	D1	2/13/1984	17:00	2/14/1984	1:45	8.75	310	85 MILL OVERHAUL
5	21	188 Oak Creek #8	000*	270	D1	2/14/1984	1:45	2/14/1984	7:30	5.75	1350	OTHER TUBE PROBLEMS
5	21	188 Oak Creek #8	000*	265		2/14/1984	7:30	2/16/1984	9:30	50		85 MILL
5	21	188 Oak Creek #8	000*	190		2/16/1984	9:30	2/16/1984	16:30	7	310	83 AND 85 MILLS
	21	188 Oak Creek #8	000*	265		2/16/1984	16:31	2/18/1984	3:29	34.96	9250	LOW BTU COAL
5	21	188 Oak Creek #8	000*	235	D1	2/18/1984	3:30	2/18/1984	8:50	5.33	8560	PRECIPITATOR PROBLEM
	21	188 Oak Creek #8	000*	260	D1	2/18/1984	8.50	2/18/1984	11:05	2.25	8560	ELECT PRECIP PROBLEM
	21	188 Oak Creek #8	000*	120	D1	2/18/1984	11:06	2/18/1984	13:30	2.4		FLYASH HANDLING
- 5	21	188 Oak Creek #8	000*	260	D1	2/18/1984	13:31	2/19/1984	1:30	11.98	8560	ELECT PRECIP PROBLEM
-	21	188 Oak Creek #8	000*	270	D1	2/19/1984	1:31	2/19/1984	8:00	6.48	1350	REDUCED BOILER PRESSURE
	521	188 Oak Creek #8	000*	230	D1	2/19/1984	8:01	2/19/1984	13:45	5.73	330	PULVERIZER COAL LEAK
	521	188 Oak Creek #8	000*	270		2/19/1984	13:45	2/20/1984	12:49	23.06		REDUCED BOILER PRESSURE
	21	188 Oak Creek #8	000*	225		2/20/1984	12:50	2/20/1984	17:30	4.66		PULVERIZER COAL LEAK
	21	188 Oak Creek #8	000*	270		2/20/1984	17:31	2/21/1984	5:30	11.98		HEDUCED BOILER PRESSURE
[[521	188 Oak Creek #8	000*	225		2/21/1984	5:31	2/21/1984	13:40	8.14		ELECTROSTATIC PRECIP PROBLEM
	521	188 Oak Creek #8	000*	245		2/21/1984	13:40	2/21/1984	22:45	9.08		ELECTROSTATIC PRECIP PROBLEMS
	21	188 Oak Creek #8	000*	270		2/21/1984	22:45	2/27/1984	0:05	121.33		REDUCED BOILER PRESSURE
	521	188 Oak Creek #8			PO	3/2/1984	21:49	3/2/1984	22:27	0.63		TURBINE OVERSPEED TRIP TEST
	521	188 Oak Creek #8			PO	3/2/1984	23:32	4/12/1984	19:52	980.33		ANNUAL OUTAGE
	521	188 Oak Creek #8	000*	120		4/13/1984	2:00	4/13/1984	12:00	10		BOILER WATER CONDITION
	521	188 Oak Creek #8	000*	160		4/13/1984	12:00	4/14/1984	10:00	22		BOILER WATER CONDITION
J	521	188 Oak Creek #8	000*	160		4/14/1984	10:00	4/14/1984	14:54	4.9		OTHER FDWATER PUMP PROBLEMS
1	521	188 Oak Creek #8			U1	4/14/1984	14:54	4/14/1984	17:26	2.53		CONTROL PROBLEMS-FSSS SYS
	521	188 Oak Creek #8	000*	160		4/14/1984	17:26	4/14/1984	19:30	2.06		OTHER FDWATER PUMP PROBLEMS
1 :	521	188 Oak Creek #8	000*	190		4/14/1984	19:30	4/16/1984	1:00	29.5		BOILER WATER CONDITION
	521	188 Oak Creek #8	000*	250		4/16/1984	1:00	4/16/1984	12:30	11.5		BOILER WATER CONDITION
	521	188 Oak Creek #8	000*	225		4/16/1984	13:40	4/16/1984	14:27	0.78		CONTROL VALVES
s . !	521	188 Oak Creek #8	000*		PD	4/16/1984	15:30	4/16/1984	19:45	4.25		INDUCES DRAFT FANS
	521	188 Oak Creek #8	000*	205		4/18/1984	10:19	4/18/1984	12:05	1.76		BOILER RECIRCULATION PUMPS
, S	521	188 Oak Creek #8			МО	4/19/1984	21:02	4/20/1984	0:30	3.46		CONTROL VALVES
Ď i	521	188 Oak Creek #8		ļ. <u>.</u>	МО	4/20/1984	0:30	4/21/1984	1:18	24.8		DRUM RELIEF SAFETY VALVES
	521	188 Oak Creek #8	000*	230		4/21/1984	1:18	4/21/1984	10:51	9.55		BLR WATER CONDITION
32 - E	521	188 Oak Creek #8			U1_	4/21/1984	10:51	4/21/1984	10:59	0.13		COMBUSTION CONTROLS
	521	188 Oak Creek #8	000*	230		4/21/1984	10:59	4/22/1984	5:45	18.76		BLR WATER CONDITIONS
_!	521	188 Oak Creek #8	000	265	D1	4/23/1984	9:20	4/23/1984	12:40	3.33	8560	ELECTROSTATIC PRECIP

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521	188	Oak Creek #8	000*	265 D1	4/23/1984	12:40	4/23/1984	16:20	3.66	3501 HEATER DRAIN PUMPS
521	188	Oak Creek #8	000*	265 D1	4/24/1984	8:20	4/24/1984	10:00	1.66	8560 ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #8	000*	250 D1	4/24/1984	10:00	4/24/1984	19:30	9.5	1850 BLR WATER CONDITIONS
521		Oak Creek #8	000*	250 D1	4/24/1984	19:30	4/25/1984	1:45	6.25	1850 BLR WATER CONDITIONS
521		Oak Creek #8	000*	225 D1	4/25/1984	20:05	4/25/1984	21:56	1.85	330 PULV COAL LEAK
521		Oak Creek #8	000*	265 D1	4/26/1984	13:00	4/27/1984	14:00	25	8560 ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #8	000.	265 D1	4/27/1984	14:00	4/28/1984	7:50	17.83	1530 OTHER FLUE GAS PROBLEMS
521	£	Oak Creek #8	000*	265 D1	4/28/1984	7:50	4/28/1984	20:10	12.33	8560 ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #8		U1	5/8/1984	0:19	5/10/1984	18:30	66.18	1000 FURNACE WATER WALL LEAK
521		Oak Creek #8		U1	5/10/1984	18:30	5/10/1984	20:00	1.5	580 LIGHT OFF SYSTEM
521		Oak Creek #8		U1	5/10/1984	20:00	5/11/1984	1:13	5.21	1000 FURNACE WATER WALL LEAK
521		Oak Creek #8	000*	150 D1	5/11/1984	1:13	5/11/1984	9:30	8.28	1850 BLR WATER CONDITION
521		Oak Creek #8	000*	200 D1	5/11/1984	9:30	5/12/1984	2:00	16.5	1850 BLR WATER CONDITION
521		Oak Creek #8		U1	5/12/1984	8:06	5/12/1984	23:21	15.25	4570 GENERATOR CASING
521		Oak Creek #8		U1	5/12/1984	23:24	5/12/1984	23:35	0.18	9900 OPERATOR ERROR
521	i	Oak Creek #8	000.	250 D1	5/14/1984	7:30	5/14/1984	11:05	3.58	8560 ELECT STAT PRECIP PROB
521		Oak Creek #8	000	260 D1	5/16/1984	8:50	5/17/1984	1:50	17	9270 WET COAL
521		Oak Creek #8	000	210 D1	5/18/1984	16:15	5/18/1984	18:30	2.25	8550 ELECTROSTATIC PRECIP FOULING
521		Oak Creek #8	000*	255 D1	5/20/1984	1:00	5/21/1984	3:00	26	290 PULV REDUCED CAPACITY
521		Oak Creek #8	000*	265 D1	5/21/1984	5:00	5/21/1984	9:15	4.25	290 PULV REDUCED CAPACITY
521		Oak Creek #8	000*	265 D1	5/21/1984	9:15	5/22/1984	10:30	25.25	9290 OTHER FUEL QUALITY PROBLEMS
321	100	Oak Cleek #6	000	205 01	3/21/1904	9.10	3/22/1904	10.30	25.25	COMBUSTION/STEAM COND
504	400	Oak Creek #8	000*	255 D1	5/00/4004	10.00	E/00/1004	0.20	14	1710 CONTROLS
521 521		Oak Creek #8	000*	255 D1	5/22/1984 5/23/1984	10:30 8:30	5/23/1984 5/24/1984	0:30 8:40	24.16	290 PULV RED CAPACITY DUE TO WEAR
}				255 D1				11:45		8560 ELECTROSTATIC PRECIP PROB
521		Oak Creek #8	000*		5/25/1984	9:00	5/25/1984	13:55	2.75	9270 WET COAL
521		Oak Creek #8	000*	255 D1	5/25/1984	13:05	5/25/1984		0.83	8560 ELECTROSTATIC PRECIP PROB
521		Oak Creek #8	000*	255 D1	5/26/1984	8:43	5/26/1984	11:10	2.45	8560 ELECTROSTATIC PRECIP PROB
521 521		Oak Creek #8	000*	255 D1	5/27/1984	15:15	5/29/1984	1:00	33.75	8560 ELECTROSTATIC PRECIP PROB
		Oak Creek #8	000*	260 D1	5/29/1984	8:00	5/30/1984	23:00	39	
521		Oak Creek #8	000*	263 D1	6/5/1984	11:20	6/5/1984	18:00	6.66	8560 ELECTROSTATIC PRECIP PROBLEMS 110 OTHER COAL FUEL SUPPLY PROB
521		Oak Creek #8	000*	200 D1	6/7/1984	8:00	6/7/1984	9:25	1.41	
521		Oak Creek #8	000*	265 D1	6/7/1984	11:40	6/7/1984	14:23	2.71	8560 ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #8		U1	6/15/1984	16:55	6/17/1984	20:39	51.73	1005 GEN TUBE
521		Oak Creek #8	000*	225 D1	6/17/1984	20:38	6/18/1984	4:45	8.11	1850 BLR WATER CONDITION
521		Oak Creek #8	000*	140 D1	6/18/1984	4:45	6/18/1984	8:00	3.25	380 LIGHT OFF SYS
521		Oak Creek #8	000*	250 D1	6/18/1984	8:00	6/18/1984	13:20	5.33	1850 BLR WATER CONDITION
521		Oak Creek #8	000*	250 D1	6/18/1984	13:20	6/18/1984	23:00	9.66	8560 ELECTROSTATIC PRECIP PROB
521		Oak Creek #8	000*	270 D1	6/19/1984	10:05	6/20/1984	9:50	23.75	9290 OTHER FUEL QUAL PROBLEMS
521		Oak Creek #8	000*	270 D1	6/20/1984	9:50	6/21/1984	6:47	20.95	8560 ELECTROSTATIC PRECIP PROBLEMS
521 521 521 521 521		Oak Creek #8	000*	270 D1	6/21/1984	8:20	6/22/1984	23:29	39.15	8560 ELECTROSTATIC PRECIP PROB
521	l	Oak Creek #8		U1	6/22/1984	23:30	6/23/1984	8:12	8.7	8560 ELECTROSTATIC PRECIP PROBLEMS
521		Oak Creek #8	000*	235 D1	6/25/1984	8:45	6/25/1984	11:00	2.25	9620 PARTICULATE STACK EMISSIONS
521		Oak Creek #8	000	200 D1	6/29/1984	11:50	6/30/1984	14:05	26.25	310 PULV MILL OR MILL PROBLEMS
521	I	Oak Creek #8	000.	190 D1	7/2/1984	14:00	7/3/1984	5:15	15.25	310 PULVERIZER MILL
521		Oak Creek #8	000	270 D1	7/3/1984	9:00	7/3/1984	23:30	14.5	1799 OTHER CONTROL PROBLEMS
521	188	Oak Creek #8	000.	200 D1	7/9/1984	22:30	7/10/1984	1:30	3	1710 COMB/STM CONDITION CONTROLS

S21 188 Oak Creek #8 000 190 D1 7711/1984 34-01 7711/1984 11:33 34-02 7711/1984 11:33 34-02 7711/1984 11:33 34-02 7711/1984 11:33 34-02 7711/1984 11:33 34-02 7711/1984 11:33 34-02 7711/1984 11:33 34-02 7711/1984 11:33 34-02 7711/1984 11:33 34-02 7711/1984 11:35 34-02 7711/1984 35-02 34-02		 										
Sept 188 Cask Creek #8 000° 270 D1 7713/1984 11:22 7714/1984 0.50 13.46 1999 UNKNOWN Sept 188 Cask Creek #8 000° 280 D1 7714/1984 0.55 7718/1984 11:35 4.66 250 PULVERIZER FDRS Sept 188 Cask Creek #8 000° 280 D1 7724/1984 2.30 7723/1984 11:35 4.66 250 PULVERIZER FDRS Sept 188 Cask Creek #8 000° 190 D1 7227/1984 2.30 7223/1984 11:35 4.66 250 PULVERIZER FDRS Sept 188 Cask Creek #8 000° 190 D1 7227/1984 2.30 827/1984 51:5 146.75 31:0 PULVAR MILL NO. 83 AND 85 Sept 188 Cask Creek #8 000° 285 D1 8227/1984 11:30 827/1984 2.30 12:31 14:5 8550 ELECTROSTATIC PRECIPE PROQUEMS Sept 188 Cask Creek #8 000° 285 D1 8227/1984 11:30 827/1984 2.30 11:5 8550 ELECTROSTATIC PRECIPE PROQUEMS Sept 188 Cask Creek #8 000° 285 D1 8247/1984 2:00 847/1984 9:45 7.75 1999 BOILER PERFORMANCE TESTING Sept 188 Cask Creek #8 000° 285 D1 8267/1984 17:30 847/1984 4:50 11:33 31:0 MILL PROQUEMS Sept 188 Cask Creek #8 000° 285 D1 8267/1984 17:30 847/1984 4:50 11:33 31:0 MILL PROQUEMS Sept 188 Cask Creek #8 000° 285 D1 879/1984 10:00 871/1984 4:50 11:33 31:0 MILL PROQUEMS Sept 188 Cask Creek #8 000° 270 D1 871/1984 10:00 871/1984 2:30 13:0 8560 ELECTROSTATIC PRECIPE PROQUEMS Sept 188 Cask Creek #8 000° 270 D1 871/1984 10:00 871/1984 2:30 13:0 8560 ELECTROSTATIC PRECIPE PROQUEMS Sept 188 Cask Creek #8 000° 270 D1 872/1984 10:00 871/1984 2:30 13:0 8560 ELECTROSTATIC PRECIPE PROQUEMS Sept 188 Cask Creek #8 000° 270 D1 8227/1984 10:00 871/1984 10:01 26:0 20:0	521	188 Oak Creek #8	000*			7/11/1984	3:40	7/11/1984	17:10	13.5	310 PULVERIZER MILL	
521 188 Oak Creek #8 000° 200 D1 7714/1984 0.50 7715/1984 2.24 25.56 250 PULVENIZER FDRS 521 188 Oak Creek #8 000° 285 D1 7722/1984 2.90 7723/1984 11.25 15.33 290 PULV REDUCED CAP DUE TO WEAR 521 188 Oak Creek #8 000° 190 D1 7727/1984 2.90 7723/1984 11.25 15.33 290 PULV REDUCED CAP DUE TO WEAR 521 188 Oak Creek #8 000° 190 D1 7727/1984 2.90 82/1984 10.33 4.21 250 PULVENIZER FDRS 521 188 Oak Creek #8 000° 245 D1 872/1984 6.20 82/1984 2.300 11.5 850 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 245 D1 872/1984 10.30 82/1984 2.300 11.5 850 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 285 D1 872/1984 10.30 82/1984 2.300 11.5 850 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 285 D1 872/1984 10.30 872/1984 3.00 11.5 850 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 285 D1 879/1984 17.30 870/1984 4.50 11.33 310 MILL PROBLEMS 81 MILL PROBL	521				1	7/12/1984	11:33	7/13/1984	11:33	24	9290 OTHER FUEL QUALITY P	ROBLEMS
521 188 Oak Creek #8 000° 200 D1 7714/1984 0.50 7715/1984 2.24 25.56 250 PULVERIZER FDRS 521 188 Oak Creek #8 000° 285 D1 7722/1984 20.00 7723/1984 11.35 4.66 250 PULVERIZER FDRS 521 188 Oak Creek #8 000° 285 D1 7722/1984 20.00 7723/1984 11.35 1.35 3.00 PULV REDUCED CAP DUE TO WEAR 521 188 Oak Creek #8 000° 190 D1 7827/1984 20.00 7223/1984 11.20 15.33 290 PULV REDUCED CAP DUE TO WEAR 521 188 Oak Creek #8 000° 265 D1 86/1984 5.20 86/1984 23.30 11.53 3.00 PULV REDUCED CAP DUE TO WEAR 521 188 Oak Creek #8 000° 285 D1 86/31/984 10.30 86/31/984 22.11 11.58 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 285 D1 86/31/984 10.30 86/31/984 22.11 11.58 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 285 D1 86/31/984 2.00 86/1994 84.55 7.75 1999 BOLER PERPORANCE TESTNING 521 188 Oak Creek #8 000° 285 D1 86/31/984 7.30 87/1994 4.50 11.33 310 MILL PROBLEMS 81 MILL PROBLEM	521	188 Oak Creek #8	000*	270	D1	7/13/1984	11:22	7/14/1984	0:50	13.46		
521 188 Oak Creek #8 0000 265 D1 77/28/1984 0.000 72/29/1984 11.20 15.33 220 PULV RIDLED CAP DUE TO WEAR 521 188 Oak Creek #8 0.000 190 D1 72/71/984 2.30 87/21/984 5.15 146,75 310 PULV RIDLLED CAP DUE TO WEAR 521 188 Oak Creek #8 0.000 190 D1 87/21/984 6.20 82/21/984 5.15 146,75 310 PULV RIDLED CAP DUE TO WEAR 521 188 Oak Creek #8 0.000 262 D1 87/21/984 1.30 82/21/984 2.30 1.5 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 0.000 263 D1 87/21/984 1.30 83/21/984 2.21 1.168 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 0.000 263 D1 88/21/984 7.00 88/21/984 9.45 7.5 15.999 BOILER PERFORMANCE TESTING 521 188 Oak Creek #8 0.000 263 D1 88/21/984 7.00 88/21/984 8.00 1 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 0.000 263 D1 88/21/984 7.00 88/21/984 4.50 1.33 310 MILL PROBLEMS 58/21 88/21 68	521		000*	200	D1	7/14/1984	0:50	7/15/1984	2:24	25.56	250 PULVERIZER FDBS	
521 188 Oak Creek #8 0002 255 D1 7722/1984 2:00 7723/1984 11:20 15:33 290 PLLV REDUCED CAP DUE TO WEAR												
S21 188 Oak Creek #8 000 190 D1 7/27/1984 2:30 8/2/1984 10:33 4:2 230 PULVER MILL NO. 83 AND 85 S21 188 Oak Creek #8 000 245 D1 8/2/1984 10:30 8/2/1984 23:00 11:5 8560 ELECTROSTATIC PRECIP PROBLEMS S21 188 Oak Creek #8 000 283 D1 8/3/1984 2:00 8/4/1984 23:00 11:5 8560 ELECTROSTATIC PRECIP PROBLEMS S21 188 Oak Creek #8 000 283 D1 8/4/1984 2:00 8/4/1984 2:30 11:1 188 8660 ELECTROSTATIC PRECIP PROBLEMS S21 188 Oak Creek #8 000 283 D1 8/4/1984 2:00 8/4/1984 9:45 7/5 1599 BOILER PERFORMANCE TESTING S21 188 Oak Creek #8 000 283 D1 8/4/1984 7:00 8/4/1984 4:50 1.3 330 MILL PROBLEMS S21 188 Oak Creek #8 000 283 D1 8/4/1984 4:50 1.3 330 MILL PROBLEMS S21 188 Oak Creek #8 000 263 D1 8/4/1984 4:50 1.3 330 MILL PROBLEMS S31 S31 MILL PROBLEMS S31	1											F TO WEAR
521 188 Oak Creek #8 000° 190 D1 82/1994 130 82/1994 2300 131 5850 ELECTROSTATIC PRECIP PROBLEMS												
521 188 Oak Creek #8 000° 245 D1 89/1994 11:30 82/1984 22:30 11:5 8560 ELECTROSTATIC PRECIP PROBLEMS	i · ·-i					_ 						
S21 188 Oak Creek #8 000 263 D1 8/3/1984 10:30 8/3/1984 22:11 11:68 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000 263 D1 8/6/1984 7:00 8/6/1984 8:00 1.8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000 265 D1 8/6/1984 7:00 8/6/1984 4:50 11:33 310 MILL PROBLEMS 51 MILL 521 188 Oak Creek #8 000 265 D1 8/7/1984 4:50 8/1/1984 4:50 11:33 310 MILL PROBLEMS 51 MILL 521 188 Oak Creek #8 000 270 D1 8/10/1984 4:50 8/1/1984 2:30 13 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000 270 D1 8/12/1984 10:00 8/13/1984 2:300 13 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000 270 D1 8/27/1984 9:15 8/27/1984 16:07 6:28 9/270 WET COAL 521 188 Oak Creek #8 000 270 D1 8/27/1984 9:15 8/27/1984 16:07 6:28 9/270 WET COAL 521 188 Oak Creek #8 000 270 D1 8/27/1984 9:15 8/27/1984 16:07 6:28 9/270 WET COAL 521 188 Oak Creek #8 000 0.00												DDOD! EMO
521 188 Cok Creek #8 000 80 D1 8JA/1984 2:00 8JA/1984 9:45 7.75 1999 BOILE PERFORMANCE TESTING	· · · · · · · · · · · · · · · · · · ·					··						
521 188 Coak Creek #8 000° 265 DT 8/6/1984 7:30 8/6/1984 4:50 11.33 310 MILL PROBLEMS et MILL												
521 188 Cak Creek #8 000° 295 D1 8/9/1984 17:30 8/10/1984 4:50 11:33 310 MILL PROBLEMS 81 MILL						<u> </u>						
521 188 Oak Creek #8 000° 190 D1 8/13/1984 4:50 8/13/1984 12:15 7.41 310 MILL PROBLEM #1-83 MILL 521 188 Oak Creek #8 000° 270 D1 8/13/1984 10:00 8/13/1984 15:07 1.36 250 PULVERIZER FEEDER 521 188 Oak Creek #8 000° 270 D1 8/27/1984 13:45 8/22/1984 15:07 1.36 250 PULVERIZER FEEDER 521 188 Oak Creek #8 U1 8/26/1984 3:31 9/13/1984 16:07 6.86 9/27 WET COAL 521 188 Oak Creek #8 U1 8/26/1984 3:31 9/13/1984 16:07 6.86 9/27 WET COAL 521 188 Oak Creek #8 MO 9/1/1984 16:46 9/2/1984 16:01 29:26 3680 OTHER VOLTAGE TRANSFORMER 521 188 Oak Creek #8 U1 9/2/1984 26:12 9/3/1984 15:30 17:29 1850 BLR WATER CONDITION 521 188 Oak Creek #8 000° 205 D1 9/2/1984 9:57 9/5/1984 1:25 15:46 880 FLYASH HANDLING EQUIP 521 188 Oak Creek #8 000° 230 D1 9/6/1984 8:15 9/10/1984 1:35 15:46 880 FLYASH HANDLING EQUIP 521 188 Oak Creek #8 000° 230 D1 9/6/1984 8:15 9/10/1984 1:35 15:46 880 FLYASH HANDLING EQUIP 521 188 Oak Creek #8 000° 250 D1 9/6/1984 8:15 9/10/1984 1:35 5:54 680 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 250 D1 9/6/1984 8:15 9/10/1984 1:35 5:54 5:55	1											
S21 188 Oak Creek #8 000° 270 D1 8/3/1984 13.45 8/22/1984 15.07 1.36 250 PULVERIZER FEEDER												
S21 188 Oak Creek #8 000° 190 D1 8/22/1984 13.45 8/22/1984 15.07 1.36 250 PULVERIZER FEEDER												
S21 188 Oak Creek #8 000° 270 D1 8/27/1994 9.15 8/27/1994 16:07 6.86 9270 WET COAL	1											PROBLEMS
S21 188 Oak Creek #8 * U1 8/29/1984 3.31 9/1/1984 10.45 79.23 1040 FIRST SUPHTR TUBE LEAK	521		000*									
S21 188 Oak Creek #8 * MO 9/1/1984 10.45 9/2/1984 15.01 29.26 3680 OTHER VOLTAGE TRANSFORMER	521		000*	270	D1	8/27/1984	9:15		16:07	6.86		
521 188 Oak Creek #8 Ou0 200 D1 9/2/1984 16:48 9/2/1984 22:12 5.4 890 BOTTOM ASH SYSTEM	521				U1	8/29/1984	3:31	9/1/1984	10:45			
521 188 Oak Creek #8 000° 200 D1 9/2/1984 22:12 9/3/1984 15:30 17.29 1850 BLR WATER CONDITION	521	188 Oak Creek #8	•		MO	9/1/1984	10:45				3680 OTHER VOLTAGE TRANS	FORMER
S21 188 Oak Creek #8 000° 205 D1 9/4/1984 9.57 9/5/1984 1:25 15.46 880 FLYASH HANDLING EQUIP	521	188 Oak Creek #8			U1	9/2/1984	16:48	9/2/1984	22:12	5.4	890 BOTTOM ASH SYSTEM	
521 188 Oak Creek #8 000° 225 D1 9/4/1984 9.57 9/5/1984 23:00 15.41 880 FLYASH HANDLING EQUIP	521	188 Oak Creek #8	000*	200	D1	9/2/1984	22:12	9/3/1984	15:30	17.29	1850 BLR WATER CONDITION	
521 188 Oak Creek #8 000° 230 D1 9/5/1984 7:35 9/5/1984 23:00 15.41 8560 ELECTROSTATIC PRECIP PROBLEMS	— -		000*	205	D1	9/4/1984	9:57	9/5/1984	1:25	15.46	880 FLYASH HANDLING EQUI	P
521 188 Oak Creek #8 000° 260 D1 9/6/1984 8:15 9/7/1984 18:18 34.05 8560 ELECTROSTATIC PRECIP PROBLEMS	521		000*			9/5/1984	7:35					
521 188 Oak Creek #8 ' U1 9/7/1984 18:18 9/10/1984 2:53 56.58 1050 SECOND SUPERHEATER 521 188 Oak Creek #8 000* 160 D1 9/10/1984 18:35 15.7 1400 FD FAN 521 188 Oak Creek #8 000* 180 D1 9/10/1984 21:25 2.83 1400 FD FAN 521 188 Oak Creek #8 000* 160 D1 9/10/1984 21:25 9/11/1984 9:20 11:91 1400 FD FAN 521 188 Oak Creek #8 000* 195 D1 9/11/1984 9:20 9/11/1984 9:20 11:91 1400 FD FAN 521 188 Oak Creek #8 000* 195 D1 9/11/1984 9:20 9/11/1984 2:300 13:66 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 19/20/1984 17:10 9/23/1984 10:51 65:68 1005 GENERATING TUBES 521 188 Oak Creek #8 000* 150 D1 9/26/1984 10:15 9/26/1984 13:15 3						- 						
521 188 Oak Creek #8 000° 160 D1 9/10/1984 2:53 9/10/1984 18:35 15.7 1400 FD FAN 521 188 Oak Creek #8 000° 180 D1 9/10/1984 18:35 9/10/1984 21:25 2.83 1400 FD FAN 521 188 Oak Creek #8 000° 160 D1 9/10/1984 21:25 9/11/1984 9:20 11.91 1400 FD FAN 521 188 Oak Creek #8 000° 195 D1 9/11/1984 9:20 9/11/1984 23:00 13.66 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 200 D1 9/20/1984 6:00 9/20/1984 17:10 11.16 1005 GENERATING TUBES 521 188 Oak Creek #8 000° 200 D1 9/20/1984 17:10 9/23/1984 10:51 65.68 1005 GENERATING TUBES 521 188 Oak Creek #8 000° 255 D1 9/26/1984 10:15 9/26/1984 13:15 3 9270 WET COAL 521 188 Oak Creek #8 000° 200 D1 9/27/1984 18:00 9/28/1984 23:30 29.5 250 LVERIZER FEEDER 521 188 Oak Creek #8 000° 200 D1 9/27/1984 18:00 9/28/1984 23:30 29.5 250 LVERIZER FEEDER 521 188 Oak Creek #8 000° 200 D1 9/27/1984 18:00 9/28/1984 23:30 29.5 250 LVERIZER FEEDER 521 188 Oak Creek #8 000° 200 D1 9/28/1984 21:12 9/30/1984 8:05 9/30/1984 10:32 2.45 3414 GENERATING TUBE 521 188 Oak Creek #8 000° 150 D1 9/30/1984 8:05 9/30/1984 20:15 9.71 1850 BOILER WATER CONDITION 521 188 Oak Creek #8 000° 250 D1 10/7/1984 10:32 9/30/1984 20:15 9.71 1850 BOILER WATER CONDITION 521 188 Oak Creek #8 000° 250 D1 10/9/1984 10:32 9/30/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000° 255 D1 10/9/1984 10:55 10/9/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000° 250 D1 10/10/1984 20:35 10/10/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000° 250 D1 10/10/1984 20:35 10/10/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000° 250 D1 10/10/1984 20:35 10/10/1984 20:3	·		•									
521 188 Oak Creek #8 000* 180 D1 9/10/1984 18:35 9/10/1984 21:25 2.83 1400 FD FAN 521 188 Oak Creek #8 000* 160 D1 9/10/1984 21:25 9/11/1984 9:20 11.91 1400 FD FAN 521 188 Oak Creek #8 000* 195 D1 9/11/1984 9:20 9/11/1984 23:00 13:66 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 200 D1 9/20/1984 17:10 9/23/1984 10:51 65:68 1005 GENERATING TUBES 521 188 Oak Creek #8 000* 150 D1 9/23/1984 10:51 9/24/1984 5:19 18:46 1850 BOLER WATER CONDITION 521 188 Oak Creek #8 000* 265 D1 9/26/1984 10:15 9/28/1984 13:15 3 9270 WET COAL 521 188 Oak Creek #8 000* 200 D1 9/27/1984 18:00 9/28/1984 23:30 29:5 250 S1 S10 S10 S10 S10 S10 S10 S10 S10 S10			000*	160								
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521 188 Oak Creek #8 000* 150 D1 9/23/1984 10:51 9/24/1984 5:19 18.46 1850 BOILER WATER CONDITION 521 188 Oak Creek #8 000* 265 D1 9/26/1984 10:15 9/26/1984 13:15 3 9270 WET COAL 521 188 Oak Creek #8 000* 200 D1 9/27/1984 18:00 9/28/1984 23:30 29.5 250 "LVERIZER FEEDER 521 188 Oak Creek #8 * U1 9/28/1984 21:12 9/30/1984 6:55 33.71 1005 GENERATING TUBE 521 188 Oak Creek #8 * U1 9/30/1984 8:05 9/30/1984 10:32 2.45 3414 GENERATING TUBE 521 188 Oak Creek #8 * U1 9/30/1984 10:32 2.45 3414 GENERATING TUBE 521 188 Oak Creek #8 000* 150 D1 9/30/1984 1			•	200								
521 188 Oak Creek #8 000* 265 D1 9/26/1984 10:15 9/26/1984 13:15 3 9270 WET COAL 521 188 Oak Creek #8 000* 200 D1 9/27/1984 18:00 9/28/1984 23:30 29.5 250 "JLVERIZER FEEDER 521 188 Oak Creek #8 * U1 9/28/1984 21:12 9/30/1984 6:55 33.71 1005 GENERATING TUBE 521 188 Oak Creek #8 * U1 9/30/1984 6:55 9/30/1984 10:32 2.45 3414 GENERATING TUBE 521 188 Oak Creek #8 000* 150 D1 9/30/1984 10:32 2.45 3414 GENERATING TUBE 521 188 Oak Creek #8 000* 150 D1 9/30/1984 10:32 2.45 3414 GENERATING TUBE 521 188 Oak Creek #8 000* 10 10/7/1984 10:32 9/30/1984 20:1			000*	150								ON
521 188 Oak Creek #8 000* 200 D1 9/27/1984 18:00 9/28/1984 23:30 29.5 250 "LVERIZER FEEDER 521 188 Oak Creek #8 * U1 9/28/1984 21:12 9/30/1984 6:55 33.71 1005 GENERATING TUBE 521 188 Oak Creek #8 * U1 9/30/1984 6:55 9/30/1984 8:05 1.16 3414 FDWTR PUMP LOCAL CONTROLS 521 188 Oak Creek #8 * U1 9/30/1984 8:05 9/30/1984 10:32 2.45 3414 GENERATING TUBE 521 188 Oak Creek #8 000* 150 D1 9/30/1984 10:32 9/30/1984 20:15 9.71 1850 BOILER WATER CONDITION 521 188 Oak Creek #8 000* 190 D1 10/7/1984 8:10 10/7/1984 11:43 3.55 310 MILL PROBLEMS 521 188 Oak Creek #8 000* 225 D1 10/9/1984 19:50 10/9/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/10/1984	1				·							
521 188 Oak Creek #8 * U1 9/28/1984 21:12 9/30/1984 6:55 33.71 1005 GENERATING TUBE 521 188 Oak Creek #8 * U1 9/30/1984 6:55 9/30/1984 8:05 1.16 3414 FDWTR PUMP LOCAL CONTROLS 521 188 Oak Creek #8 * U1 9/30/1984 8:05 9/30/1984 20:15 3414 GENERATING TUBE 521 188 Oak Creek #8 000* 150 D1 9/30/1984 10:32 9/30/1984 20:15 9.71 1850 BOILER WATER CONDITION 521 188 Oak Creek #8 000* 190 D1 10/7/1984 8:10 10/7/1984 11:43 3.55 310 MILL PROBLEMS 521 188 Oak Creek #8 000* 252 D1 10/9/1984 19:50 8.91 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 250 D1 10/9/1984	1											
521 188 Oak Creek #8 * U1 9/30/1984 6:55 9/30/1984 8:05 1.16 3414 FDWTR PUMP LOCAL CONTROLS 521 188 Oak Creek #8 * U1 9/30/1984 8:05 9/30/1984 10:32 2.45 3414 GENERATING TUBE 521 188 Oak Creek #8 000* 150 D1 9/30/1984 10:32 9/30/1984 20:15 9.71 1850 BOILER WATER CONDITION 521 188 Oak Creek #8 000* 190 D1 10/7/1984 8:10 10/7/1984 11:43 3.55 310 MILL PROBLEMS 521 188 Oak Creek #8 000* 252 D1 10/9/1984 10:55 10/9/1984 19:50 8.91 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 250 D1 10/9/1984 20:35 10/10/1984 21:11 24.6 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 250 D1 10/10/1984 21:11 10/10/1984 21:50 0.65 320 FOREIGN OBJECT IN MILL	1		• •	200								
521 188 Oak Creek #8 * U1 9/30/1984 8:05 9/30/1984 10:32 2.45 3414 GENERATING TUBE 521 188 Oak Creek #8 000* 150 D1 9/30/1984 10:32 9/30/1984 20:15 9.71 1850 BOILER WATER CONDITION 521 188 Oak Creek #8 000* 190 D1 10/7/1984 8:10 10/7/1984 11:43 3.55 310 MILL PROBLEMS 521 188 Oak Creek #8 000* 252 D1 10/9/1984 10:55 10/9/1984 19:50 8.91 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 225 D1 10/9/1984 19:50 10/9/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/10/1984 21:11 10/10/1984 21:50 0.65 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/10/1984 21:11 10/10/1984 21:50 0.65 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/10/1984 21:50 <td< td=""><td></td><td></td><td></td><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td>NTDOLC</td></td<>					-							NTDOLC
521 188 Oak Creek #8 000* 150 D1 9/30/1984 10:32 9/30/1984 20:15 9.71 1850 BOILER WATER CONDITION 521 188 Oak Creek #8 000* 190 D1 10/7/1984 8:10 10/7/1984 11:43 3.55 310 MILL PROBLEMS 521 188 Oak Creek #8 000* 252 D1 10/9/1984 10:55 10/9/1984 19:50 8.91 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 225 D1 10/9/1984 19:50 10/9/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/9/1984 20:35 10/10/1984 21:11 24.6 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 210 D1 10/10/1984 21:11 10/10/1984 21:50 0.65 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/10/1984 21:50 10/11/1984 18:59 21.15 8560 ELECTROSTATIC PRECIP PROBLEMS	1											NIHOLS
521 188 Oak Creek #8 000* 190 D1 10/7/1984 8:10 10/7/1984 11:43 3.55 310 MILL PROBLEMS 521 188 Oak Creek #8 000* 252 D1 10/9/1984 10:55 10/9/1984 19:50 8.91 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 225 D1 10/9/1984 19:50 10/9/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/9/1984 20:35 10/10/1984 21:11 24.6 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 210 D1 10/10/1984 21:11 10/10/1984 21:50 0.65 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/10/1984 21:50 10/11/1984 18:59 21.15 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 250 D1 10/10/1984 21:50 10/11/1984 18:59 21.15 8560 ELECTROSTATIC PRECIP PROBLEMS				450	1 =							
521 188 Oak Creek #8 000° 252 D1 10/9/1984 10:55 10/9/1984 19:50 8.91 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 225 D1 10/9/1984 19:50 10/9/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000° 250 D1 10/9/1984 20:35 10/10/1984 21:11 24.6 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 210 D1 10/10/1984 21:11 10/10/1984 21:50 0.65 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000° 250 D1 10/10/1984 21:50 10/11/1984 18:59 21.15 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 250 D1 10/10/1984 21:50 10/11/1984 18:59 21.15 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 200 D1 10/11/1984 18:59 10/12/1984 1:30 6.51 310 83 & 81 MILLS PROBLEMS												JN
521 188 Oak Creek #8 000* 225 D1 10/9/1984 19:50 10/9/1984 20:35 0.75 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/9/1984 20:35 10/10/1984 21:11 24.6 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 210 D1 10/10/1984 21:11 10/10/1984 21:50 0.65 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000* 250 D1 10/10/1984 21:50 10/11/1984 18:59 21.15 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000* 200 D1 10/11/1984 18:59 10/12/1984 1:30 6.51 310/83 & 81 MILLS PROBLEMS			1								:	
521 188 Oak Creek #8 000° 250 D1 10/9/1984 20:35 10/10/1984 21:11 24.6 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 210 D1 10/10/1984 21:11 10/10/1984 21:50 0.65 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000° 250 D1 10/10/1984 21:50 10/11/1984 18:59 21.15 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 250 D1 10/11/1984 18:59 10/12/1984 1:30 6.51 310 83 & 81 MILLS PROBLEMS												
521 188 Oak Creek #8 000° 210 D1 10/10/1984 21:11 10/10/1984 21:50 0.65 320 FOREIGN OBJECT IN MILL 521 188 Oak Creek #8 000° 250 D1 10/10/1984 21:50 10/11/1984 18:59 21.15 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 200 D1 10/11/1984 18:59 10/12/1984 1:30 6.51 310 83 & 81 MILLS PROBLEMS	\											
521 188 Oak Creek #8 000° 250 D1 10/10/1984 21:50 10/11/1984 18:59 21.15 8560 ELECTROSTATIC PRECIP PROBLEMS 521 188 Oak Creek #8 000° 200 D1 10/11/1984 18:59 10/12/1984 1:30 6.51 310 83 & 81 MILLS PROBLEMS	·											
521 188 Oak Creek #8 000* 200 D1 10/11/1984 18:59 10/12/1984 1:30 6.51 310 83 & 81 MILLS PROBLEMS												
521 188 Oak Creek #8 000° 250 D1 10/12/1984 1:30 10/12/1984 12:52 11.36 8560 ELECTROSTATIC PRECIP PROBLEMS												
	521	188 Oak Creek #8	000*	250	D1	10/12/1984	1:30	10/12/1984	12:52	11.36	8560 ELECTROSTATIC PRECIP	PROBLEMS

521		Oak Creek #8		U1	10/12/1984	16:40	10/17/1984	6:46	110.1		GENERATING TUBE LEAK
521		Oak Creek #8	000*	185 D1	10/17/1984	6:46	10/18/1984	1:30	18.73	1850	BLR WATER CONDITION
521	188	Oak Creek #8	000*	240 D1	10/18/1984	20:50	10/20/1984	2:45	29.91	8560	ELECTROSTATIC PRECIP PROBLEMS
521	188	Oak Creek #8	000*	200 D1	10/21/1984	6:05	10/21/1984	10:15	4.16	330	PULVERIZER COAL LEAK
521	188	Oak Creek #8	000*	260 D1	10/22/1984	4:15	10/23/1984	5:00	24.75	110	WET COAL
521		Oak Creek #8	•	U1	10/26/1984	14:16	10/29/1984	1:39	59.38		GENERATING TUBE
521	188	Oak Creek #8	000-	225 D1	10/29/1984	1:39	10/29/1984	14:00	12.35	1850	BOILER WATER CONDITION
521	188	Oak Creek #8	000*	200 D1	11/2/1984	16:00	11/2/1984	17:00	1	350	PULVERIZED FUEL & AIR PIPING
521	188	Oak Creek #8	000*	257 D1	11/4/1984	7:15	11/5/1984	1:45	18.5		WET COAL
521	188	Oak Creek #8	000*	269 D1	11/7/1984	17:50	11/8/1984	5:34	11.73	9270	WET COAL
521	188	Oak Creek #8	000*	262 D1	11/9/1984	9:30	11/10/1984	1:45	16.25		WET COAL
521	188	Oak Creek #8	•	U1	11/10/1984	18:59	11/18/1984	0:25	173.43	3414	GENERATING TUBE
521	188	Oak Creek #8	•	SF	11/18/1984	0:25	11/18/1984	5:00	4.58		ELECTROSTATIC PRECIP PROBLEM
521	188	Oak Creek #8	•	U1	11/18/1984	5:00	11/18/1984	16:12	11.2	3414	GENERATING TUBE
521	188	Oak Creek #8	•	U1	11/18/1984	17:56	11/18/1984	18:39	0.71	9900	OPERATOR ERROR
521	188	Oak Creek #8	000*	262 D1	11/21/1984	10:45	11/22/1984	13:05	26.33		WET COAL
521	188	Oak Creek #8	000*	270 D1	11/26/1984	21:00	11/26/1984	22:30	1.5	330	PULVERIZED COAL LEAK
521	188	Oak Creek #8	000*	200 D1	12/2/1984	4:50	12/2/1984	16:40	11.83	250	PULVERIZER FEEDER
521		Oak Creek #8	000*	270 D1	12/12/1984	20:30	12/12/1984	23:30	3	330	PULVERIZED COAL LEAK
521	188	Oak Creek #8	000*	250 D1	12/16/1984	16:20	12/16/1984	23:00	6.66		PULVERIZER MILLS
521	188	Oak Creek #8	000*	270 D1	12/17/1984	8:00	12/17/1984	17:00	9	310	PULVERIZER MILLS
521	188	Oak Creek #8	000*	240 D1	12/18/1984	8:00	12/18/1984	23:30	15.5	310	PULVERIZER MILLS
521	188	Oak Creek #8	•	U1	12/21/1984	9:57	12/23/1984	9:17	47.33		SECOND SUPERHEATER
521	188	Oak Creek #8	•	U1	12/23/1984	9:17	12/23/1984	12:12	2.91	1150	SECOND SUPERHEATER
521	188	Oak Creek #8	000*	235 D1	12/28/1984	13:35	12/28/1984	16:05	2.5		PULVERIZER MILLS
521	188	Oak Creek #8	000*	125 D4	1/5/1985	5:07	1/5/1985	12:48	7.68	1420	OTHER FD FAN PROBLEMS
521	188	Oak Creek #8		U1	1/9/1985	5 38	1/12/1985	2:18	68.66	_:	SECOND SUPERHEATER
521	188	Oak Creek #8	000*	160 D1	1/13/1985	14:25	1/13/1985	16:40	2.25		PULVERIZER MILLS
521	188	Oak Creek #8	000*	252 D1	1/14/1985	17:30	1/15/1985	8:45	15.25		HIGH OPACITY
521	188	Oak Creek #8	000,	242 D1	1/15/1985	8:45	1/15/1985	19:05	10.33	310	PULVERIZER MILLS
521	188	Oak Creek #8	000*	242 D1	1/16/1985	4:00	1/16/1985	13:25	9.41	310	PULVERIZER MILLS
521	188	Oak Creek #8	000*	225 D1	1/16/1985	14:05	1/16/1985	14:25	0.33	250	PULVERIZER FEEDER
521	188	Oak Creek #8	000*	242 D1	1/18/1985	7:43	1/18/1985	10:25	2.7	310	PULVERIZER MILLS
521	188	Oak Creek #8		U1	1/19/1985	20:44	1/19/1985	21:29	0.75	770	FROZ. SENSING BLR CIR PMP
521	188	Oak Creek #8		U1	1/19/1985	21:42	1/20/1985	0:38	2.93	9900	OPER. ERROR-LOST EXCITATION
521	188	Oak Creek #8	1	U1	1/20/1985	3:45	1/20/1985	4:07	0.36	770	FROZ. SENSING BLR CIR PMP
521	188	Oak Creek #8		U1	1/20/1985	4:15	1/20/1985	7:37	3.36	9900	OPER. ERROR-LO WTR LEVEL
521		Oak Creek #8		U1	1/20/1985	20:24	1/20/1985	22:24	2		STATOR COOLING SENS LINE FROZEN
521		Oak Creek #8		U1	1/25/1985	17:35	1/29/1985	1:37	80.03		GENERATING TUBE
521		Oak Creek #8	000*	190 D1	2/4/1985	6:55	2/4/1985	9:23	2.46	880	FLYASH HANDLING
		Oak Creek #8		U1	2/7/1985	23:48	2/10/1985	13:58	62.16		SUPERHEATER PENDANT
521 521		Oak Creek #8	000*	255 D1	2/18/1985	7:00	2/19/1985	1:00	18		FROZEN COAL
521		Oak Creek #8	000*	252 D1	2/19/1985	8:00	2/19/1985	15:00	7		FROZEN COAL
521		Oak Creek #8	000*	180 D1	2/23/1985	10:20	2/23/1985	20:30	10.16		PULVERIZER MILLS
521		Oak Creek #8	000*	230 D1	3/14/1985	16:15	3/14/1985	21:00	4.75		PULVERIZER MILLS
521		Oak Creek #8		МО	3/22/1985	16:46	3/24/1985	21:41	52.91		GENERATING TUBE
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	521	188	Oak	Creek #8	000*	185		4/7/1985	10:00	4/7/1985	17:45	7.75	310	PULVERIZER MILLS
	521	188	Oak	Creek #8			PO	4/12/1985	18:06	7/5/1985	20:20	2018.23	1800	ANNUAL OUTAGE
	521	188	Oak	Creek #8			U1	7/6/1985	0:47	7/6/1985	1:29	0.7	4261	CONTROL VALVE PROBLEM
1	521	188	Oak	Creek #8		··- ··· — ·	U1	7/6/1985	2:20	7/6/1985	5:18	2.96		82 BOILER BOOSTER PUMP TRIP
-	521			Creek #8			U1	7/7/1985	18:05	7/10/1985	3:20	57.25		GENERATING TUBE
	521			Creek #8	000*	160		7/13/1985	13:30	7/13/1985	21:32	8.03		FEEDWATER PUMP
- 1 -	521			Creek #8			U1	7/13/1985	21:32	7/15/1985	9:15	35.71		ECONOMIZER
- 1	521			Creek #8			U1	7/15/1985	9:16	7/17/1985	1:42	40.43		PROTECTION DEVICES
- 1	521			Creek #8	000*	135		7/21/1985	21:00	7/22/1985	6:00	9		I.D. FAN MTR & DRIVES
-	521			Creek #8	000*	255		8/1/1985	10:30	8/1/1985	10:55	0.41		PULVERIZER MILLS
-	521			Creek #8	000*	260		8/5/1985	17:30	8/5/1985	22:20	4.83		PULVERIZER FEEDER PROBLEMS
-	521			Creek #8	000*	266		8/6/1985	11:30	8/10/1985	22:26	106.93		CONTROL VALVES
	521			Creek #8			МО	8/10/1985	22:26	8/19/1985	23:18	216.86		CONTROL VALVES
	521			Creek #8	000*	260		8/23/1985	18:50	8/26/1985	20:00	73.16		CONTROL VALVES
- 1	521			Creek #8	- 000		МО	8/30/1985	23:27	8/31/1985	23:00	23.55		BEARINGS
-	521			Creek #8			RS	8/31/1985	23:00	9/2/1985	21:24	46.4		Reserve Shutdown
	521			Creek #8			U1	9/9/1985	18:57	9/13/1985	7:30	84.55		GENERATING TUBE LEAK
- 1.	521			Creek #8			U1	9/13/1985	7:31	9/13/1985	13:49	6.3		TURBINE TRIP DEVICES
-	521			Creek #8			U1	9/27/1985	18:03	9/29/1985	19:40	49.61		SECOND REHEATER
	521			Creek #8			U1	9/29/1985	19:41	9/30/1985	6:59	11.3		BOILER CONTROLS
}-	521			Creek #8			МО	10/2/1985	14:04	10/2/1985	21:00	6.93		ELECTROSTATIC PRECIP PROBLEMS
-														
-	521			Creek #8			RS	10/2/1985	21:00	10/3/1985	4:14	7.23		Reserve Shutdown
L	521			Creek #8			U1	10/11/1985	22:07	10/12/1985	3:39	5.53		COMBUSTION CONTROLS FSSS.
	521			Creek #8	000*	253		10/23/1985	8:08	10/24/1985	3:00	18.86		ELECTROSTATIC PRECIP PROBLEMS
- -	521			Creek #8	000*	250		10/29/1985	10:00	10/29/1985	13:10	3.16		OPERATOR ERROR
- _	521			Creek #8	000*	215		11/2/1985	15:00	11/3/1985	22:13	31.21		WET COAL
ļ	521			Creek #8			U1	11/3/1985	22:13	11/5/1985	10:20	36.11		SECOND REHEATER
_	521			Creek #8	000*	265		11/6/1985	10:30	11/6/1985	20:00	9.5		WET COAL
L	521	188	Oak	Creek #8	000*	260	D1	11/12/1985	11:38	11/12/1985	12:30	0.86	250	82 MILL FEEDER TRIP
									1					
	521			Creek #8	000*	180		11/15/1985	23:40	11/16/1985	3:25	3.75	3230	CIRCULATING WTR VLV REPLACEMENT
	521			Creek #8	000*	255		11/25/1985	19:15	11/25/1985	22:15	3		PULVERIZER MILLS
	521			Creek #8	000*	235		12/2/1985	5:00	12/2/1985	5:50	0.83		BLR WATER CONDITION
	521			Creek #8	000*	160		12/14/1985	10:30	12/14/1985	15:30	5		PULVERIZER MILLS
t	521	188	<u>Oak</u>	Creek #8	000*	235		12/14/1985	15:30	12/15/1985	0:30	9		PULVERIZER MILLS
	521			Creek #8	000	270		12/28/1985	9:20	12/31/1985	19:50	82.5	290	PULV. REDUCED CAPACITY
	521			Creek #8	000*	235		1/6/1986	22:00	1/7/1986	21:02	23.03		REHEAT LEAK-REDUCED PRESSURE
¥	521			Creek #8			МО	1/7/1986	21:02	1/9/1986	12:00	38.96	1070	REHEAT LEAK
WEPCO	521			Creek #8			MO	1/9/1986	12:00	1/10/1986	9:00	21	890	BOTTOM ASH SYSTEM
Õ	521	188	Oak	Creek #8			MO	1/10/1986	9:00	1/10/1986	19:26	10.43	1440	AIR SUPPLY DAMPERS
Ó	521	188	Oak	Creek #8			U1	1/11/1986	10:31	1/12/1986	15:01	28.5	1710	COMBUSTION CONTROLS FSSS
40136	521	188	Oak	Creek #8	000*	195	D1	1/21/1986	9:30	1/21/1986	15:45	6.25		PULVERIZED FUEL & AIR PIPING
36	521			Creek #8			NC	1/21/1986	15:45	1/23/1986	1:00	33.25		PULVERIZER REDUCED CAPACITY
	521			Creek #8	000*	200		1/23/1986	1:00	2/7/1986	4:00	363		RECIRCULATING PUMP
	521			Creek #8	000*	190		1/31/1986	2:00	1/31/1986	12:00	10		PULVERIZED FUEL & AIR PIPING
1	521			Creek #8	000*	190		2/1/1986	2:30	2/2/1986	7:31	29.01		PULVERIZER FEEDERS
<u> </u>														

521	188	Oak (Creek #8	000*	190	D2	2/2/1986	11:30	2/2/1986	17:30	6	350 PULVERIZED FUEL AND AIR PIPING
521	h		Creek #8	000*		D2	2/8/1986	10:55	2/9/1986	14:35	27.66	250 PULVERIZER FEEDER
521			Creek #8	000*		D1	2/9/1986	20:06	2/10/1986		24.9	9270 WET COAL
521	·		Creek #8	000*		D1	2/10/1986	7:45	2/10/1986	12:30	4.75	350 PULV FUEL & AIR PIPING
521			Creek #8	000*		D1	2/10/1986	16:35	2/11/1986	11:23	18.79	9270 WET COAL
521			Creek #8	000*	265		2/11/1986	11:23	2/13/1986	8:41	45.3	9270 WET COAL
	-100	Our C	DICCK #U	000	_200	 	2/11/1300	11.20	2/10/1300	0.41	73.5	9270 WET OOAL
521	188	Oak (Creek #8			U1	2/13/1986	8:42	2/13/1986	11:30	2.8	770 OTHER BLR RECIRCULATION PROBLE
521			Creek #8			SF	2/13/1986	11:30	2/16/1986	14:58	75.46	3440 HI PRESS FEEDWATER HEATER
521			Creek #8	000*	190		2/17/1986	10:30	2/19/1986	3:30	41	280 PULVERIZER FIRE
521	·		Creek #8	000*	260		2/19/1986	3:30	2/24/1986	11:35	128.08	3440 HI PRESS HTR TUBE LEAKS
521			Creek #8	000*	190		2/19/1986	7:00	2/19/1986	··	. 1.63	340 OTHER PULVERIZER PROBLEMS
521			Creek #8	000*		PD	2/22/1986	8:10	2/24/1986	0:25	40.25	340 OTHER PULVERIZER PROBLEMS
· · · - • · · ·			· - ·		260							
521			Creek #8	000*			2/24/1986	11:35	2/28/1986	11:30	95.91	3501 HEATER DRAIN PUMPS
521			Creek #8	000*	230		2/25/1986	19:00	2/26/1986		10.5	1850 SILICA-BLR WTR CONDITION
521			reek #8	000*	187		2/28/1986	11:00	2/28/1986	11:45	0.75	340 OTHER PULVERIZER PROBLEMS
521			reek #8			U1	3/7/1986	5:56	3/9/1986	10:40	52.73	1005 GENERATING TUBE
521			reek #8	000*	190	+- ···-—	3/13/1986	10:25	3/13/1986	17:00	6.58	340 OTHER PULVERIZER PROBLEMS
521			reek #8	000*	190	<u></u>	3/14/1986	10:45	3/14/1986	15:25	4.66	340 OTHER PULVERIZER PROBLEMS
521			reek #8	000*	190		3/15/1986	6:55	3/15/1986	17:00	10.08	250 PULVERIZER FEEDER
521			reek #8	000*	190		3/18/1986	8:00	3/18/1986	11:45	3.75	340 OTHER PULVERIZER PROBLEMS
521	188	Oak C	reek #8	000*		D1	3/20/1986	2:00	3/20/1986	6:12	4.19	9270 WET COAL
521	188	Oak C	reek #8	000*	55	D1	3/21/1986	7:25	3/22/1986	0:12	16.78	9270 WET COAL
521	188	Oak C	reek #8			U1	3/22/1986	0:12	3/22/1986	1:35	1.38	9900 OPERATOR ERROR
521	188	Oak C	reek #8	000*	55	D1	3/22/1986	1:35	3/22/1986	5:17	3.7	9270 WET COAL
521	188	Oak C	reek #8	•		PO	3/22/1986	5:17	5/3/1986	12:51	1015.56	1800 ANNUAL OUTAGE
521	188	Oak C	creek #8	•		МО	5/3/1986	19:17	5/4/1986	15:30	20.21	4261 SET CONTROL VALVES
521	188	Oak C	reek #8	000*	155	D1	5/5/1986	22:00	5/6/1986	13:30	15.5	3412 82 BFP MTR BRG VIB
521			reek #8	000.	155		5/6/1986	13:30	5/6/1986	15:30	2	330 81 MILL PULV COAL LEAK
521			Creek #8	000*	205		5/7/1986	4:30	5/7/1986	12:00	7.5	330 83 MILL PULV COAL LEAK
521			creek #8		_===	МО	5/9/1986	23:58	5/10/1986	23:56	23.96	4030 BALANCE TURBINE
521			Creek #8	000*	270		5/28/1986	2:00	5/28/1986		22	3441 86 HI PRESS HTR HEAD LEAK
521			reek #8	000-		PD	6/1/1986	5:30	6/1/1986	12:30	7	3415 FDWTR PUMP/DRIVE LUBE OIL SYS
521			reek #8	- 000	100	U1	6/4/1986	13:15	6/7/1986	18:41	77.43	1005 GENERATING TUBE
521			Creek #8	000*	170		6/12/1986	13:20	6/12/1986	20:20	77.70	3411 FEEDWATER PUMP MOTOR
521			Creek #8	000-	170		6/13/1986	19:45	6/15/1986	15:45	44	3411 82 FEEDWTR PUMP MTR
521			reek #8	000+	200		6/19/1986	15:27	6/19/1986	18:48	3.35	740 #83 BOILER BOOSTER PUMP
521			reek #8	*	200	U1	6/19/1986	14:28	6/19/1986	15:27	0.98	1799 BBP DIFF PRESS LOW TRIP
			reek #8			U2	6/20/1986		6/23/1986	0:50	53.48	1040 SUPERHEAT LEAK
521						U2	+	19:21			47.95	1040 SUPERHEAT LEAK
521			Creek #8				6/23/1986	22:16	6/25/1986	22:13		1005 GENERATING TUBE
521			reek #8			<u>U1</u>	7/15/1986	12:15	7/18/1986	9:39	69.4	
521			Creek #8	000*	275		7/28/1986	15:15	7/29/1986	1:45	10.5	9270 WET COAL
521			Creek #8	_ []		U1	7/30/1986	3:46	7/31/1986	4:37	24.85	1005 GENERATING TUBE
521			reek #8	000.	150		8/2/1986	0:01	8/2/1986	3:40	3.65	3415 81 FEEDWATER PUMP
521			reek #8			U1_	8/3/1986	4:21	8/4/1986	10:39	30.3	1005 GENERATING TUBE
521	188	Oak C	Creek #8	•		U2	8/15/1986	20:13	8/21/1986	8:01	131.8	1005 GENERATING TUBE LEAK

-					1		7= :	T						
- 1	521		ak Creek		000.	245		9/2/1986		9/2/1986	22:54	6.4		PULVERIZED COAL PIPE LEAK
1	521	188 O	k Creek	#8	•		МО	9/5/1986		9/6/1986		19.06		#81 LUBE OIL COOLER
	521		k Creek		*		U1	9/18/1986	1:55	9/20/1986	9:25	55.5	1070	SECOND REHEATER
. [521	188 O	k Creek	#8	000*	210		9/21/1986	14:37	9/21/1986	22:00	7.38	250	PULVERIZER FEEDER
	521	188 O	k Creek	#8	000*	265	D1	9/24/1986	5:35	9/24/1986	9:00	3.41	9250	LOW BTU COAL
ľ	521		k Creek		000*	200	D1	9/24/1986	9:00	9/24/1986	12:00	3	280	PULVERIZER FIRE-83 MILL
- }-	521	188 O	k Creek	#8	000*	225	D1	9/24/1986	12:00	9/25/1986	9:30	21.5		LOW BTU COAL
	521	188 Oa	k Creek	#8	000*	195	D1	9/25/1986		9/26/1986	3:00	17.5	310	PULVERIZER MILL
- 1	521	188 Oa	k Creek	#8	•		U1	9/25/1986	14:44	9/25/1986	16:34	1.83		PULVERIZER FEEDER PROBLEMS
F	521	188 Oa	k Creek	#8	000*	265		9/26/1986	3:00	9/28/1986	11:30	56.5		LOW BTU COAL
Ι.	521		k Creek		•	150	PD	10/4/1986	22:45	10/5/1986	9:40	10.91	3416	BFP OR SEAL WATER
	521	188 Oa	ık Creek	#8	•	235	D1	10/7/1986		10/7/1986	23:18	4.63		PARTICULATE STACK EMISSIONS
	521		k Creek		•	260		10/8/1986		10/10/1986		42.33		OPACITY-FOSSIL STEAM UNITS
-	521	188 Oa	k Creek	#8			U1	10/17/1986	10:07	10/20/1986	4:06	65.98		GENERATING TUBE
-	521		k Creek				МО	10/30/1986	21:38	10/31/1986	11:31	13.88	8560	PRECIPITATOR WIRE GROUND
-	521	188 Oa	k Creek	#8	•	260	D1	11/3/1986	8:15	11/3/1986	23:05	14.83		OPACITY
	521	188 Oa	k Creek	#8	•	175	D1	11/7/1986	12:45	11/7/1986	20:40	7.91		PULVERIZER FEEDER
-	521		k Creek		•	175		11/13/1986		11/13/1986		0.58		81 AIR HTR ELE MTR DRIVE CPLG
	521	188 Oa	k Creek	#8	*	135	D1	11/14/1986	6:16	11/14/1986	7:00	0.73		81 AIR HTR ELE MTR DRIVE CPLG
	521		k Creek		•	200		11/19/1986	20:30	11/20/1986		9.95		PULVERIZER FEEDER PROBLEM
	521		k Creek				U1	12/15/1986		12/15/1986	12:01	0.66		MAINTENANCE ERROR
-	521	188 Oa	k Creek	#8			U3	1/16/1987	21:17	1/17/1987	18:44	21.45		GENERATING TUBE
	521		k Creek		000*	190		1/19/1987	22:15	1/20/1987	8:40	10.41		PULVERIZER FEEDER
	521		k Creek				NC	1/26/1987	22:15	1/27/1987	3:27	5.2		PULVERIZER PROBLEM
	521		k Creek				NC	2/1/1987	5:30	2/1/1987	17:00	11.5		PULV FUEL & AIR PIPING
-	521		k Creek		-		PO	2/7/1987	2:53	3/20/1987		1005.11		ANNUAL OUTAGE
-	521	188 Oa	k Creek	#8			U1	3/20/1987	24:00:00	3/21/1987	12:45	12.75		STATOR COOLING SYSTEM
- 1"	521		k Creek				U1	3/22/1987	5:02	3/22/1987	11:53	6.85		HYDRAULIC OIL PROBLEM
- 1	521	188 Oa	k Creek	#8			U1	3/23/1987	19:34	3/23/1987	20:05	0.51		BURNER PROBLEMS
-	521		k Creek				МО	3/23/1987	21:53	3/25/1987	7:41	33.8		ELECTROSTATIC PRECIP PROBLEMS
}-	521		k Creek		000*	192		3/27/1987	12:00	3/29/1987	2:36	38.59	8560	ELECTROSTATIC PRECIP PROBLEMS
<u> </u>	521		k Creek				PO	3/29/1987	2:36	3/29/1987	4:43	2.11		TURB OVERSPEED TRIP TEST
-	521		k Creek		000*	200		3/29/1987	4:44	3/29/1987	22:00	17.26		ELECTROSTATIC PRECIP PROBLEMS
-	521		k Creek		000*	180		3/29/1987	22:00	4/3/1987	21:59	119.98		ELECTROSTATIC PRECIP PROBLEMS
-	521		k Creek		•		МО	4/3/1987	21:59	4/5/1987	22:01	48.03		ELECTROSTATIC PRECIP PROBLEMS
•	521		k Creek		000*	260		4/14/1987	17:00	4/16/1987	11:45	42.75		ELECTROSTATIC PRECIP PROBLEMS
	521		k Creek		000*	205		4/16/1987	11:45	4/21/1987	0:41	108.93		ELECTROSTATIC PRECIP PROBLEMS
	521		k Creek		•		МО	4/21/1987	0:41	4/24/1987	6:00	77.31	4264	COMBINED INTERCEPT VLVS
3	521		k Creek				МО	4/24/1987	6:00	4/25/1987	5:44	23.73		REPL SLAG WEAR STRIPS
P	521		k Creek		000*	220		4/28/1987	16:00	4/29/1987	2:25	10.41		PULV FEEDER
5	521		k Creek		000*	250		4/29/1987	13:45	4/29/1987	20:15	6.5		HEAT RATE TEST
WEPCO 40138	521		k Creek		† 	_===	NC	5/8/1987	23:00	5/10/1987	11:00	36		OTHER PULVERIZER PROBLEMS
013	521		k Creek				NC -	5/10/1987	15:15	5/10/1987	19:10	3.91		PULVERIZER MILLS
8	521	188 O	k Creek	#8	000.	260		5/13/1987	10:30	5/13/1987	14:05	3.58		HEATER DRAIN PMPS
	521	188 O	k Creek	#8	000*	265		5/14/1987	10:45	5/14/1987	12:15	1.5		HEATER DRAIN PMPS
	521		k Creek				NC	5/30/1987	23.00	5/31/1987	5:05	6.08		PULVERIZER COAL LEAK
_					ئـــــــــــــــــــــــــــــــــــــ									· · · · · · · · · · · · · · · · · · ·

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_	521	100	Oak Crack	40	000*	250	D1	6/8/1987	12:05	6/8/1987	12.50	0.75	3501 HTR DRN PMPS OOS
- 1-			Oak Creek		1		d		13:05		13:50	0.75	
	521		Oak Creek		000*	140	i	6/8/1987	17:00	6/8/1987	19:00	2	1457 CHANGE OIL IN 82 ID FAN
	521		Oak Creek		<u> </u>		U2	6/15/1987	0:29	6/16/1987	17:57	41.46	1040 SUPERHEAT LEAK
	521		Oak Creek				NC	6/17/1987	22:15	6/18/1987	6:00	7.75	310 PULVERIZER MILLS
-11	521		Oak Creek				NC	6/18/1987	22:15	6/19/1987	5:40	7.41	310 PULV MILLS #84 MILL PLOW & ROLL
- 1	521	188	Oak Creek	#8	*		RS	6/20/1987	1:32	6/20/1987	3:28	1.93	0 Reserve Shutdown
-	521	188	Oak Creek	#8	000.	210	D1	6/23/1987	22:45	7/2/1987	17:00	210.25	740 83 BBP
-	521	188	Oak Creek	#8	000*	145		7/2/1987	17:00	7/2/1987	20:17	3.28	8560 ELECTROSTATIC PRECIP PROBLEM
1	521	188	Oak Creek	#8	•		U2	7/2/1987	20:17	7/3/1987	4:17	8	8560 ELECTROSTATIC PRECIP PROBLEMS
	521	188	Oak Creek	#8	000*	210	D1	7/3/1987	4:17	7/5/1987	23:59	67.69	740 83 BLR BOOSTER PMP
Г	521	188	Oak Creek	#8	•		U2	7/7/1987	0:09	7/8/1987	12:02	35.88	1050 SECOND SUPERHEATER
- ["	521	188	Oak Creek	#8			NÇ	7/10/1987	0:15	7/10/1987	5:10	4.91	1410 FD FAN MOTORS
	521	188	Oak Creek	#8	000*	240	D1	7/10/1987	12:50	7/11/1987	0:42	11.86	9630 OPACITY FOSSIL STEAM UNITS
	521	188	Oak Creek	#8			NC	7/11/1987	0:42	7/11/1987	4:45	4.05	1410 FD FAN MOTORS
1-	521	188	Oak Creek	#8	000*	260	D1	7/11/1987	9:30	7/12/1987	1:50	16.33	9630 OPACITY FOSSIL STEAM UNITS
	521	188	Oak Creek	#8	1		NC	7/18/1987	2:00	7/18/1987	6:00	4	350 PULV FUEL AND AIR PIPING
	521		Oak Creek		000*	260		7/24/1987	12:15	7/25/1987	2:36	14.35	9630 OPACITY-FOSSIL STEAM UNITS
- 1	521		Oak Creek		•		U2	8/2/1987	5:38	8/3/1987	4:14	22.6	1005 GENERATING TUBE
į	521		Oak Creek		000*	220		8/6/1987	9:52	8/6/1987	11:40	1.8	8550 PRECIPITATOR FOULING
	521		Oak Creek		000*	210		8/6/1987	11:40	8/6/1987	23:00	11.33	8550 PRECIPITATOR FOULING
	521		Oak Creek		000.	190		8/7/1987	8:30	8/7/1987	14:05	5.58	8550 PRECIPITATOR FOULING
<u> </u> -	521		Oak Creek		000*	220		8/7/1987	14:05	8/8/1987	2:25	12.33	8550 PRECIPITATOR FOULING
-	521		Oak Creek		*		MO	8/8/1987	2:25	8/10/1987	3:35	49.16	8550 ELECTROSTATIC PRECIP FOULING
- -	521		Oak Creek		000*	240		8/13/1987	19:30	8/14/1987	6:00	10.5	8550 ELECTROSTATIC PRECIP FOULING
	521		Oak Creek		000*	270		8/14/1987	12:30	8/14/1987	22:00	9.5	8550 PRECIPITATOR FOULING
1-	521		Oak Creek		000*	270		8/14/1987	22:00	8/14/1987		2	9270 WET COAL
1-	521		Oak Creek		000*	250		8/15/1987	10:15	8/15/1987	13:30	3.25	9270 WET COAL
-	521		Oak Creek		000.	258		8/17/1987	8:00	8/17/1987	12:00	4	8550 PRECIP FOULING
-	521		Oak Creek		•		RS	8/28/1987	18:26	8/30/1987	17:11	46.75	0 Reserve Shutdown
-	521		Oak Creek		•		U3	9/2/1987	22:09	9/3/1987	12:00	13.85	8550 PRECIPITATOR FOULING.
-	521		Oak Creek				RS	9/3/1987	12:00	9/8/1987	4:00	112	0 Reserve Shutdown
	521		Oak Creek		 		U2	10/6/1987	22:09	10/8/1987	10:05	35.93	1050 SECOND SUPERHEATER TUBE LEAK
-	521		Oak Creek				SF	10/8/1987	10:05	10/8/1987	14:48	4.71	4420 HI VIBRATION 2 BRG
	521		Oak Creek		000*	180		10/10/1987	9:50	10/10/1987	19:58	10.13	8550 PRECIP FOULING
-	521		Oak Creek		000	100	MO	10/10/1987	19:58	10/11/1987	17:57	21.98	8550 ELECTROSTATIC PRECIP FOULING
1_							U1		4:24		4:55	0.51	9910 MAINTENANCE ERROR.
	521		Oak Creek					10/14/1987		10/14/1987		86.05	4261 CONTROL VALVES
	521		Oak Creek				MO	11/1/1987	7:56	11/4/1987	21:59		1005 GENERATING TUBE
S	521		Oak Creek		000	470	МО	11/13/1987	21:39	11/15/1987	9:29	35.83	1005 GENERATING TOBE
E	521		Oak Creek		000*	170		11/25/1987	7:00	11/25/1987	9:56	2.93	
WEPCO 40139	521		Oak Creek				MO	11/25/1987	9:56	11/29/1987		110.06	1005 GENERATING TUBE 8580 MECHANICAL PRECIP PROBLEMS
Ō	521		Oak Creek		ļ		МО	11/30/1987	20:08	12/1/1987	21:26	49.3	
40	521		Oak Creek				U2	12/3/1987	0:32	12/4/1987	2:42	26.16	1070 SECOND REHEATER TUBE
139	521		Oak Creek		000*	150		12/4/1987	13:18	12/4/1987	15:15	1.95	3410 73 LP BLR FD PMP
•	521		Oak Creek		ļ., <u>.</u>		RS	12/24/1987	2:26	12/31/1987		189.56	0 Reserve Shutdown
	521		Oak Creek		<u> </u>		RS	1/1/1988	0:01		24:00:00	47.98	0 Reserve Shutdown
<u></u>	521	188	Oak Creek	#8	<u> </u>		PO	1/3/1988	0:01	5/16/1988	21:52	3213.85	4400 ANNUAL OUTAGE

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	521	188	Dak (Creek #8	•		PO	5/16/1988	21:54	5/17/1988	4:37	6.71	4420 HIGH VIBRATION
- 1	521	188	Dak (Creek #8	•		PO	5/17/1988	4:57	5/17/1988	13:35	8.63	4420 HIGH VIBRATION
	521	188	Dak (Creek #8	-		PO	5/18/1988	11:27	5/19/1988	8:48	21.35	1999 BOILER FEED PROBLEMS
	521	188	Dak (Creek #8	•		PO	5/20/1988	1:22	5/20/1988	3:16	1.9	4400 ANNUAL OUTAGE.
] '	521			Creek #8	000*	130	D1	5/21/1988	2:10	5/21/1988	23:25	21.25	8560 ELECTROSTATIC PRECIP PROB.
}-	521			Creek #8			MO	5/21/1988	23:25	5/22/1988	14:21	14.93	8560 ELECTROSTATIC PRECIP PROB.
-	521			Creek #8	000*	215	D1	5/23/1988	12:00	5/23/1988	17:50	5.83	8560 ELECTROSTATIC PRECIP PROB.
- t-	521			Creek #8	000*	210		5/24/1988	10:15	5/24/1988	12:00	1.75	8560 ELECTROSTATIC PRECIP PROB.
	521			Creek #8	000*	255		6/3/1988	10:40	6/3/1988	14:45	4.08	4261 CONTROL VALVE
	521			Creek #8	000*	180		6/3/1988	14:45	6/3/1988	15:40	0.91	4261 #4 CONTROL VALVE
	521			Creek #8	1.		МО	6/8/1988	18:04	6/12/1988	20:35	98.51	4260 MAIN STOP VLVS STEAM STRAINERS
	521			Creek #8			МО	7/23/1988	20:31	7/24/1988	5:31	9	8560 PRECIP WIRE GROUND
1	521			Creek #8			PO	8/6/1988	22:09	8/7/1988	6:30	8.35	8560 PRECIPITATOR WIRE GROUND
-	521			Creek #8	1.	210		8/19/1988	2:00	8/19/1988	15:53	13.88	740 BOILER RECIRCULATION PUMPS
1-	521			Creek #8			МО	8/19/1988	15:53	8/20/1988	21:35	29.7	740 BLR RECIRCULATION PUMPS
	521			Creek #8			RS	8/22/1988	16:42	8/28/1988	12:05	139.38	0 Reserve Shutdown
	521			Creek #8			MO	9/15/1988	9:31	9/16/1988	22:16	36.75	1005 GENERATING TUBE
-		50		0.001. #0									DESUPERHEATER ATTEMPERATOR
	521	188	Dak (Creek #8		150	D1	9/17/1988	7:20	9/17/1988	11:45	4.41	620 PROB
ļ-	521			Creek #8		245		9/19/1988	10:12	9/19/1988	22:00	11.8	8560 ELECTROSTATIC PRECIP PROBLEM
	521			Creek #8		260		9/26/1988	13:09	9/26/1988	21:00	7.85	8560 ELECTROSTATIC PRECIP PROBLEMS
-	521			Creek #8			NC	10/1/1988	7:00	10/2/1988	4:00	21	1400 82 FORCED DRAFT FAN
<u> </u>	521			Creek #8			NC	10/2/1988	4:30	10/2/1988	14:55	10.41	1400 FORCED DRAFT FAN VIBRATION
- 1 -	521			Creek #8			NC	10/9/1988	5:30	10/9/1988	18:30	13	1400 FORCED DRAFT FAN VIBRATION
-	521			Creek #8			NC	10/15/1988	5:15	10/15/1988	16:00	10.75	1400 FORCED DRAFT FAN VIBRATION
-	521			Creek #8	000*	250		10/19/1988	8:15	10/19/1988	11:45	3.5	1799 OTHER CONTROL PROBLEMS
- }-	521			Creek #8	000		NC	10/26/1988	0:45	10/26/1988	6:15	5.5	350 REPLACING COAL PIPE
-	521			Creek #8	000*	164		10/26/1988	6:15	10/26/1988	6:34	0.31	350 REPLACING COAL PIPE
-	521			Creek #8	000*	210		11/1/1988	11:55	11/1/1988	12:25	0.5	250 PULVERIZER FEEDER
-	521			Creek #8	000*	210		11/2/1988	9:40	11/2/1988	9:52	0.2	250 PULVERIZER FEEDER
· -	521			Creek #8	000.	200		11/5/1988	9:57	11/6/1988	3:15	17.29	250 PULVERIZER FEEDER
-	521			Creek #8	•		MO	11/6/1988	3:15	11/6/1988	20:29	17.23	1510 FLUE GAS DUCTS
 	521			Creek #8	000*	245		11/7/1988	7:45	11/7/1988	15:25	7.66	1850 BOILER WATER QUALITY
-	521			Creek #8	000		NC	11/13/1988	7:00	11/13/1988	13:30	6.5	3415 FEEDWATER PUMP LUBE OIL SYS
-	521			Creek #8			NC	11/13/1988	16:17	11/13/1988	18:50	2.55	3415 FEEDWATER PUMP LUBE OIL SYS
-	521			Creek #8	000*	265		11/17/1988	7:04	11/18/1988	2:00	18.93	1799 OTHER CONTROL PROBLEMS
	521			Creek #8	- 000		NC	11/28/1988	23:45	11/29/1988	4:00	4.25	330 PULVERIZER COAL LEAK
	521			Creek #8			MO	12/1/1988	23:48	12/4/1988	21:05	69.28	1510 FLUE GAS DUCTS
_	521			Creek #8	000*	210		12/5/1988	3:40	12/5/1988	10:30	6.83	740 81 BLR BOOSTER PUMP FAILURE
¥	521			Creek #8	000-	150		12/5/1988	10:30	12/6/1988	19:58	33.46	8560 PRECIPITATOR PROBLEMS
P	521			Creek #8	- 000		МО	12/6/1988	19:58	12/7/1988	7:53	11.91	8560 PRECIPITATOR PROBLEMS
\mathcal{C}	521			Creek #8			NC	12/23/1988	21:50	12/24/1988	19:40	21.83	350 PULV FUEL & AIR PIPING
40	521			Creek #8	000*	200		12/28/1988	8:00	12/31/1988		88	310 #82 MILL VIBRATION
WEPCO 40140	ا عن	!	Jan	CIGGN #0		<u>-</u> <u>-</u> <u>U</u> U	יט	12/20/1900	3.00	12/01/1900	24.00.00		#82 MILL VIBRATION (STARTED
0	521	188)ak	Creek #8		200	D1	1/1/1989	0:00	1/1/1989	0:30	0.5	310 12/28 08:00)
	521			Creek #8		200		1/1/1989	15:45	1/2/1989	11:30	19.75	310 #82 MILL VIBRATION
	321	100	o an	CIECK #U		200	الك	1/1/1303	10.70	11611303	11.30	13.73	OTO HOL MILE VIDINATION

Г	521	100	Oak Creek #8	T.	1	U1	1/11/1000	10:40	1/14/1000	00.00	75.00	1050	O'IDEDUCAT DENDANT FAILUDE
-				 -	 	1 -	1/11/1989	19:40	1/14/1989	23:00	75.33		SUPERHEAT PENDANT FAILURE
- 1	521		Oak Creek #8		<u> </u>	RS	1/14/1989	23:00	1/15/1989	21:25	22.41		Reserve Shutdown
-	521		Oak Creek #8	ļ <u>.</u>	122	U1	2/7/1989	8:43	2/7/1989	10:08	1.41		OTHER ID FAN PROBLEMS
-	521		Oak Creek #8	ļ <u> </u>	180	···	3/7/1989	17:40	3/7/1989	18:20	0.66		#84 GRAVIMETRIC FEEDER
-	521		Oak Creek #8	ļ		U1	3/13/1989	15:44	3/13/1989	16:43	0.98		GENERATOR VIBRATION
	521		Oak Creek #8	1*		U1	3/14/1989	14:53	3/14/1989	15:30	0.61		GENERATOR VIBRATION
_	521		Oak Creek #8		240		3/18/1989	10:20	3/19/1989	9:30	23.16		LOW BTU COAL
	521		Oak Creek #8	•	205		3/30/1989	6:58	3/30/1989	9:07	2.15		MILL PROBLEM
	521		Oak Creek #8	*	240		4/6/1989	8:09	4/6/1989	16:00	7.85		PRECIPITATOR PROBLEM
_	521		Oak Creek #8	•		МО	4/16/1989	0:51	4/16/1989	9:24	8.55		PRECIP GROUNDS
	521		Oak Creek #8	*		МО	5/6/1989	23:46	5/7/1989	12:24	12.63		PRECIPITATOR PROBLEM
-	521	188	Oak Creek #8	<u> </u>	<u></u>	U2	5/30/1989	11:30	5/31/1989	6:21	18.85		GENERATING TUBE
	521		Oak Creek #8	<u> • </u>	220		6/6/1989	9:54	6/6/1989	11:00	1.1		PRECIPITATOR PROBLEM
- 1_	521	188	Oak Creek #8	 *		PO	6/16/1989	18:38	6/29/1989	18:12	311.56	1800	ANNUAL OUTAGE
	521	188	Oak Creek #8	•		RS	7/1/1989	0:41	7/2/1989	7:59	31.3	0	Reserve Shutdown
	521	188	Oak Creek #8	*		SF	7/2/1989	7:59	7/2/1989	12:43	4.73	4040	TURBINE BRGS
	521	188	Oak Creek #8	*	<u> </u>	RS	7/28/1989	23:55	7/30/1989	21:36	45.68	0	Reserve Shutdown
	521	188	Oak Creek #8	*	105	D1	9/4/1989	9:38	9/5/1989	0:01	14.38		ASH HANDLING
1	521	188	Oak Creek #8	•		RS	11/4/1989	1 16	11/5/1989	18:59	41.71		Reserve Shutdown
-					·		<u> </u>						OTHER CONTROL PROBLEMS 000000
	521	188	Oak Creek #8	•		SF	11/5/1989	19:58	11/5/1989	20:18	0.33	1799	000000
-													83 BLR CIRC PMP MTR PROBL540000
- 1	521	188	Oak Creek #8	•	210	D1	11/16/1989	17:28	11/18/1989	20:05	50.61	740	000000
	521		Oak Creek #8	·		RS	11/17/1989	23:53	11/18/1989	20:05	20.2		Reserve Shutdown
-				† - -									83 BLR CIRC PMP MTR FAILU950000
	521	188	Oak Creek #8	•		мо	11/18/1989	20:05	11/20/1989	22:14	50.15	740	000000
	521	188	Oak Creek #8	•		RS	2/9/1990	22:27	2/10/1990	8:44	10.28	0	Reserve Shutdown
-	521		Oak Creek #8			RS	3/21/1990	22:02	3/22/1990	6:00	7.96		Reserve Shutdown
- [521	188	Oak Creek #8	•		PO	4/20/1990	20:49	4/29/1990	9:56	205.11	1800	PLANNED MAINTENANCE OUTAGE
	521		Oak Creek #8	•		МО	5/4/1990	23:55	5/7/1990	4:14	52.31		SECOND SUPERHEATER
	521		Oak Creek #8	•		MO	5/11/1990	22:15	5/13/1990	17:15	43	1090	WRAPPER TUBE LEAK
-	521	188	Oak Creek #8	•		U1	5/15/1990	6:18	5/15/1990	10:26	4.13	1799	OTHER CONTROL PROBLEMS
	521		Oak Creek #8	*	190		5/22/1990	10:55	5/22/1990	15:26	4.51		ECONOMIZER LEAK
	521		Oak Creek #8			МО	5/22/1990	15:26	5/23/1990	13:16	21.83		ECONOMIZER LEAK
†-	521		Oak Creek #8	1		RS	6/2/1990	0:51	6/3/1990	18:48	41.95		Reserve Shutdown
-	521		Oak Creek #8	•		RS	7/14/1990	7:55	7/15/1990	20:12	36.28	•	Reserve Shutdown
	521		Oak Creek #8	•	200		8/3/1990	16:47	8/3/1990	17:45	0.96		480V CIRCUIT BREAKER
	521		Oak Creek #8			U1	9/7/1990	23:50	9/9/1990	22:23	46.55		FIRE PROTECTION SYS PIPING
	521		Oak Creek #8	000*	150		10/9/1990	8:00	10/9/1990	10:30	2.5		CONDENSER TUBE FOULING
¥	521		Oak Creek #8	1.		RS	11/21/1990	22:15	11/25/1990	20:34	94.31		Reserve Shutdown
Ä	:			 								-	CONDENSER TUBE FOULING TUBE
0	521	188	Oak Creek #8	000*	200	D1	12/4/1990	17:50	12/4/1990	19:30	1.66	3112	SIDE
40	521		Oak Creek #8	1		NC	12/10/1990	22:27	12/11/1990	5:00	6.55	3415	82 BFP DRIVE LUBE OIL SYS
WEPCO 40141	521		Oak Creek #8	•		RS	12/13/1990	21:02	12/14/1990	5:53	8.85		Reserve Shutdown
	521		Oak Creek #8	•	210		2/12/1991	17:30	2/12/1991	20:50	3.33		PULVERIZER MILLS
	521		Oak Creek #8			PO	2/23/1991	2:56	6/12/1991	13:35	2626.65		PLANNED MAINTENANCE OUTAGE
	<u> </u>	.00	Can Oloca no	1		<u> </u>	1 22011331	2.50	G 12/1001	. 5.55	2020.00	.000	. =

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	521	199	Oak	Creek #8	000*	140	PD	6/12/1991	13:35	6/12/1991	13:55	0.33	1710 COMBUSTION CONTROLS
- 1	521			Creek #8			PO	6/12/1991	13:55	6/12/1991	20:19	6.4	4240 BEARINGS
- }	521			Creek #8	000*	140		6/12/1991	20:19	6/12/1991	21:03	0.73	1710 COMBUSTION CONTROLS
	521			Creek #8	- 1000	140	PO	6/12/1991	21:03	6/12/1991	22:30	1.45	4240 BEARINGS
- {	521			Creek #8	000*	140		6/12/1991	22:30	6/13/1991	3:36	5.1	1710 COMBUSTION CONTROLS
	521			Creek #8	•	150	PO	6/13/1991	3:36	6/13/1991	10:17	6.68	480 OTHER OIL FUEL SUPPLY PROBLEMS
-					000*	140			10:17	6/13/1991	17:51	7.56	1710 COMBUSTION CONTROLS
+	521			Creek #8	000	140	PO	6/13/1991			18:35		4240 BEARINGS
-	521			Creek #8	000*	140		6/13/1991	17:51	6/13/1991 6/14/1991		0.73	
- -	521			Creek #8	000*	140	PO	6/13/1991	18:35 1:30		1:30	6.91	1710 COMBUSTION CONTROLS 4240 BEARINGS
	521			Creek #8				6/14/1991		6/16/1991	23:59	70.48	
-	521			Creek #8	<u>-</u>		U1	6/16/1991	23:59	6/17/1991	2:39	2.66	4240 BEARINGS
	521			Creek #8			U1	6/17/1991	4:48	6/17/1991	6:01	1.21	4240 BEARINGS
	521			Creek #8			U1	6/17/1991	10:32	6/17/1991	11:08	0.6	1700 FEEDWATER CONTROLS
	521			Creek #8	000*	140		6/18/1991	0:01	6/18/1991	13:32	13.51	1710 COMBUSTION CONTROLS
_				Creek #8			U1	6/18/1991	13:32	6/18/1991	16:31	2.98	4609 OTHER EXCITER PROBLEMS
-	521	+		Creek #8			U1	6/18/1991	17:18	6/19/1991	3:11	9.88	4240 BEARINGS
L	521			Creek #8	-		U1	6/19/1991	3:23	6/19/1991	5:41	2.3	1475 INDUCED DRAFT FAN CONT.
-	521			Creek #8	000*	140		6/19/1991	5:41	6/19/1991	13:18	7.61	1710 COMBUSTION CONTROLS
- -	521			Creek #8			U1	6/19/1991	13:18	6/19/1991	18:36	5.3	1470 ID FAN MOTORS & DRIVERS
	521			Creek #8	000*	140		6/20/1991	18:36	6/21/1991	0:01	5.41	1710 COMBUSTION CONTROLS
_	521			Creek #8	000*	200		6/21/1991	0:01	6/21/1991	21:39	21.63	1710 COMBUSTION CONTROLS
_	521			Creek #8			МО	6/21/1991	21.39	6/21/1991	22:30	0.85	4460 TURBINE OVERSPEED TRIP TEST
_	521			Creek #8	000*	220	D1	6/21/1991		6/21/1991	23:08	0.63	1710 COMBUSTION CONTROLS
L.	521			Creek #8			U1	6/21/1991	23:08	6/22/1991	8:58	9.83	4240 BEARINGS
_	521			Creek #8	000*	220		6/22/1991	8:58	6/24/1991	8:00	47.03	1710 COMBUSTION CONTROLS
	521			Creek #8			MO	6/24/1991	16 28	6/24/1991	23:15	6.78	4261 CONTROL VALVES
1_	521			Creek #8	000.	180		6/24/1991	23 15	6/25/1991	13:50	14.58	1455 IN FANS
	521			Creek #8			U1	6/25/1991	13 50	6/25/1991	14:32	0.7	1470 ID FAN MTRS AND DRIVES
	521			Creek #8	000.	180	D1	6/25/1991	14.32	6/25/1991	15:23	0.85	1455 ID FANS
	521			Creek #8	·		U1	6/25/1991	15:23	6/25/1991	21:41	6.3	1415 FD FAN CONTROLS
_	521			Creek #8	000*	180		6/25/1991	21:41	6/27/1991	5:20	31.65	1455 ID FANS
	521			Creek #8	000*	265		6/27/1991	5:20	6/27/1991	10:00	4.66	1710 COMBUSTION CONTROLS
L	521			Creek #8	*		RS	7/4/1991	0:03	7/8/1991	17:23	113.33	0 Reserve Shutdown
	521			Creek #8	*		U1	7/9/1991	7:14	7/9/1991	7:56	0.7	4240 BEARINGS
- 1	521			Creek #8	*		RS	7/13/1991	3:23	7/14/1991	23:19	43.93	0 Reserve Shutdown
	521			Creek #8	000*	180		7/14/1991	23:19	7/15/1991	20:30	21.18	265 ID FAN
	521			Creek #8	*		U1_	7/17/1991	8:54	7/17/1991	9:34	0.66	1710 COMBUSTION CONTROL
_	521			Creek #8		Ĺ	NC	7/27/1991	19:00	7/28/1991	10:30	15.5	3812 SERVICE WATER VALVES
₹	521			Creek #8	*		RS	8/2/1991	23:42	8/12/1991	1:38	217.93	0 Reserve Shutdown
P (521			Creek #8	-		U1	8/13/1991	10:28	8/13/1991	11:15	0.78	1710 COMBUSTION CONTROL
O	521			Creek #8	. , •		RS	9/5/1991	23:25	9/6/1991	6:30	7.08	0 Reserve Shuldown
40	521			Creek #8	• -		SF	9/6/1991	6:30	9/6/1991	7:46	1.26	1710 COMBUSTION CONTROLS
WEPCO 40142	521			Creek #8	000*	160	D1	9/6/1991	10:00	9/6/1991	12:00	2	310 PULVERIZER MILLS
2	521			Creek #8	•		U1	9/18/1991	2:50	9/18/1991	3:34	0.73	1710 COMBUSTION CONTROLS
	521			Creek #8			U1	9/20/1991	2:10	9/20/1991	2:48	0.63	4260 MAIN STOP VALVES
_	521	188	Oak	Creek #8	•		U1	10/1/1991	23:59	10/2/1991	0:53	0.9	1710 COMBUSTION CONTROLS

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	1	15				,		,	· · · · · · · · · · · · · · · · · · ·				,
521	1		Creek #8			U1	10/2/1991	6:13	10/2/1991	7:05	0.86		COMBUSTION CONTROLS
521			Creek #8	•		U1	10/14/1991	8:39	10/14/1991	9:31	0.86	9910	MAINTENANCE ERROR
521	188	Oak	Creek #8	*		U1	10/14/1991	9:42	10/14/1991	10:26	0.73	4240	BEARINGS
521	188	Oak	Creek #8	•		U1	10/14/1991	10:39	10/14/1991	13:56	3.28	4240	BEARINGS
521	188	Oak	Creek #8	000*	115	D1	11/1/1991	7:15	11/1/1991	13:41	6.43		CONDENSER TUBE FOULING
521			Creek #8			U1	11/1/1991	13:41	11/1/1991	19:33	5.86		CONDENSER TUBE FOULING
521			Creek #8	000.	180		11/2/1991	9:00	11/2/1991	9:45	0.75	3112	CONDENSER TUBE FOULING
521		1	Creek #8			U1	11/5/1991	0:05	11/5/1991	1:21	1.26		COMBUSTION CONTROLS
521			Creek #8	•		U1	11/21/1991	11:27	11/21/1991	12:46	1.31		COMBUSTION CONTROLS
521			Creek #8	000*	200		11/27/1991	7:00	11/27/1991	10:00	3		ID FAN PROBLEMS
521			Creek #8	•		RS	11/28/1991	7:03	12/1/1991	23:36	112.55		Heserve Shutdown
521		·	Creek #8	:		U2	12/14/1991	10:52	12/14/1991	13:52	3		CONBUSTION CONTROLS
521		1	Creek #8	000*	185		1/23/1992	16:45	1/23/1992	18:30	1.75		TURBINE GOVERNING SYSTEM
<u> </u>			Creek #8	*		RS		+					
521							2/14/1992	22:30	2/17/1992	0:05	49.58		Reserve Shutdown
521			Creek #8			U1	3/2/1992		3/2/1992	21:07	3.98		CONDENSER TUBE FOULING
521			Creek #8			RS	3/14/1992		3/14/1992	6:00	5		Reserve Shutdown
521	·		Creek #8			МО	3/14/1992	6:00	3/14/1992	12:30	6.5		FIRST SUPERHEATER LEAK
521			Creek #8			МО	3/14/1992	12:30	3/16/1992	0:12	35.7		PRIMARY AIR HEATER
521			Creek #8	*		U1	3/27/1992	13:30	3/27/1992	14:46	1.26		BEARINGS
521			Creek #8			RS	5/1/1992	23:58	5/4/1992	0:32	48.56		Reserve Shutdown
521	188	Oak	Creek #8	•		U1	5/21/1992	5:06	5/21/1992	5:49	0.71		PULVERIZER MILLS
521	188	Oak	Creek #8			NC	5/24/1992	0:01	5/24/1992	21:30	21.48	3311	CONDENSATE/HOTWELL PMP MTR
521	188	Oak	Creek #8			RS	5/30/1992	20:06	5/31/1992	15:30	19.4	0	Reserve Shutdown
521	188	Oak	Creek #8	000*	200	D1	6/13/1992	8:10	6/13/1992	9:58	1.8	250	PULV FDR-82 FEEDER BELT
521	188	Oak	Creek #8	•		U1	6/20/1992	13:08	6/20/1992	13:55	0.78	9910	MAINTENANCE ERROR
521	188	Oak	Creek #8	•		RS	7/2/1992	21:33	7/7/1992	5:41	104.13	0	Reserve Shutdown
521	188	Oak	Creek #8	*	_	RS	7/11/1992	1:35	7/11/1992	5:12	3.61	0	Reserve Shutdown
521	188	Oak	Creek #8	*		U1	7/11/1992	5:36	7/11/1992	6:14	0.63	4240	BEARINGS
521	188	Oak	Creek #8	*	-	RS	7/12/1992		7/12/1992	8:03	4.61		Reserve Shutdown
521	188	Oak	Creek #8	*		RS	7/19/1992	9:04	7/19/1992	10:34	1.5	0	Reserve Shutdown
521	188	Oak	Craek #8			U1	7/19/1992	11:35	7/19/1992	12:00	0.41	3414	FEEDWATER PUMP CONTROLS
521	188	Oak	Creek #8	•		RS	7/20/1992	20:12	7/26/1992	13:09	136.95		Reserve Shutdown
521			Creek #8			U1	8/30/1992	10:52	8/30/1992	12:01	1.15		COMBUSTION CONTROLS
521			Creek #8	•		U1	10/15/1992	15:45	10/15/1992	16:45	1		COMBUSTION CONTROLS
521			Creek #8	1		RS	10/17/1992	22:27	10/18/1992	18:25	19.96		Reserve Shutdown
		-	0.00K #0		·		10/1//1002		10/10/1002	10.20		1	CONDENSER TUBE & WTRBX
521	199	Oak	Creek #8	000-	240	D1	11/2/1992	11:05	11/2/1992	12:00	0.91		CLEANING
521			Creek #8	000*	240		11/4/1992	8:45	11/4/1992	10:30	1.75		PULVERIZER FEEDER
-:		4	Creek #8	000*	240		11/18/1992	7:30	11/18/1992	10:40	3.16		PULVERIZER FEEDER
€ <u>-321</u> ₹ 521			Creek #8	- 000		U1	11/20/1992	2:38	11/20/1992	3:58	1.33		OTHER PULVERIZER PROBLEMS
521 521 521 521 521 521 521			Creek #8			<u>U1</u> U1			11/20/1992				OTHER PULVERIZER PROBLEMS OTHER PULVERIZER PROBLEMS
2 221			Creek #8	000*			11/20/1992	5:12		6:00	0.8 3.55		GLAND SEAL SYSTEM
521				1000	160		11/25/1992	10.25	11/25/1992	13:58			
521			Creek #8	-		MO	11/25/1992		11/26/1992	5:15	15.28		GLAND SEAL SYSTEM
			Creek #8			RS	11/26/1992	5:15	11/27/1992	5:00	23.75		Reserve Shuldown
521		1	Creek #8			SF	11/27/1992	5:00	11/27/1992	10:31	5.51		TURBINE BEARING VIBRATION
521	188	Oak	Creek #8			U1	11/29/1992	3:17	11/29/1992	4:43	1.43	410	OTHER BURNER PROBLEMS

							, 						, , , , , , , , , , , , , , , , , , ,
521	188	Oak (Creek #8	*		RS	11/29/1992	21:48	11/30/1992	6:24	8.6	0	Reserve Shutdown
521	188	Oak (Creek #8	•		RS	1/1/1993	0:28	1/3/1993	0:01	47.55	0	Reserve Shutdown
521	188	Oak (Creek #8	000*	٠	PO	1/3/1993	0:01	2/13/1993	13:48	997.78	1800	PLANNED MAINTENANCE OUTAGE
521			Creek #8	000*	*	PO	2/14/1993	1:48	2/14/1993	3:00	1,2		COMBUSTION CONTROLS
521		L	Creek #8	*		U1	2/24/1993	16:34	2/24/1993	17:00	0.43		COMBUSTION CONTROLS
521			Creek #8	•		SF	2/24/1993	17:00	2/24/1993	18:45	1.75		LIGHT-OFF SYSTEMS
521			Creek #8			MO	3/6/1993	0:49	3/8/1993	2:57	50.13		MAIN STOP VALVES
521			Creek #8	000*	240		3/12/1993	17:00	3/13/1993	5:00	12		PULVERIZER FEEDER MOTOR
521			Creek #8	000*	240		3/13/1993	10:00	3/13/1993	13:00	3		PULVERIZER FEEDER MOTOR
521	188	Oak (Creek #8			U1	3/13/1993	16:42	3/13/1993	17:46	1.06		COMBUSTION CONTROLS
521			Creek #8			NC	3/13/1993	21:30	3/14/1993	7:00	9.5		PULVERIZER MILLS
521			Creek #8	*		U2	3/17/1993	12:03	3/20/1993	6:25	66.36		SECOND REHEATER
521			Creek #8	•		U1	3/24/1993	7:25	3/24/1993	8:57	1.53		COMBUSTION CONTROLS
521			Creek #8			U1	4/9/1993	12:21	4/9/1993	13:33	1.2		WET COAL
521			Creek #8		130		4/16/1993	6:00	4/16/1993	7:00	1		HOTWELL LEVEL CONTROLS
521			Creek #8		200		5/12/1993	9:55	5/12/1993	12:00	2.08		OTHER ID FAN PROBLEMS
521			Creek #8			U1	5/26/1993	1:35	5/26/1993	2:30	0.91		COMBUSTION CONTROL
- <u>-</u>	100	Ou.,	<u> </u>			<u> </u>	0/20/1000		0/20/1000		0.51	17,10	OTHER COAL FUEL SUPPLY
521	188	Oak (Creek #8	1.	265	D1	6/8/1993	10:50	6/8/1993	12:00	1.16	110	PROBLEMS
521			Creek #8	•		MO	6/19/1993	0:42	6/19/1993	6:14	5.53		OTHER BOILER CONTROL PROBLEMS
521			Creek #8			U1	6/22/1993	1:34	6/22/1993	3:18	1.73		COMBUSTION CONTROL
521			Creek #8			U2	6/27/1993	8:58	6/27/1993	20:24	11.43		HYDRAULIC SYSTEM PIPES & VLVS
-321	100	Oak (JICCK #O			02	0/27/1000		0/2//1000			4230	LOSS OF VACUUM-OTHER
521	188	Oak (Creek #8			U1	6/27/1993	23:30	6/28/1993	3:44	4.23	3149	COMPONENTS
521			Creek #8			U1	7/2/1993	12:43	7/2/1993	13:25	0.7		OPERATOR ERROR
521			Creek #8	000*	280		7/6/1993	7:00	7/6/1993	12:00	5		PULVERIZER MILLS
521			Creek #8	*		U1	8/2/1993	0:07	8/2/1993	1:23	1.26		COMBUSTION CONTROL
521	4		Creek #8			MO	8/13/1993	23:20	8/16/1993	1:33	50.21		GENERATING TUBE
521			Creek #8			MO	8/20/1993	20:07	8/23/1993	5:00	56.88		FIRST REHEATER
521			Creek #8			U2	9/23/1993	16:29	9/26/1993	2:05	57.6		SECOND REHEATER
521			Creek #8			U2	10/13/1993	9:49	10/13/1993	11:57	2.13		MAIN TRANSFORMER
521			Creek #8	•		U1	11/9/1993	0:36	11/9/1993	1:10	0.56		ELECTRICAL SWITCHING ERROR
521			Creek #8	000*	145		11/11/1993	16:33	11/11/1993	18:15	1.7		OTHER ID FAN PROBLEMS
521			Creek #8	000*	240		12/6/1993	16:35	12/6/1993	18:20	1.75		PULVERIZER FEEDER
521			Creek #8	•		U1	12/16/1993	2:38	12/16/1993	3:20	0.7		MAINTENANCE ERROR
521			Creek #8	000*	280		2/2/1994	4:30	2/2/1994	20:45	16.25		PULVERIZER MOTOR
521			Creek #8	- 1000		RS	2/4/1994	23:34	2/5/1994	12:19	12.75		Reserve Shutdown
521			Creek #8			RS	2/5/1994	20:03	2/6/1994	3:23	7.33		Reserve Shutdown
521			Creek #8			U1	2/7/1994	5:45	2/7/1994	6:35	0.83		MAIN STOP VALVES
			Creek #8	000*	145		2/11/1994	13:26	2/11/1994	14:00	0.56		ID FAN MOTORS-VARIABLE SPEED
521 521				000*	280		2/11/1994	23:00	2/27/1994	9:20	58.33		PULVERIZER MILL
			Creek #8							14:35	1.58		PULVERIZER MILL PULVERIZER FEEDER
521	108	Oak (Creek #8	000*	250	UZ	3/2/1994	13:00	3/2/1994	14:35	1.08		MAINTENANCE ERROR (DC
2 501	100	Oct	01- "0	1.			0/0/4004	10.44	0/0/1001	40.04	4 00		
521			Creek #8			U1	3/8/1994	10:41	3/8/1994	12:31	1.83		SWITCHING)
521	188	Oak (Creek #8	T	Ì	NC	3/13/1994	0:30	3/14/1994	4:00	27.5	1455	ID FANS

			GADS	Data for	Wisconsin Elec	tric Pow	er Co.				
Utility	Unit			Event				····	Duration	Cause	
#	#	Unit Name	GAC NAC		Start of event		end of event	·	in hours		Description of event
521		Oak Creek #5	200	D1	1/4/1975	5:00		16:35	11.58	3440	
521		Oak Creek #5	126	D1	1/7/1975	20:45	1/8/1975	2:15	5.5	1455	
521	+·	Oak Creek #5	130	D1	1/10/1975	2:00	1/10/1975	4:00	2	1999	
521	158	Oak Creek #5	130	D1	1/12/1975	1:50	1/12/1975	3:30	1.66	3410	
521	158	Oak Creek #5	230	D1	1/13/1975	20:00	1/14/1975	0:30	4.5	1440	
521		Oak Creek #5	200	D1	1/17/1975	12:01	1/18/1975	6:00	17.98	3441	
_521		Oak Creek #5		U1	1/20/1975	0:54	1/21/1975	2:07	25.21	1040	
521		Oak Creek #5	126	D1	1/21/1975	7:50	1/23/1975	5:30	45.66	340	
521		Oak Creek #5	186	D1	1/23/1975	18:30	1/24/1975	12:10	17.66	3440	
521		Oak Creek #5		U1	1/23/1975	22:11	1/24/1975	8:30	10.31	3170	
521		Oak Creek #5	210	D1	1/29/1975	23:00	1/31/1975	1:00	26	3999	
521		Oak Creek #5		U1	1/31/1975	1:00	2/1/1975	5:05	28.08	1040	
521		Oak Creek #5	216	D1	2/4/1975	6:10	2/4/1975	8:45	2.58	3999	
521		Oak Creek #5	210	D1	2/5/1975	0:01	2/5/1975	8:00	7.98	3999	
521		Oak Creek #5	126	D1	2/5/1975	8:20	2/6/1975	3:00	18.66	3440	
521		Oak Creek #5	190	D1	2/11/1975	4:30	2/12/1975	5:00	24.5	3440	
521		Oak Creek #5		U1	2/14/1975	4:10	2/14/1975	22:23	18.21	1000	
521		Oak Creek #5	126	D1	2/14/1975	22:23	2/16/1975	20:00	45.61	340	
521		Oak Creek #5	126	D1	2/17/1975	8:40	2/20/1975	10:30	73.83	340	·
521	158	Oak Creek #5		PO	2/22/1975	6:32	3/14/1975	15:44	489.2	1999	
521		Oak Creek #5		U1	3/16/1975	1:06	3/16/1975	6:24	5.3	1999	
521		Oak Creek #5		U1	3/18/1975	23:10	3/20/1975	1:27	26.28	1080	
521		Oak Creek #5	121	D1	3/22/1975	20:30	3/22/1975	23:00	2.5	340	
521		Oak Creek #5	126	D1	3/30/1975	7:00	3/30/1975	19:00	12	340	
521		Oak Creek #5		U1	3/30/1975	22:35	3/31/1975	23:34	24.98	1080	
521		Oak Creek #5	151	D1	3/31/1975	23:34	4/4/1975	22:35	95.01	1486	
521		Oak Creek #5		U1	4/4/1975	22:35	4/6/1975	14:49	40.23	1486	
521		Oak Creek #5	225	D1	4/6/1975	14:50	4/9/1975	13:15	70.41	1486	
521		Oak Creek #5	192	D1	4/19/1975	0:01	4/19/1975	16:30	16.48	3440	
521		Oak Creek #5	67	PD	4/19/1975	7:30	4/19/1975	20:00	12.5	1999	
521		Oak Creek #5	125	D1	5/3/1975	3:35	5/9/1975	5:30	145.91	340	
521		Oak Creek #5	150	D1	5/10/1975	8:00	5/10/1975	12:00	4	340	
521		Oak Creek #5	145	D1	5/18/1975	7:00	5/18/1975	16:15	9.25	340	
521		Oak Creek #5	220	D1	5/19/1975	13:00	5/22/1975	23:00	82	3999	
521		Oak Creek #5		U1	5/23/1975	22:42	5/26/1975	20:29	69.78	1040	
521		Oak Creek #5		U1	5/28/1975	22:53	5/30/1975	3:55	29.03	1040	
521		Oak Creek #5	189	D1	6/3/1975	5:45	6/3/1975	22:20	16.58	3440	
521		Oak Creek #5	124	D1	6/7/1975	7:30	6/8/1975	17:05	33.58	340	
521		Oak Creek #5	200	D1	6/13/1975	10:10	6/16/1975	2:09	63.98	850	
521		Oak Creek #5		U1	6/14/1975	0:50	6/16/1975	2:09	49.31	1060	
521		Oak Creek #5	190	D1	6/17/1975	12:30	6/18/1975	5:45	17.25	3440	
521	158	Oak Creek #5		U1	6/22/1975	0:39	6/22/1975	20:12	19.54	1060	

ig.

Γ_														OTHER INDUCED DRAFT FAN
ł		400		-1. 40		470	D4	44404004	40.00	4494994	47.45			OTHER INDUCED DRAFT FAN
- }.	521			eek #8	000*	170		4/18/1994	16:00	4/18/1994	17:45	1.75		PROBLEMS
- 1	521			eek #8	ļ <u>.</u>		U1	6/12/1994	19:00	6/12/1994	22:04	3.06		COMBUSTION CONTROLS
	521			eek #8	ļ		U1	6/17/1994	22:16	6/23/1994	14:44	136.46		GENERATING TUBE
_	521			eek #8			U3	7/1/1994	20:52	7/4/1994	11:58	63.1		SECOND REHEATER
_	521	_ : _ : _ : _ : _ : _ : _ : _ : _ : _ :		eek #8	*		U1	7/11/1994	15:17	7/11/1994	16:45	1.46	1470	ID FAN MOTORS AND DRIVES
	521	188 O	ak Cr	eek #8	000,			7/15/1994	10:03	7/15/1994	11:15	1.2		ID FAN - MOTORS & DRIVES
	521			eek #8	000*	165		7/18/1994	15:34	7/18/1994	16:35	1.01		OTHER ID FAN PROBLEMS
1	521			eek #8	•		U2	8/5/1994	6:49	8/5/1994	13:48	6.98	3112	CONDENSER TUBE PLUGGAGE
	521			eek #8	000*	240	D1	8/9/1994	11:40	8/9/1994	22:00	10.33	3112	COND. TUBE FOULING TUBE SIDE
	521	188 O	ak Cr	eek #8	•		U2	8/19/1994	20:28	8/24/1994	8:51	108.38	1070	SECOND REHEATER
	521			eek #8	*		RS	9/3/1994	1:41	9/4/1994	20:02	42.35	0	Reserve Shutdown
	521	188 O	ak Cr	eek #8	•		МО	9/9/1994	22:48	9/13/1994	4:29	77.68	1070	SECOND REHEATER
	521	188 O	ak Cr	eek #8	•		МО	9/23/1994	23:07	9/25/1994	18:25	43.3	1070	SECOND REHEATER
	521	188 O	ak Cr	eek #8	•		RS	11/4/1994	19:58	11/6/1994	20:44	48.76	0	Reserve Shutdown
	521			eek #8	•		RS	11/11/1994	0:13	11/14/1994	3:47	75.56		Reserve Shutdown
<u> </u>	521	188 O	ak Cr	eek #8	•		RS	12/23/1994	22:00	12/30/1994	23:59	169.98		Reserve Shutdown
	521			eek #8	•		PO	12/31/1994	0:01	12/31/1994	23:59	23.96		TURBINE OVERHAUL
-	521			eek #8	•		PO	1/1/1995	0:02	4/13/1995	14:38	2462.6		TURBINE OVERHAUL
	521			eek #8	•	1	RS	4/20/1995	23:18	4/21/1995	2:08	2.83		Reserve Shutdown
<u> </u>	521			eek #8	•	 -	МО	4/21/1995	18:52	4/29/1995	7:17	180.41		MAIN STOP VALVES
	521			eek #8	•		МО	5/13/1995	4:02	5/16/1995	1:33	69.51		MAIN STOP VALVE
	521			eek #8	•		RS	5/27/1995	3:32	5/29/1995	17:50	62.3		Reserve Shutdown
	521			eek #8	000*	260		6/6/1995	13:00	6/6/1995	14:10	1.16		HTR LEVEL CONTROL
	521			eek #8	•		U1	6/6/1995	19:54	6/6/1995	20:38	0.73		COMBUSTION CONTROLS
<u> </u>	521			eek #8	000*	260		6/17/1995	14:00	6/17/1995	15:45	1.75		CONDENSATE/HOTWELL PUMPS
	521			eek #8	000.	235		8/6/1995	12:00	8/6/1995	21:30	9.5		PULVERIZER MILLS
	521			eek #8	•		мо	8/19/1995	0:29	8/20/1995	9:50	33.34		DESUPERHTR CHECK VALVE
	521			eek #8	000*	240		8/20/1995	17:30	8/21/1995	7:00	13.5		WET COAL
	521			eek #8	•	2.10	U1	9/9/1995	19:45	9/9/1995	21:20	1.58		COMBUSTION CONTROLS
-	521			eek #8	000.	260		9/15/1995	6:00	9/17/1995	16:00	58		PULVERIZER MILLS
	521			eek #8	•		U1	10/7/1995	22:06	10/11/1995	22:00	95.9		BOILER TUBE LEAKS
	521			eek #8	000*	240		10/12/1995	9:00	10/12/1995	15:30	6.5		PULVERIZER MOTORS AND DRIVES
	521			eek #8	•		U1	10/14/1995	10:46	10/15/1995	16:13	29.45		BOILER TUBE LEAKS
	521			eek #8	•		RS	10/21/1995	22:16	10/22/1995	12:14	13.96		Reserve Shutdown
	521			eek #8	•		RS	11/2/1995	23:39	11/3/1995	2:56	3.28		Reserve Shutdown
_	521			eek #8	000*	260		11/6/1995	15:00	11/6/1995	19:15	4.25		PULVERIZER FIRES
	521			eek #8	•		U3	11/10/1995	1:04	11/12/1995	16:54	63.83		BOILER TUBE LEAKS
≦ .	521			eek #8	-		U3	1/6/1996	0:31	1/7/1996	16:50	40.31	1000	DOILETT TODE CENTRO
P	521			eek #8	000	200	Di	1/25/1996	10:20	1/25/1996	12:40	2.33	280	And the second of the second o
WEPCO	521			eek #8	000.	220		1/25/1996	13:00	1/25/1996	14:30	1.5	320	
<u>.</u> .	521			eek #8	000*	225		1/25/1996	17:00	1/26/1996	5:00	12	280	
40145	521			eek #8	000.	235		1/29/1996	8:00	2/2/1996	0:17	88.28	3110	
ίλ ·	521			eek #8	1000	233		2/2/1996	0:17					Reserve Shutdown
	521			eek #8			RS			2/2/1996	4:30	4.21		
	521			eek #8 eek #8	· -		U1	2/2/1996	4:30	2/2/1996	7:30	3	3110	I
L	J2 I	10010	ax UI	eek #o	1		U1	2/2/1996	7:30	2/3/1996	9:41	26.18	3110	Other oil and gas supply

								<u>_</u>				
5	521	188 Oak Creek #8	3		U1	2/7/1996	10:17	2/7/1996	11:15	0.96	3416	
	21	188 Oak Creek #8	3	1	U1	2/11/1996	20:30	2/12/1996	19:52	23.36	1000	nil
	21	188 Oak Creek #8		268		2/19/1996	9:15	2/23/1996	0:01	86.76	340	
	21	188 Oak Creek #8				3/30/1996	8:00	4/1/1996	2:00	42	350	
	21	188 Oak Creek #		170	U1	4/17/1996	14:45	4/17/1996	16:10	1.41	1710	
	21	188 Oak Creek #			U1 -	4/17/1996	16:32	4/17/1996	17:14	0.7	1710	
	21	188 Oak Creek #8	3 -	-	МО	5/25/1996	1:00	5/25/1996	18:30	17.5	750	
	21	188 Oak Creek #8			RS	5/25/1996	18:30	5/26/1996	19:14	24.73		Reserve Shutdown
	21	188 Oak Creek #8		_	RS	6/15/1996	17:46	6/15/1996	22:00	4.23		Reserve Shutdown
	21	188 Oak Creek #8		<u> </u>	U1	6/15/1996	22:00	6/19/1996	8:18	82.3	1005	
J	521	188 Oak Creek #8			U3	7/10/1996	1:21	7/10/1996	10:58	9.61	3441	
L	21	188 Oak Creek #8		225		7/16/1996	8:00	7/16/1996	11:30	3.5	340	
	21	188 Oak Creek #8			U3	8/31/1996	16:07	9/2/1996	14:45	46.63	1005	
	521	188 Oak Creek #8			SF	9/2/1996	14:45	9/8/1996	22:12	151.45	4260	
	21	188 Oak Creek #8			U1	9/13/1996	5:08	9/13/1996	22:09	17.01	3112	
L	521	188 Oak Creek #8			U1	9/14/1996	0:46	9/15/1996	22:46	46	3112	
5	521	188 Oak Creek #8		150		9/17/1996	13:30	9/18/1996	8:00	18.5	3112	nil
	521	188 Oak Creek #8				9/18/1996	8:00	9/18/1996	20:00	12	3112	
5	521	188 Oak Creek #8	3 000*			9/19/1996	7:00	9/20/1996	0:01	17.01	3112	
5	21	188 Oak Creek #8		235		9/23/1996	9:00	9/23/1996	11:10	2.16	280	
5	521	188 Oak Creek #8	3 *		U1	9/23/1996	20:20	9/23/1996	21:48	1.46	3411	
	21	188 Oak Creek #8	3 000*	210	D1	10/2/1996	19:00	10/2/1996	22:45	3.75	340	
5	21	188 Oak Creek #8	3 000*	210	D1	10/7/1996	19:00	10/8/1996	2:30	7.5	3112	Normal
	21	188 Oak Creek #8	3 000°	130	D1	10/10/1996	7:30	10/11/1996	3:00	19.5	3112	
	521	188 Oak Creek #8	3 000	-30	D1	10/31/1996	5:06	10/31/1996	8:00	2.9	1470	n::
	521	188 Oak Creek #8	3. 000*	220		10/31/1996	9:00	10/31/1996	14:15	5.25	250	
5	21	188 Oak Creek #8	3 000	220	D1	11/1/1996	13:00	11/1/1996	15:30	2.5	330	
<u></u>	521	188 Oak Creek #8	3 000,	255	D1	11/4/1996	7:30	11/4/1996	14:30	7	250	
-	521	188 Oak Creek #8	3 000	190	D1	11/12/1996	7:00	11/12/1996	11:00	4	4500	
	521	188 Oak Creek #8	3 000	260	D1	11/14/1996	0:01	11/15/1996	0:01	24	300	
	521	188 Oak Creek #8		205	D1	11/18/1996	8:00	11/18/1996	10:00	2	1100	
	521	188 Oak Creek #8			U2	11/18/1996	21:00	11/21/1996	11:51	62.85	1105	
- 5	521	188 Oak Creek #8	3 •		PO	12/28/1996	3:05	12/31/1996	23:59	92.9	1800	
	521	188 Oak Creek #8			PO	1/1/1997	0:01	1/30/1997	7:36	703.58	1800	Outage started 12-28-96 03:05
	521	188 Oak Creek #8		250	D1	2/1/1997	11:00	2/2/1997	23:30	36.5		Hotwell Level
	521	188 Oak Creek #				2/5/1997	9:30	2/5/1997	23:59	14.48		Coal Blending
_	21	188 Oak Creek #			RS	2/15/1997	1:08	2/15/1997	5:06	3.96		Reserve Shutdown
	521	188 Oak Creek #		-	U1	2/15/1997	16:30	2/16/1997	4:10	11.66		Water Induction To IP Turbine
	521	188 Oak Creek #		225		5/2/1997	5:00	5/2/1997	11:30	6.5		Pulverizer Mills
€}	521	188 Oak Creek #			NC	5/13/1997	0:05	5/13/1997	3:00	2.91		Pulverizer Inspect
-,	521	188 Oak Creek #		- 	NC	5/13/1997	23:42	5/14/1997	1:30	1.8		Pulverizer Inspect
ָרָ יָּ	521	188 Oak Creek #		185		6/4/1997	5:00	6/4/1997	9:21	4.35		Pulverizer Feeder
	521	188 Oak Creek #			U3	6/14/1997	14:40	6/16/1997	3:20	36.66		Repair Condenser Tube Leak
	521	188 Oak Creek #			U3 U1	6/20/1997	14:19	6/22/1997	14:38	48.31		Repair Superheat Tube Leak
5	5 <u>21</u> 521	188 Oak Creek #		280		6/25/1997	5:00	6/25/1997	6:00	1		Feeder Motor
				200	U1	7/3/1997	18:37	7/6/1997	12:18	65.68		Generating Tube
	521	188 Oak Creek #	<u> </u>		וטו	//3/199/	10.37	770/1997	12.10	05.00	1005	denerating rube

					 		1 -	, 						
	521	188	Oak Cree	k #8	00*0	250		7/25/1997	17:02	7/25/1997	19:00	1.96		Pulverizer Feeder
l	521	188	Oak Cree	k #8	00.0	100	D1	8/4/1997	23:00	8/6/1997	3:00	28	3112	Condenser Tube Fouling
	521	188	Oak Cree	k #8	•		RS	8/11/1997	2:31	8/11/1997	2:39	0.13	0	Reserve Shutdown
	521		Oak Cree		00.0	215		9/2/1997	7:15	9/2/1997	9:15	2	380	Ignitor Gas Valve
	521		Oak Cree		00.0	235		9/3/1997	12:00	9/3/1997	22:00	10		Condenser Tube Fouling
	521		Oak Cree				Ū1	9/24/1997	20:21	9/24/1997	21:38	1.28		Unit Tripped Due to Personnel Error
	521		Oak Cree				МО	9/27/1997	0:37	10/4/1997	21:28	188.85		Boiler Tube Leak
	اعد		Oak Ciee	N #0			IVIO	9/2//199/	0.37	10/4/199/	21.20	100.00	1030	Doner Tube Loak
	504	400	0-1-0		0010			10/5/1007	0.07	10/5/1007	44.00	44.00	0050	Alleia Trianged Dura de Communica de alformation
·	521		Oak Cree		00.0	000"		10/5/1997	0:37	10/5/1997	11:39	11.03		Unit Tripped Due to Computer M alfunction
	521		Oak Cree				<u>U1</u>	10/6/1997	5:23	10/9/1997	22:26	89.05		Sootblower Controls
	521		Oak Cree		00*0	160		10/27/1997	7:00	10/27/1997	19:00	12		Condenser Tube Fouling
	521		Oak Cree		00.0	90		11/6/1997	10:00	11/6/1997	13:30	3.5		Condenser Tube Leak
	521		Oak Creel		00-0	250		11/6/1997	13:30	11/6/1997	18:30	5		Other Mill Problems
	521		Oak Creel		00°0	230		11/7/1997	16:30	11/7/1997	19:30	3		Primary Air Duct and Dampers
	521		Oak Creel		*		RS	11/27/1997	0:40	11/30/1997	23:23	94.71		Reserve Shutdown
	521	188	Oak Creel	k #8	00*0	160	D1	2/4/1998	12:00	2/4/1998	14:50	2.83	1100	Slag Buildup - Water wall tubes
	521	188	Oak Creel	k #8	00.0	215	PD	2/18/1998	10:30	2/21/1998	9:00	70.5	741	Boiler Booster Pump #2 Motor
	521	188	Oak Creel	k #8	00*0	150	D1	3/6/1998	20:27	3/6/1998	21:00	0.55	340	Other Mill Problems
	521		Oak Creel		00.00	215		3/6/1998	21:00	3/23/1998	9:00	396		Boiler Booster Pump #2 Motor
1	521		Oak Cree		00.0	184		3/23/1998	9:00	3/23/1998	10:30	1.5		2 Mill Coal Pipe
	521		Oak Creel		00*0	150		4/1/1998	22:00	4/2/1998	10:20	12.33		Pulverizer Problems
L-:-	521		Oak Creel		00.0	215		4/2/1998	10:20	4/11/1998	5:00	210.66		Boiler Booster Pump
	521		Oak Creel		, 00 0		МО	4/11/1998	5:00	4/26/1998	15:43	370.71		Maintenance Outage
	521		Oak Creel		-i+		U3	5/8/1998	21:30	5/10/1998	22:25	48.91		Repair Tube Leak at Water Wall
														Misc Turbine Drains & Vent Vivs
	521		Oak Creel				U1	5/11/1998	8:36	5/11/1998	22:04	13.46		
	521		Oak Creel		00*0	250		5/14/1998	9:30	5/14/1998	11:30	2		Repack South Sootblower Isolation
	521		Oak Creel		00.0	235		5/18/1998	7:00	5/21/1998	0:26	65.43		Forced Draft Fans
	521		Oak Creel		•		МО	5/21/1998	0:26	5/23/1998	20:10	67.73		Furnace Wall
l	521	188	Oak Creel	k #8	00*0	255		5/26/1998	15:00	5/26/1998	20:30	5.5		Pulverizer Feeder
	521	188	Oak Creel	k #8	00*0	250		5/27/1998	7:20	5/27/1998	10:50	3.5	255	Pu:verizer Feeder Coal Scales
	521	188	Oak Cree	k #8	00*0	185	D4	5/30/1998	9:00	6/1/1998	4:55	43.91	200	3 Mill Exhauster Fan
														Loss of Condenser Vacuum While Return
	521	188	Oak Creel	k #8	•		U1	6/24/1998	21:46	6/24/1998	23:56	2.16	3190	81/82 Heater Drain Pump
														Main Steam Piping Up To Turbine Stop
	521	188	Oak Creel	k #8	•		U1	6/30/1998	0:20	7/6/1998	14:58	158.63		Vivs
ł	521		Oak Cree				U1	7/8/1998	10:14	7/8/1998	11:23	1.15	1700	Unit Trip - Low Drum Level
1	521		Oak Cree		00*0	190		7/8/1998	11:23	7/8/1998	22:50	11.45		High Silica Pressure Limitation
_	<u> </u>		Oun Oloo		1000									
\$	521	188	Oak Cree	k #8	000	270	D1	7/11/1998	17:30	7/12/1998	3:00	9.5	3199	Other Miscellaneous Condensing Problems
<u>ਜ</u> ੁ	×		Oun ologi				<u></u> -	1771111000			0.00			Repair Leak on Ei 144 on Drain Line Off Of
5	521	199	Oak Creel	L #0			МО	8/1/1998	0:44	8/3/1998	5:24	52.66	700	Roof Inlet Header
-										8/4/1998	22:00	13		Condensing Problems
WEBCO 40147	521	100	Oak Cree	K #0	00.0	260	<u> </u>	8/4/1998	9:00	0/4/1998			3133	
4	E04	400	0-1-0		0.000	0	D 4	0,5,4000	0.45	0/5/4505	04.00	44.05	9000	Condenser Back Pressure - Circ Water
-	521		Oak Cree		00*0	260		8/5/1998	9.45	8/5/1998	21:00	11.25		Temp
	521		Oak Cree		00*0	145		8/11/1998	19:15	8/11/1998	20:00	0.75		Condenser Back Pressure
	521	188	Oak Cree	k #8	00*0	240	D1	8/11/1998	20:00	8/14/1998	10:00	62	3199	Condenser Back Pressure

521	188	Oak Creek #8	00*0	275	D1	8/14/1998	10:00	8/14/1998	23:00	13	3199	Condenser Back Pressure
521	188	Oak Creek #8	00*0	250	D1	8/15/1998	12:00	8/15/1998	23:00	11	3199	Condenser Back Pressure
521		Oak Creek #8	00*0	240	D1	8/16/1998	7:00	8/16/1998	23:30	16.5		Condenser Back Pressure
521		Oak Creek #8	00*0	260		8/17/1998	8:00	8/17/1998	22:00	14		Condenser Back Pressure
521		Oak Creek #8	00*0	260		8/18/1998	6:00	8/19/1998	23:30	41.5		Condenser Back Pressure
521		Oak Creek #8	00*0	270		8/20/1998	8:00	8/20/1998	20:08	12.13		Condenser Back Pressure
521		Oak Creek #8	00*0	270		8/21/1998	4:30	8/24/1998	16:16	83.76		Condenser Back Pressure
521		Oak Creek #8	00*0	180		8/24/1998	16:16	8/26/1998	8:35	40.31		
		Oak Creek #8	00.0	150		8/26/1998	8:35	8/27/1998	8:33	23.96	200	Coal Crushers Including Motor Pulverizer Coal Leak
521				270								
521		Oak Creek #8	00.0			8/27/1998	8:33	9/1/1998	10:48	122.25		Condenser Back Pressure
521		Oak Creek #8	00*0	160		9/8/1998	7:00	9/8/1998	10:00	3		Condenser Back Pressure
521		Oak Creek #8	00*0	120		9/8/1998	10:00	9/10/1998	5:15	43.25		Condenser Back Pressure
521		Oak Creek #8	00.0	130		9/10/1998	5:15	9/10/1998	12:45	7.5	590	South Desuperheater Reg Valve
521		Oak Creek #8	00.0	180		9/11/1998	12:45	9/11/1998	16:00	3.25		Condenser Back Pressure
521		Oak Creek #8	*		U1	9/14/1998	8:06	9/14/1998	13:25	5.31		Traveling Screen Fouling
521		Oak Creek #8	•		U1	9/15/1998	15:45	9/15/1998	19:35	3.83		Traveling Screen Fouling
521		Oak Creek #8	•		МО	9/19/1998	0:48	9/22/1998	11:17	82.48		Other Precipitator Problems
521		Oak Creek #8	00*0	165		9/22/1998	20:15	9/28/1998	12:00	135.75		Feedwater Pump Drive Motor
521		Oak Creek #8	*		МО	10/16/1998	22:08	10/18/1998	14:41	40.55		Repair Waterwall Tube Leak
521		Oak Creek #8	00*0	180		10/26/1998	3:30	10/26/1998	13:30	10		Repair Pyrite Scraper in #84 Mill
521	188	Oak Creek #8	00*0	110	D1	11/4/1998	7:00	11/4/1998	15:35	8.58	1488	Air Heater 81 Drive Problems
521	188	Oak Creek #8	•		МО	12/4/1998	22:52	12/7/1998	4:34	53.7		Precipitator Problem
521	188	Oak Creek #8	00*0	240	D1	12/8/1998	8:00	12/12/1998	7:28	95.46		Condenser Backpressure
521	188	Oak Creek #8	00*0	260	D1	12/12/1998	7:28	12/17/1998	8:00	120.53	340	84 Mill Thrust & Guide Brg Inspection
521	188	Oak Creek #8	00*0	240	D1	12/23/1998	4:30	12/23/1998	10:15	5.75	250	85 Mill
521	188	Oak Creek #8	00*0	240	D1	12/23/1998	10:15	12/24/1998	5:45	19.5	340	84 Mill Pulverizer Inspection
521	188	Oak Creek #8	•		PO	1/16/1999	1:27	2/8/1999	3:19	553.86	1800	Planned Maintenance Outage
521	188	Oak Creek #8	•		U1	2/11/1999	5:57	2/13/1999	13:55	55.96	1030	Boiler Tube Leak
521	188	Oak Creek #8	•	240	D4	2/14/1999	19:45	2/22/1999	8:55	181.16	3501	Heater Drain Pumps
521	188	Oak Creek #8	•	255	PD	2/22/1999	8:55	3/3/1999	13:30	220.58	345	85 Mill Overhaul
521	188	Oak Creek #8	•	270		3/3/1999	13:35	3/17/1999	2:50	325.25	3501	Heater Drain Pumps
521		Oak Creek #8	*		МО	3/20/1999	1:05	3/21/1999	19:08	42.05	4261	Control Valves
521		Oak Creek #8	•	265		3/25/1999	8:30	3/25/1999	10:00	1.5		Coal Leak on Discharge Riffler
521		Oak Creek #8	•	265		4/13/1999	12:00	4/13/1999	18:03	6.05		Pulverizer Fire
521		Oak Creek #8	•	170		5/14/1999	14:45	5/15/1999	17:00	26.25	1488	Air Heater (Regenerative)
521		Oak Creek #8	*	135		5/16/1999	9:00	5/16/1999	14:45	5.75		Air Heater
521		Oak Creek #8	•	240		5/22/1999	21:25	5/23/1999	19:40	22.25		Pulverizer Fire
521		Oak Creek #8		180		5/23/1999	19:40	5/24/1999	14:00	18.33		Other Cooling Problems
. 521		Oak Creek #8	•		U1	5/26/1999	12:30	5/26/1999	14:30	2		Traveling Water Screen Fouling
521		Oak Creek #8			МО	6/4/1999	1:26	6/6/1999	2:59	49.55		Sootblowers - Water
521 521 521		Oak Creek #8		220		6/12/1999	11:00	6/12/1999	12:30	1.5		83 Mill Tripped (Fire)
521		Oak Creek #8		230		6/12/1999	15:30	6/12/1999	16:30			83 Feeder Tripped
501		Oak Creek #8		130	51	6/17/1999	13:43	6/17/1999	16:45	3.03	1488	Air Heater Drive
521 521		Oak Creek #8		130	RS	6/18/1999	21:30	6/21/1999	7:44	58.23		Reserve Shutdown
521		Oak Creek #8	· ·	130		6/26/1999	23:08	6/27/1999	16:00	16.86		Air Heater Drive #81
				160			7:00	6/30/1999	9:20	2.33		84 Feeder Motor Interrupts
521	188	Oak Creek #8		100	וטו	6/30/1999	7.00	0/30/1999	9.20	2.33	200	04 Leaner Moror Historia

	521	188 Oak Creek #8	1.	250 D1	7/8/1999	21:15	7/9/1999	6:39	9.39	340	Other Pulverizer Problems
	521	188 Oak Creek #8	:	U2	7/10/1999	8:13	7/10/1999	12:13	4		Traveling Water Screen Fouling
}-	521	188 Oak Creek #8		MO	8/7/1999	20:42	8/9/1999	1:43	29.01		Bottom Ash Clinker Grinder
- -	521	188 Oak Creek #8		124 D1	8/13/1999	20:42	8/14/1999	1:00	4.71		Traveling Water Screen Fouling
-		188 Oak Creek #8		80 D1	8/17/1999		8/17/1999	12:00	3.81		Traveling Water Screen Fouling
}-	521		<u>-</u>			8:11					
	521	188 Oak Creek #8		255 D1	9/11/1999	7:00	9/11/1999	23:39	16.65		84 Feeder Belt Torn
	521	188 Oak Creek #8	1	U1	9/11/1999	23:39	9/12/1999	0:47	1.13		Boiler Air Upset
	521	188 Oak Creek #8	<u>-</u>	235 D1	9/30/1999	5:40	9/30/1999	15:00	9.33		Pulverizer Feeders
-	521	188 Oak Creek #8	ļ <u>.</u>	PO	10/11/1999	0:35	10/18/1999	20:52	188.28		Air Heater Wash
	521	188 Oak Creek #8	-	NC	10/21/1999	12:50	10/27/1999	6:57	138.11		Pulverizer Overhaul
	521	188 Oak Creek #8	ļ	U1	11/15/1999	6:58	11/22/1999	1:00	162.03	3431	87 Feedwater Outlet Valve Leak
-											
<u> </u>	521	188 Oak Creek #8	-	162 D1	11/28/1999	17:15	11/28/1999	20:40	3.41		82 ID Fan Variable Frequency Drive Failure
1	521	188 Oak Creek #8	·	220 D1	12/1/1999	23:20	12/2/1999	6:00	6.66		Other Pulverizer Problems
-	521	188 Oak Creek #8	İ	200 D1	12/2/1999	17:45	12/3/1999	9:47	16.03		High Silica Boiler Water
	521	188 Oak Creek #8	•	260 D1	12/14/1999	20:31	12/16/1999	6:00	33.48		Pulverizer Fires
L	521	188 Oak Creek #8	*	150 D1	12/25/1999	17:35	12/25/1999	19:00	1.41		ID Fan Motors-Variable Speed
_	521	188 Oak Creek #8	•	.30 D1	12/25/1999	19:55	12/27/1999	12:50	40.91		ID Fan Motors-Variable Speed
ļ	521	188 Oak Creek #8	•	165 D1	12/28/1999	13:15	12/28/1999	13:56	0.68		82 ID-Contractor to Start & Stop VFD
	521	116 Pleasant Prairie #1	390	D1	6/30/1980	15:43	7/31/1980	0:01	728.3	340	
	521	116 Pleasant Prairie #1		MO	7/3/1980	18:24	7/7/1980	5:00	82.6	1040	
L	521	116 Pleasant Prairie #1		U1	7/7/1980	20:11	7/8/1980	14:30	18.31	1486	
	521	116 Pleasant Prairie #1		U1	7/10/1980	14:13	7/10/1980	20:42	6.48	4899	
	521	116 Pleasant Prairie #1		MO	7/11/1980	18:31	7/14/1980	7:12	60.68	4899	
	521	116 Pleasant Prairie #1		MO	7/18/1980	22:01	7/21/1980	3:49	53.8	4899	
	521	116 Pleasant Prairie #1		U1	7/21/1980	15 53	7/21/1980	19:22	3.48	1999	
	521	116 Pleasant Prairie #1		U1	7/25/1980	10 46	7/25/1980	15:20	4.56	4309	
	521	116 Pleasant Prairie #1	440	D1	7/31/1980	0.01	8/30/1980	14:30	734.48	340	
-	521	116 Pleasant Prairie #1	240	D1	7/31/1980	0:45	7/31/1980	6:10	5.41	340	
	521	116 Pleasant Prairie #1	420	D1	7/31/1980	13:30	8/2/1980	10:15	44.75	340	
	521	116 Pleasant Prairie #1	160	D1	8/1/1980	21:30	8/2/1980	10:15	12.75	340	
-	521	116 Pleasant Prairie #1		U1	8/2/1980	10:15	8/3/1980	5:43	19.46	340	
-	521	116 Pleasant Praine #1	160	D1	8/3/1980	5:43	8/4/1980	16:00	34.28	340	
	521	116 Pleasant Prairie #1	1	МО	8/9/1980	22:15	8/10/1980	14:53	16.63	380	
	521	116 Pleasant Prairie #1	320	D1	8/11/1980	5:00	8/11/1980	15:15	10.25	340	
<u> </u>	521	116 Pleasant Prairie #1	320	D1	8/11/1980	16:40	8/11/1980	19:35	2.91	340	
ļ	521	116 Pleasant Prairie #1	390	D1	8/12/1980	8:00	8/12/1980	14:00	6	340	
-	521	116 Pleasant Prairie #1	- 500	MO	8/14/1980	23:22	8/22/1980	2:51	171.48	4301	
-	521	116 Pleasant Prairie #1	385	D1	8/19/1980	11:00	8/30/1980	22:39	275.65	3410	
≨ .	521	116 Pleasant Prairie #1	000	МО	8/23/1980	0:43	8/23/1980	1:08	0.41	4301	
WEPCO 40149	521	116 Pleasant Prairie #1	t1	U1	8/23/1980	22:50	8/24/1980	8:57	10.11	1799	
<u> </u>	521	116 Pleasant Prairie #1		U1	8/24/1980	10:50	8/24/1980	12:12	1.36	9270	
) -	521	1,16 Pleasant Prairie #1	440	D1	8/30/1980	23:00	9/3/1980	15:00	88	9650	
<u> </u>	521	116 Pleasant Prairie #1	340	D1	9/1/1980	10:45	9/1/1980	12:00	1.25	360	
49	521	116 Pleasant Prairie #1	† - 	МО	9/5/1980	22:50	9/14/1980	14:25	207.58	1999	
	521	116 Pleasant Prairie #1	 	U1	9/21/1980	5:51	9/21/1980	16:43	10.86	1799	
-	JE 11	1 10 1 leasailt Flaille #1	1 <u></u> .	UI	312 11 1300	J.51	3/2//1900	10.43	10.00	1789	<u> </u>

CORRESPONDENCE/MEMORANDUM -

DATE: September 28, 2006 FILE REF: 4560

TO:

Review File for Permit# 737009020-P02

FROM:

Steve Dunn - AM/7

SUBJECT: Response to Comments on Permit# 737009020-P02 for the Wisconsin Public Service

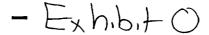
Corporation's (WPSC's) Weston Facility

Comments on the draft permit were received from the Sierra Club and from WPSC. The comments from the Sierra Club will be addressed first, followed by the comments from WPSC. The numbering for the responses is the same as in the comments which are attached. Additionally, the Department has completed air dispersion modeling for this permit and concludes that the facility with the emission limitations included in this permit will meet ambient air quality requirements.

Sierra Club Comment Responses:

- 1. Response: The Department has included a cap at 154.4 lb/hour for particulate matter in the final permit ensuring no increase in emissions.
- 2. Response: The Department has included a cap at 180.0 lb/hour for particulate matter in the final permit ensuring no increase in emissions.
- 3. Response: The Department has included a cap at 390.6 lb/hour for particulate matter in the final permit ensuring no increase in emissions.
- 4. Response: The emission limitation for particulate matter has not been changed in this permit and neither has the compliance monitoring requirements cited by the commenter. Since this compliance monitoring is unchanged in this permit revision form the original Title V permit, the Department is not accepting comments on this permit provision at this time.
- 5. Response: The emission limitation for particulate matter has not been changed in this permit and neither has the compliance monitoring requirements cited by the commenter. Since this compliance monitoring is unchanged in this permit revision form the original Title V permit, the Department is not accepting comments on this permit provision at this time.
- 6. Response: The Department disagrees with this comment. The Department has concluded that the emission limitation for particulate matter will not be exceeded when combusting the specified fuels based on stack testing results provided by WPSC. For opacity limitations, the Department also believes that combusting one of the fuels allowed in the permit will allow the facility to meet the opacity limitation. Outside of installing an opacity monitor (COM) or requiring continuous Method 9 readings, the Department is not aware of what other requirements could be included in the permit to ensure compliance. The COM is not practical for an intermittent source such as these and the continuous opacity readings are also overly burdensome and ineffective during periods of darkness. The Department concurs that the combustion of #2 oil could possibly lead to opacity exceedances, but believes the compliance demonstration requirements, plus the general incentive for the permittee to run these operations efficiently to lower the cost of producing power, are adequate to demonstrate compliance with this requirement.





- 7. Response: The Department does not believe that a CAM proposal or CAM plan needs to be included in this permit. The CAM requirements will apply to B01, B02, and B03. When the Title V permit is renewed or when a significant permit revision to the particulate matter requirements for B01, B02, or B03 occurs, then the CAM plan will be submitted by the facility, reviewed by DNR, and made available for public comment. A significant permit revision is not occurring to B01, B02, and B03 for particulate matter as part of this permit action. Therefore, the requirement to submit a CAM has not been triggered.
- 8. **Response**: The compliance reporting requirements are unchanged in this permit revision from the original Title V permit, thus Department is not accepting comments on this permit provision at this time. The Department will place this comment in the review file for the renewal of the Title V permit and this comment will be addressed at that time.
- 9. **Response**: Sections NR 431.04(1) and NR 431.05, Wis. Adm. Code are the underlying authority for these permit conditions. There is no language for the exclusion of startup and shutdown other than the specific language regarding an exception for up to 80% opacity for 6 minutes in any one hour when combustion equipment is being cleaned or a new fire started with the provision that combustion equipment may not be cleaned nor a fire started more than 3 times per day. Therefore, conditions I.A.2.a.(1) and I.B.2.a.(1) will be changed to read as follows:
- (1) Opacity may not exceed 40% or number 2 of the Ringlemann chart except when combustion equipment is being cleaned or a new fire started, emissions may exceed number 2 of the Ringlemann chart or 40% opacity but may not exceed number 4 of the Ringlemann chart or 80% opacity for 6 minutes in any one hour. Combustion equipment may not be cleaned nor a fire started more than 3 times per day. Emissions may exceed number 1 of the Ringlemann chart or 20% opacity for stated periods of time, as permitted by the department, for such purpose as an operating test, use of emergency or reserve equipment, or other good cause, provided no hazard or unsafe condition arises. [s. NR 431.04(1) and 431.05(1)&(2), Wis. Adm. Code]
- 10. **Response**: The Department does not believe that the proposed changes to the CO emission limitations represent a "physical change" or a "change in method of operation" of the boilers. The proposed changes are based on recent test data for the boilers. Based on this data, the boilers cannot meet the emission limitations in the current Title V permit. These limitations were set based on air dispersion modeling that showed there were no problems at those emissions levels; however, it turned out that the emission estimates were in error. Since there was no underlying basis (such as BACT) for these limits and no changes are being made to the boilers or boiler operation, the Department concludes that this increase in emissions is not subject to ch. NR 405, Wis. Adm. Code, review.
- 11. **Response**: A maximum emission rate of 2,743.3 #N0x/hr is included in the final permit.
- 12. Response: A maximum emission rate of 4,687.2 # S0₂/hr is included in the final permit.
- 13. **Response**: The Department does not believe that the proposed changes to the PM and PM10 emission limitations represent a "physical change" or a "change in method of operation" of the combustion turbine. The proposed changes are based on recent test data for the turbines. Based on this data, the turbines cannot meet the emission limitations in the current Title V permit. These limitations were set based on air dispersion modeling that showed there were no problems at those emissions levels; however, it turned out that the emission estimates were in error. Since there was no underlying basis (such as BACT) for these limits and no changes are being made to the combustion turbine or turbine

operation, the Department concludes that this increase in emissions is not subject to ch. NR 405, Wis. Adm. Code, review.

- 14. **Response**: The Department does not believe that the proposed changes to the CO emission limitations represent a "physical change" or a "change in method of operation" of the combustion turbine. The proposed changes are based on recent test data for the turbines. Based on this data, the turbines cannot meet the emission limitations in the current Title V permit. These limitations were set based on air dispersion modeling that showed there were no problems at those emissions levels; however, it turned out that the emission estimates were in error. Since there was no underlying basis (such as BACT) for these limits and no changes are being made to the combustion turbine or turbine operation, the Department concludes that this increase in emissions is not subject to ch. NR 405, Wis. Adm. Code, review.
- 15. **Response**: The Department does not believe that the proposed changes to the NOx emission limitations represent a "physical change" or a "change in method of operation" of the combustion turbines. The proposed changes are based on recent test data for the turbines. Based on this data, the turbines cannot meet the emission limitations in the current Title V permit. These limitations were set based on air dispersion modeling that showed there were no problems at those emissions levels; however, it turned out that the emission estimates were in error. Since there was no underlying basis (such as BACT) for these limits and no changes are being made to the combustion turbine or turbine operation, the Department concludes that this increase in emissions is not subject to ch. NR 405, Wis. Adm. Code, review.
- 16. **Response**: The Department does not believe that the proposed changes to the PM10 emission limitations represent a "physical change" or a "change in method of operation" of P35. The proposed changes are based on recent test data for P35. Based on this data, P35 cannot meet the emission limitations in the current Title V permit. These limitations were set based on air dispersion modeling that showed there were no problems at those emissions levels; however, it turned out that the emission estimates were in error. Since there was no underlying basis (such as BACT) for these limits and no changes are being made to P35, the Department concludes that this increase in emissions is not subject to ch. NR 405, Wis. Adm. Code, review.
- 17. **Response**: The Administrative Code PM limits will be added for B11 (0.60 #/MMBTU), B12 (0.10 #/MMBTU), B13 (0.10 #/MMBTU), and B22 (0.15 #/MMBTU). The allowable code limit for B21 is 0.6 #/MMBTU which is less restrictive than the 0.16 #/hr limit at any reasonably expected operating limit so it will not be included. The Department does not believe the small auxiliary boilers B21 and B22 require additional testing for PM. One of the combustion turbines (B12) was stack tested on fuel oil at a lower load of 230 MMBTU/hr on September 23, 2005. The PM emission rate was 6.2 # PM/hr or 0.03 # PM/MMBTU. Based on this result and the infrequent use of the turbines (hourly limitations are in the draft permit), the Department does not believe further testing for PM to verify compliance with the #/MMBTU limitations in s. NR 415.06 are necessary at this time. The Administrative Code limits for B11, B12, and B13 will be in the permit and if additional testing is required by the Department in the future, the low load/high load scenarios can be considered in the test planning.
- 18. **Response**: This finding has been deleted from the final permit.
- 19. **Response**: It is now stated in the preamble to the permit, "Not withstanding the compliance determination methods which the owner or operator of a source is authorized to use under ch. NR 439,

Wis. Adm. Code, the department may use any relevant information or appropriate method to determine a source's compliance with applicable emission limitations." Consequently, the Department is not limited from using any credible evidence in determining the compliance status of the facility.

- 20. Response (NSPS & PSD for units 1&2): The Department has not made a finding that the Weston facility has violated PSD or NSPS requirements nor has the facility reported to the Department that such violations have occurred. If such a finding is made in the future, then the Department will take appropriate actions to revise the operation permit as needed. Without a finding of violation, the Department will not be including a compliance plan or other requirements pertaining to PSD or NSPS.
- 21. **Response**: The Department has inot ssued a Notice of Violation (NOV) to WPSC for emissions in excess of established opacity limitations nor for excessive downtime for the continuous opacity monitor identified in these comments. Without a finding of violation, the Department will not be including a compliance plan or other requirements pertaining to the continuous opacity monitor.

WPSC Comment Responses

WPSC made many comments of a "clean-up" nature. All the requested changes were made.

PSC REF#: 78666

we energies

231 W. Michigan Street Milwaukee, WI 53203 www.we-energies.com



July 10, 2007

Ms. Sandra J. Paske Secretary to the Commission Public Service Commission of Wisconsin Post Office Box 7854 Madison, WI 53707-7854

Dear Ms. Paske:

Replace the High-Pressure Turbine Main Steam Stop and Control Valves on Units 5 and 6 at the Oak Creek Power Plant - PSCW File 6630-CE-295

On February 7, 2006, the Commission issued an order authorizing Wisconsin Electric to replace the high-pressure turbine main steam stop and control valves on Units 5 and 6 at the Oak Creek Power Plant. In accordance with Condition 3 of the order, we are notifying the Commission that the main steam stop and control valves on Unit 6 were placed in service on July 3, 2007. Unit 5 is expected to be complete and in service in May of 2008. Wisconsin Electric will notify the Commission when the Unit 5 work is complete.

If you have any questions regarding this project, please contact Paul Farron at (414) 221-3958.

Very truly yours,

Roman A. Draba

Vice President, Regulatory Affairs and Policy

cc: Mr. Scot Cullen – PSCW

Mr. Robert Norcross - PSCW

DATE MAILED

FEB 7 2006

BEFORE THE

PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Wisconsin Electric Power Company for Authority to Replace the High-Pressure Turbine Main Steam Stop and Control Valves on Units 5 and 6 at the Oak Creek Power Plant 6630-CE-295

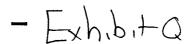
CERTIFICATE AND ORDER

On October 21, 2005, the Commission received an application from Wisconsin Electric Power Company (WEPCO) for authority under Wis. Stat. § 196.49 and Wis. Admin. Code ch. PSC 112 to replace the high-pressure turbine main steam stop and control valves on Units 5 and 6 at the Oak Creek Power Plant, located in the city of Oak Creek, Milwaukee County, at an estimated total cost of \$14,960,500.

The application is GRANTED, subject to conditions.

Findings of Fact

- 1. WEPCO's proposed project consists of replacing the high-pressure turbine main steam stop and control valves on Units 5 and 6 at the Oak Creek Power Plant. The estimated total cost of the project is \$14,960,500.
- 2. The estimated gross cost of this project exceeds the minimum threshold of utility projects requiring Commission review and approval under Wis. Admin. Code § PSC 112.05.
- 3. Alternatives to the proposed project have been considered but no other reasonable alternatives to the proposed project exist which could provide adequate support in a more reliable, timely, cost-effective, and environmentally acceptable manner.



- 4. Neither energy conservation, renewable resources, nor other energy priorities listed in Wis. Stat. §§ 1.12 and 196.025 would be a cost-effective alternative to this project.
- 5. Completion of this project will not substantially impair the efficiency of the service that WEPCO provides.
- 6. Completion of this project will not provide facilities unreasonably in excess of applicant's probable future requirements.
- 7. When the project is completed, the addition to WEPCO's cost of service associated with the project will be proportionate to the increase in value or available quantity of WEPCO's service.
- 8. The construction of this project will not affect any known archaeological or historic architectural sites.
- 9. No significant environmental consequences are associated with the proposed facilities.
 - 10. No significant risk of flooding is associated with the project.
- 11. No unusual circumstances suggesting the likelihood of significant environmental consequences are associated with the project.
- 12. The general public interest and public convenience and necessity require completion of this project.
- 13. The demonstrated need to begin construction of the proposed facilities requires that this order be effective one day after the date of mailing or personal service upon the parties to this proceeding, whichever is earlier.

Conclusions of Law

The Commission has authority under Wis. Stat. §§ 1.11, 1.12, 196.025, 196.40, 196.49, and Wis. Admin. Code chs. PSC 4 and 112, and has delegated the authority to the administrator of the Gas and Energy Division to issue a certificate and order authorizing WEPCO, as a public utility, to replace the high-pressure turbine main steam stop and control valves on Units 5 and 6 at the Oak Creek Power Plant, as described in WEPCO's application, at an estimated total cost of \$14,960,500.

Opinion

The high-pressure turbine and main steam stop and control valves on Units 5 and 6 at the Oak Creek Power Plant are original equipment that was installed in 1959 and 1961, respectively. Over the past several years, the equipment has experienced maintenance problems and failures that have affected the availability of the generating units. These failures are the result of a metallurgical process known as creep which affects various metals that are subjected to high temperature and pressure steam conditions, and cycling between hot and cold conditions over time.

Both Units 5 and 6 have experienced occurrences of the control valves becoming stuck, which have caused the units to be taken out of service for repair. The utility notes that in 2000 and 2003 this valve problem caused unit outages of over two weeks in duration. Additional repairs that have required long outages have been related to cracks found in the stop valve bodies. In 1997 valve work related to the cracks extended a scheduled outage by several weeks. Since that time, other cracks have occurred and have required unit outages of two to three weeks to repair. WEPCO notes that because these valves have been previously repaired by grinding out

the cracks, additional repairs in these areas may not be feasible. Effects of creep can not be reversed on components of the size and geometry used at the Oak Creek Power Plant.

In 1984, WEPCO commissioned a Plant Availability Study which evaluated the condition and remaining life of the company's older generating units. The study was performed by Allis-Chalmers, the original equipment manufacturer. The manufacturer predicted that problems would appear in approximately 15 years based on the large castings exhibiting creep due to prolonged service at 2,400 psig and 1,050°F. The time at that temperature caused irreversible material degradation and internal cracks. Over the past 15 years, various other metallurgical analyses, sample testing, and outage inspection reports were performed and completed on the units' valve problem reiterating the material degradation problem due to creep.

The company estimates that between 2001 and 2005, Units 5 and 6 have experienced a total of 1,674 hours of unit outages due to the failure of the steam stop and control valve equipment. The estimated incremental fuel and purchased power cost during that time period related to these equipment failures was approximately \$10 million, or \$2 million per year. With the higher natural gas prices and related cost of purchased power, WEPCO estimates the incremental fuel and purchased power cost, using historical average experience of 335 hours of unit restrictions, would currently increase to \$3.5 million per year. Should the steam stop and control valve equipment reach a point where it could not be repaired, a 12 to 14 month lead time would be required to manufacture replacement equipment. The company estimates the incremental fuel and purchased power cost of such a non-repairable failure would be between \$80 and \$90 million per unit.

WEPCO proposes to replace the Unit 5 and 6 main steam stop and control valves with new valves that would be identical in function and design, and would require a minimum of redesign of ancillary equipment.

There are no reasonable alternatives to the company's proposed project. Not replacing the aging main steam stop and control valves would lead to continued forced outages that could cause unit restrictions and higher replacement power costs. WEPCO further contends that not replacing the valves at this time will increase the risk of a non-repairable failure which could result in an extended outage of a year or more.

The estimated total cost of the proposed project is \$14,960,500, including: \$13,225,000 for equipment; \$1,695,500 for installation and engineering; and \$40,000 for removal costs.

WEPCO proposes to finance this project from internal sources and/or from the issuance and sale of securities.

The company proposes to replace the main steam stop and control valves on Unit 6 during the scheduled eight-week outage in March to May 2007. The Unit 5 valves at the Oak Creek facility would be replaced during the scheduled seven-week outage in January and February 2008.

The proposed project at the estimated cost will not impair the efficiency of the applicant's service, will not provide facilities unreasonably in excess of probable future requirements and, when placed in operation, will not add to the cost of service without proportionately increasing the value or available quantity thereof.

No special circumstances exist that would support a conclusion that additional conservation activities, renewable resources, or any other energy priorities listed in Wis. Stat. §§ 1.12 and 196.05 would be a cost-effective alternative to this project.

This is a Type III action under Wis. Admin. Code § PSC 4.10(3). No unusual circumstances suggesting the likelihood of significant environmental effects on the human environment have come to the Commission's attention. Neither an environmental impact statement under Wis. Stat. § 1.11 nor an environmental assessment is required.

The Commission reviewed the proposed project for potential flood hazard exposure in accordance with Executive Order 73 (1985) and found no significant flood risk to the proposed project.

Certificate of Authority

WEPCO, as an electric public utility, is granted a certificate authorizing it to construct the facilities described in its application, at an estimated total cost of \$14,960,500, subject to the conditions stated in the order below.

Order

- 1. WEPCO is hereby granted authority to replace the main steam stop and control valves on Units 5 and 6 at the Oak Creek Power Plant as described in its application.
- 2. Authorization is for the specific project as described in the application, at the stated project cost of \$14,960,500. Should the scope, design, location, or timing of the project change significantly, or if the expected cost exceeds that stated above by more than 10 percent, WEPCO shall promptly notify Commission staff.

3. The date the facilities are placed in service shall be submitted to the Commission

within 60 days of being placed in service.

4. WEPCO shall submit to the Commission, within one year after the in-service

date, the final actual costs segregated by major accounts. For those accounts or categories where

actual costs deviate significantly from those authorized, the final cost report shall itemize and

explain the reasons for such deviations.

5. This authorization is valid only if construction is started within one year of the

date of this order.

6. This order is effective one day after the date of mailing or personal service upon

the parties to the proceeding.

7. Jurisdiction is retained.

For the Commission:

Robert Norcross

Administrator

Gas and Energy Division

CLZ:TKK:jlt:g:\order\pending\6630-CE-295 Final.doc

See attached Notice of Appeal Rights

Notice of Appeal Rights

Notice is hereby given that a person aggrieved by the foregoing decision has the right to file a petition for judicial review as provided in Wis. Stat. § 227.53. The petition must be filed within 30 days after the date of mailing of this decision. That date is shown on the first page. If there is no date on the first page, the date of mailing is shown immediately above the signature line. The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

Notice is further given that, if the foregoing decision is an order following a proceeding which is a contested case as defined in Wis. Stat. § 227.01(3), a person aggrieved by the order has the further right to file one petition for rehearing as provided in Wis. Stat. § 227.49. The petition must be filed within 20 days of the date of mailing of this decision.

If this decision is an order after rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not an option.

This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

Revised 9/28/98