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BEFORE THE ADMINISTRATOR
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of: Tennessee Valley Authority Paradise Fossil Plant Title V Operating Permit V-07-018 Issued by the Kentucky Environmental and Public Protection Cabinet	Petition No. V-07_____

PRESTON FORSYTHE, CENTER FOR BIOLOGICAL DIVERSITY, KENTUCKY HEARTWOOD, SIERRA CLUB AND HILARY LAMBERT'S PETITION TO HAVE THE ADMINISTRATOR OBJECT TO THE TENNESSEE VALLEY AUTHORITY'S PARADISE FOSSIL PLANT'S TITLE V PERMIT

I. INTRODUCTION

Pursuant to Section 505(b)(2) of the Clean Air Act, 42 U.S.C. § 7661d(b)(2), Preston Forsythe, the Center for Biological Diversity, Kentucky Heartwood, Sierra Club, and Hilary Lambert petition the Acting Administrator of the U.S. Environmental Protection Agency ("the Administrator" or "EPA") to object to the Title V operating permit issued by the Kentucky Environmental and Public Protection Cabinet, Department for Environmental Protection, Division for Air Quality (Kentucky DAQ), for the Tennessee Valley Authority Paradise Fossil Plant ("TVA Paradise").

The Administrator is required to object to the TVA Paradise permit because, as demonstrated below, the content of the permit does not meet (1) requirements found in

the Clean Air Act, (2) requirements found in the federal operating permit regulations, and (3) requirements found in the Commonwealth of Kentucky's State Implementation Plan ("SIP").

II. PARTIES

Petitioners Preston Forsythe and Hilary Lambert are Kentucky residents who live, recreate, and obtain spiritual and aesthetic pleasure from locations that are, and will continue to be adversely affected by the air pollution, or risk of excess air pollution, from TVA Paradise that is made possible by the flaws in the TVA Paradise operating permit.

Petitioner Center for Biological Diversity (CBD) is a non-profit corporation with its headquarters in Tucson, Arizona. Striving to secure a future for animals and plants hovering on the brink of extinction, for the wilderness they need to survive, and by extension for the spiritual welfare of generations to come, CBD is actively involved in species and habitat protection advocacy throughout the United States.

Petitioner Kentucky Heartwood is a non-profit group that seeks to protect and restore the integrity, stability, and beauty of Kentucky's native forests and biotic communities through research, education, and advocacy. Many of Kentucky Heartwood's members actively use Mammoth Cave National Park and the surrounding areas for recreational and aesthetic purposes such as hiking and nature study and will continue to do so in the future.

CBD and Kentucky Heartwood members and staff live, recreate, and obtain spiritual and aesthetic pleasure from locations that are, and will continue to be

adversely affected by the air pollution, or risk of excess air pollution, from TVA Paradise that is made possible by the flaws in the TVA Paradise operating permit.

Sierra Club is a non-stock, non-profit environmental organization, formed in 1892 to enhance and improve the environment of the United States, including Kentucky. Sierra Club members live, work, and recreate in the air shed that is impacted by air pollution emissions from the TVA-Paradise power plant, and use surface waters that are impacted by mercury and other pollutants emitted from the plant.

III. PREVIOUS PROCEEDINGS

The EPA granted final approval of the Kentucky Title V operating permit program on October 31, 2001. See 66 Fed. Reg. 54,953 (Oct. 31, 2001). The Division of Air Quality of the Kentucky Environmental and Public Protection Cabinet ("Kentucky DAQ") is the agency responsible for issuing Title V operating permits in Kentucky. 401 KAR 52:020.

Kentucky DAQ published notice for public comment on a draft Title V operating permit for TVA Paradise on August 18, 2004. Kentucky DAQ then granted the public a thirty-day period to comment on the draft permit amendments. Petitioners Preston Forsythe, CBD, Kentucky Heartwood, and Hilary Lambert submitted written comments to Kentucky DAQ during the public comment period. See Ex. 1. Kentucky then issued the final Title V permit on December 29, 2004. See http://www.air.ky.gov/permitting/Tennessee+Valley+Authority.htm. A little over a

week after issuing the final permit, on January 7, 2005 Kentucky DAQ issued the proposed permit to EPA in apparent violation of 40 CFR § 70.7(a)(v).

A little over two weeks after issuing the final Title V permit, Kentucky DAQ responded to Petitioners and other comments on January 13, 2005. See Ex. 2. Thus, the final decision maker at Kentucky DAQ did not have the benefit of Kentucky DAQ's response to comments and EPA did not have the benefit of Kentucky DAQ's response to Petitioners' comments during EPA's complete 45 day review period. Amended responses to comments were later issued on March 9, 2005, and April 21, 2005. See Exs. 3 and 4.

EPA objected to the permit on February 18, 2005, during its 45 day review period, to the TVA Paradise Title V permit based on two grounds:

1. The permit was deficient because it failed to include operations limitations (heat input limits) from State Operating Permits 0-87-012 and 0-86-75, in violation of 40 C.F.R. § 70.6(a)(1).
2. Failure to include periodic monitoring for lime storage silos and handling systems to ensure compliance with the maximum hourly throughput limits in violation of 40 C.F.R. § 70.6(a)(3)(B).

See Letter from Beverly H. Banister, Director, Air, Pesticides and Toxics Management Division, USEPA Region 4, to John S. Lyons, Director, Department of Environmental Protection (February 18, 2005); attached as Exhibit 5.

On April 9, 2007, the applicant, TVA, submitted an updated application addressing EPA's February, 2005, objection. TVA requested on June 23, 2006, that the

original permit for Paradise, which had been issued despite EPA's objection, be withdrawn. DAQ subsequently issued a new draft permit. On July 31, 2007, Petitioners again submitted comments. See Ex. 6. Each of the grounds for objection described in this Petition were raised with specificity during the public comment period provided by Kentucky DAQ. DAQ proposed a permit for TVA Paradise to the U.S. EPA on August 14, 2007. See Ex. 7. A final permit was issued on November 1, 2007. See Ex. 8.

This Petition meets the procedural conditions set forth in Section 505(b)(2) of the Act and the parallel regulations. See 42 U.S.C. § 7661d(b)(2); 40 C.F.R. § 70.8(d); 401 K.A.R. 52:100 § 10(9)(a).

IV. FACTS

TVA Paradise is a coal-fired power plant located on the Green River in Muhlenberg County in Western Kentucky. Consisting of three coal-fired boilers, as well as coal and limestone handling equipment, building heat boilers and heaters, and ash and gypsum disposal processes, TVA Paradise operations emit over 100,000 tons of Sulfur Dioxide (SO_2) and nearly 40,000 tons of Nitrogen Oxides (NOx) into Kentucky's air each year.

TVA Paradise is located near Mammoth Cave National Park. In 1981, the United Nations Educational Scientific and Cultural Organization (UNESCO) designated Mammoth Cave National Park as a World Heritage Site for its exceptional natural features, its habitat for threatened and endangered species, and its association with events and persons of world historic and archeological significance. Home to more than sixty (60) miles of backcountry trails, one of only four old-growth forest areas left

in Kentucky, and the longest recorded cave system in the world, Mammoth Cave National Park hosted more than 1.8 million recreational visitors in 2003. Mammoth Cave National Park is the home of several species that are currently listed as endangered or threatened under the ESA. These species include the Eggert's Sunflower (*Helianthus eggertii*), Indiana bat (*Myotis sodalist*), Kentucky Cave Shrimp (*Palaemonias ganteri*), Ring Pink Mussel (*Obovaria retusa*), Rough Pigtoe Mussel (*Pleurobema plenum*), Tuberculed-blossom Pearly Mussel (*Epioblasma torulosa sulcata*), Fanshell Mussel (*Cyprogenia Stegaria*), Northern Riffleshell Mussel (*Epioblasma torulosa rangiana*), and Clubshell Mussel (*Pleurobema clava*).

Unfortunately air pollution plagues Mammoth Cave National Park. In fact, the National Parks Conservation Association has determined that Mammoth Cave National Park has the third worst air pollution problem out of all of the National Parks in the nation. See http://www.npca.org/across_the_nation/visitor_experience/code_red/conclusions.asp

V. ARGUMENT

A. LEGAL BACKGROUND AND STANDARD OF REVIEW

The Clean Air Act is "Congress's response to well-documented scientific and social concerns about the quality of the air that sustains life on earth and protects it from . . . degradation and pollution caused by modern industrial society." Delaware Valley Citizens Council for Clean Air v. Davis, 932 F.2d 256, 260 (3rd Cir. 1991). A key component of achieving the Clean Air Act's goal of protecting our precious air is the

Title V operating permit program. Title V permits are supposed to consolidate all of the requirements for a facility into a single permit and provide for adequate monitoring and reporting to ensure the regulatory agencies and the public that the permittee is complying with its permit. See generally S. Rep. No. 101-228 at 346-47; see also In re: Roosevelt Regional Landfill, (EPA Administrator May 11, 1999) at 64 FR 25,336.

When a state or local air quality permitting authority issues a Title V operating permit, the EPA will object if the permit is not in compliance with any applicable requirement or requirements under 40 CFR Part 70. 40 CFR § 70.8(c). However, if the EPA does not object on its own, then "any person may petition the Administrator within 60 days after the expiration of the Administrator's 45-day review period to make such objection." 40 CFR § 70.8(d); 42 U.S.C. § 7661d(b)(2)(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 Kentucky 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). Therefore, if a petitioner demonstrates that a proposed permit does not comply with an applicable requirement of the Act, an objection by the Administrator is mandatory. New York Public Interest Research Group v. Whitman, 321 F.3d 316, 333 (2d Cir. 2003); see also New York Public Interest Research Group v. Johnson, 427 F.3d 172 (2nd Cir. 2005); see also In re: Pacificorp's Jim Bridger and Naughton Plants, VIII-00-1 (EPA Administrator Nov. 16, 2000) at 4.

B. THE TVA PARADISE TITLE V PERMIT DOES NOT MEET ALL APPLICABLE REQUIREMENTS. EPA MUST THEREFORE OBJECT TO ITS ISSUANCE

1. THE PERMIT FAILS TO INCLUDE PSD AND BACT AS APPLICABLE REQUIREMENTS FOR THE THREE MAIN UNITS.

The Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act's New Source Review program, 40 CFR 52.21, is an applicable requirement with regard to nitrogen oxides (NOx) emissions from TVA Paradise Boiler Units 1, 2, and 3 because TVA modified those units after 40 CFR 52.21 became effective but before Kentucky had an approved PSD program in its SIP. Specifically, the 1984 version of 40 C.F.R. § 52.21 applies to projects indisputably undertaken at Paradise. In re TVA, 9 E.A.D. 357, 422 (EAB 2000). Therefore, the PSD provisions must be included in TVA Paradise's Title V permit. More specifically, the PSD program includes a number of requirements, including obtaining a permit, demonstrating compliance with limits on

air pollution in the ambient air, and compliance with a technology-based limit called "best available control technology," or "BACT." 42 U.S.C. §§ 7475(a), 7479(3).

In summary, TVA Paradise's first two coal-fired boilers began operating in 1963, and its third unit came online in 1970. In 1984, as part of an extensive effort to extend the useful lives of its coal-fired power plants, TVA embarked on a series of improvements to its Paradise plant. The work was essentially the same at all three units and included the replacement of all cyclone burners in each boiler and the replacement of the lower furnace walls, floor and headers. In re TVA, 9 E.A.D. at 404, 484-86; see also EPA Enforcement Ex. 273; EPA Enforcement Ex. 279, at 40-42 (Hekking's pre-filed testimony); TVA Ex. 4, at 23-26 (Golden's pre-filed testimony).[1] The projects consisted of, at least, the following:

- Replacement of al 14 cyclones and lower furnace walls, floor and header on Paradise Unit 1 in or about 1985. This project cost $16,300,000.00 and involved an outage of 6.5 months. *Id.*

- Replacement of all 14 cyclones, lower furnace walls, floor and headers on Paradise Unit 2 in or about 1985-86. This project cost $15,790,000.00 and involved an outage of 4.5 months. *Id.*

[1] These exhibits are contained in the record of In Re Tennessee Valley Authority, CAA 2000-04-008, which resulted in the decision found at 9 E.A.D. 357. Each of these exhibits is in EPA's possession and Petitions hereby incorporate them into the petition by reference.

> Replacement of all 23 cyclones and lower furnace walls, floor and headers on Paradise Unit 3 in 1985. This project cost $29,440,000.00 and involved an outage of 6 months. *Id.*

In addition, TVA cut out and replaced the waterwall below 465 feet, including the lower headers and floor at Unit 1. Id. TVA performed the same work at Unit 2. Id. At Unit 3, in addition to the twenty-three cyclones, TVA replaced the waterwalls between 418 feet to 501 feet. Id.; TVA Ex. 4, at 23-25 (Golden's pre-filed testimony); EPA Enforcement Ex. 279, at 42 (Hekking's pre-filed testimony).

The magnitude of the work at each of these units was significant. For example, TVA had to construct monorails at the front and rear walls for lifting and positioning the cyclones at each unit. In re TVA, 9 E.A.D. at 484; EPA Enforcement Ex. 279, at 43 (Hekking's pre-filed testimony). TVA installed a trolley system to transport the cyclones in and out of the building, and TVA constructed rigging inside the furnace to assist in attaching the wall panels and floor panels. Id. The approximate cost of these renovations exceeded $60 million. Id.

These projects were all capitalized, rather than expensed as maintenance. Capitalizing a project is almost always indicative that the project was more than mere maintenance, repair or replacement. *United States v. Cinergy Corp.*, 495 F. Supp. 2d 909, 933-35 (S.D. Ind. 2007) (holding that paying for a project with capital funds, modifying or replacing numerous parts and redesigned, custom, or "upgraded" parts, or

decreasing outages for repairs is not routine maintenance); *United States v. Ohio Edison Co.*, 276 F. Supp. 2d 829, 834 (S.D. Ohio 2003).

> Despite Ohio Edison's argument to the contrary, this Court finds that the accounting and budgeting treatment of the activities at issue as capital expenditures to be highly probative of whether the activities can be considered routine maintenance, repair or replacement for purposes of the CAA... A straightforward and logical construction of the term "maintenance," let alone "routine maintenance," would exclude from its scope any amounts defined as capital expenditures.

Ohio Edison, 276 F. Supp. 2d at 859-60 (emphasis added). Courts have also found projects not to be routine based on nature and extent when the "purchase was so large that it required [the source] to make a special purchase from a vendor because it did not keep sufficient material on site to do the job," hired outside engineers and contractors for the job, made changes to tubes, and rejected alternatives in favor of "complete tube replacement." Cinergy, 495 F. Supp. 2d at 937-38. Projects can also be non-routine due to "the sheer size" of the parts that are replaced. Id. at 939 (finding that retubing a large component is not routine). Here, the sheer size and the fact that the annual Operations and Maintenance ("O&M") budgets for Paradise could not have handled the large expenditures for the projects above, while still meeting other maintenance needs, demonstrate that the projects were not routine. In re TVA, 9 E.A.D. at 486.

After approval from the Board of Directors and after years of planning, TVA's Fossil and Hydro Power Division performed work on these units sequentially. TVA implemented the work at Unit 3 first, beginning in the Fall of 1984, requiring the unit to be shut down for six months. In re TVA, 9 E.A.D. at 485. It then worked on Unit 1,

shutting it down for approximately 6.5 months beginning in March of 1985. Id. Finally, TVA performed the work on Unit 2 beginning in November of 1985 and lasting 4.5 months. Id. In each case, the units were shut down for periods *well beyond* the four weeks typical of scheduled maintenance outages. Id.

Moreover, the sheer extent of the work on the Paradise units was substantial. The work at Unit 1 and 2 required the replacement of approximately 18.5% of the total tubing in the boiler. Id.; TVA Ex. 4, at 23, 25 (Golden's pre-filed testimony). TVA replaced approximately 19.4% of the total tubing in Unit 3's boiler. In re TVA, 9 E.A.D. at 485; TVA Ex. 4, at 26.

The purpose of the projects was to increase each unit's availability and reliability by decreasing the number of forced outages, as well as to extend the life of the units by twenty years. In re TVA, 9 E.A.D. at 485; EPA Enforcement Exs. 3, 4, 6, 9. Unlike projects in the past, that replaced individual tubes in the waterwalls, floors, and the cyclones—which did not prevent increasing forced outages—these projects were intended to improve the units and not to merely maintain their present condition. *Id.*; EPA Enforcement Ex. 279 at 40 (Hekking pre-filed testimony).

The projects at TVA Paradise were the first and only of its magnitude at these units. *Id.*; EPA Enforcement Ex. 279 at 43 (Hekking pre-filed testimony). While somewhat similar projects may have been done at a few other plants around the United States, there is no evidence that these types of projects are frequent within the life of an individual unit of the type of Paradise units 1, 2 and 3. *Id.*

In short, each of these projects constitutes a "physical change," within the meaning of the PSD program. Moreover, none of the changes are anywhere close to qualifying for the *de minimus* routine maintenance[2], repair, or replacement exemption.

Additionally, each of the modifications resulted in a significant net emission increase. First, because the changes occurred prior to the "WEPCO Rule," the emission increases must be measured based on the actual-to-potential test. 40 C.F.R. § 52.21(b)(21)(iv) (1984); see also 45 Fed. Reg. 52,676, 52,6577 (1980); EPA Enforcement Post-Hearing Brief at 73-90, 116-61 and EPA Enforcement Initial Brief at 34-49, In re TVA, 9 E.A.D. 357. Moreover, even if the actual-to-projected actual test had been adopted, in the WEPCO Rule, prior to the projects, TVA did not comply with the monitoring and reporting requirements necessary to take advantage of the test.[3] Under

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[2] 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 TVA'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). TVA has never demonstrated that the routine maintenance exception applies, nor submitted information in support of the exemption in its Title V permit application.

[3] If a utility fails to undertake this recordkeeping and annual reporting, it must use an actual-to-potential test, comparing the emissions before the change to the source's post-change "potential to emit," as defined in 40 C.F.R. § 52.21(b)(4). The option to use a "representative actual annual emission"

the actual-to-potential test, each of the projects resulted in a significant net emission increase. EPA Enforcement Post-Hearing Brief and EPA Enforcement Initial Brief, In re TVA, 9 E.A.D. 357.

Moreover, even if the actual-to-projected-actual test is applied, the projects resulted in "significant increases," as that term is used in the applicable statute and regulations, in emissions of NOx. See e.g. EPA Enforcement Ex. 175-88 and Testimony of Joe Van Gieson. Making projections of post-change emissions for the projects above, based on information available to TVA at the time of each project, the projects resulted in significant net emission increases. EPA Enforcement Post-Hearing Brief at 156-57. This should be expected, since TVA's purpose for the projects was expressly to increase availability and operation of the units. In re TVA, 9 E.A.D. at 439-40; EPA Enforcement Post-Hearing Brief at 156-57. Indeed, TVA's own internal documents, generated at the time of each project, prove that the physical changes were intended to increase operations and, consequently, would result in an emissions increase." In re TVA, 9 E.A.D. at 441; EPA Enforcement Post-Hearing Brief at 27-28.

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after the change is optional and conditioned on compliance with the monitoring and reporting requirements. 40 C.F.R. § 52.21(b)(21)(v) ("actual emissions... following the physical or operational change shall equal the representative actual emissions of the unit, *provided* the source owner or operator maintains and submits... information demonstrating that the physical or operational change did not result in an emissions increase." (emphasis added)); WEBSTER'S UNABRIDGED DICTIONARY 1556 (2nd Ed., 1998) ("provided" means "on the condition or understanding (that)"; BLACK'S LAW DICTIONARY 1240 (7th Ed.) (same); 72 Fed. Reg. 10447 ("In the 1992 regulation, EPA added a reporting provision... Under the reporting provision, sources that utilize the 'representative actual annual emissions' methodology to determine that they are not subject to NSR must maintain and submit sufficient records..."); *see also* Brief for Resp. Duke Energy Corp, *Envt'l Defense v. Duke Energy Corp.*, Case No. 05-848 (U.S.S.Ct., Sept. 15, 2006) (acknowledging, on behalf of the utility industry, that the "projected actual," or "representative actual" post-change emissions test is "an *optional* test for electric utilities, and the 1980 Rules [providing an actual-to-potential test] remained the default," and that the 1992 WEPCO Rule actual-to-projected-actual test "is available *only* to utilities that satisfy certain post-project reporting requirements..." (emphasis original))

Based on an actual-to-projected actual test, the projects at the TVA Paradise units referenced above resulted in significant net emission increase of NOx. In re TVA, 9 E.A.D. 440-41, Table 4; EPA Enforcement Exs. 175-188, 277 (Van Gieson prefiled testimony). As noted above, application of the actual-to-potential test results in significant increases of other pollutants, including SO2 and PM/PM10.

Petitioners rely, in part, on the findings and decision of the Environmental Appeals Board in support of this petition. The EAB is the final decision maker for the agency in those cases delegated to it. The fact that the United States Court of Appeals for the Eleventh Circuit subsequently found that the Administrative Compliance Order issued to TVA was not a final agency decision, and therefore that the court lacked jurisdiction, Tennessee Valley Authority v. Whitman, 336 F.3d 1236 (11th Cir. 2003), is not relevant to this separate Title V permitting proceeding. The Eleventh Circuit held that EPA must prove existence of a violation of the Clean Air Act in court before subjecting TVA to a risk of penalties for noncompliance with an Administrative Compliance Order (ACO). Id. at 1239-40. Putting aside the fact that the Eleventh Circuit's decision is based on a questionable interpretation of law, the Court recognized that where a party has access to an administrative review process—such as the APA, 5 U.S.C. §§ 554-555—there are not constitutional issues. Id. at 1241 and n.7. In other words, it was the "injunction like legal status," of ACOs, "coupled with the fact that they are issued without an adjudication or meaningful judicial review," that was the basis of the court's decision—not the interpretation of law or findings of fact by the EAB. Id. The ability to adjudicate issues of fact before an administrative adjudicatory

body is available here. See e.g., 5 U.S.C. §§ 554-555; 40 C.F.R. § 70.4(b)(3)(x). Moreover, permitting proceedings, such as this one, are not the same as enforcement proceedings merely because the permitting proceeding involves issues that are, or could, also be raised through an enforcement action. See e.g., Marine Shale Processors, Inc. v. U.S. EPA, 81 F.3d 1371, 1377 (5th Cir. 1996).

Furthermore, even though the Eleventh Circuit concluded that ACOs cannot constitutionally be binding, and therefore are not final agency decisions, and that EPA must demonstrate violations before extracting penalties or other coercive actions, it cannot be said that TVA was not given extensive process to defend its case, nor that EPA did not make a final determination that major medications occurred at the Paradise plant. The United States has since relied on the EAB's determination in the context of subsequent litigation concerning the scope of PSD requirements:

> All of the court of appeals' questions and criticisms regarding the procedures leading to the EAB decision in TVA concerned . . . whether the EAB decision could constitutionally be considered a reviewable order, not to whether the EAB decision in fact reflected EPA' s interpretation of the regulations at issue, or whether that interpretation was reasonable or correct. Thus, nothing in the Eleventh Circuit's decision changes the fact that the EAB decision was and remains a statement of agency position, is an indication of EPA's continued interpretation of its regulations consistently with its historic interpretation, and, as such, is deserving of normal deference.

United States v. Alabama Power Co., 01-HS-0152-S (N.D. Ala.) Docket No. 101, United States Memorandum of Law Regarding the Correct Legal Test For Determining

Whether There Has Been a "Modification" for the Purposes of the Clean Air Act's Prevention of Significant Deterioration Provisions, at 45-46 ftnt.27.

Additionally, the fact that the EPA changed the PSD rules since the modifications to Paradise and the EAB's decision in In Re TVA, the modifications only apply prospectively.

Again, the United States has espoused Petitioners' view in the context of litigation over the applicability of PSD requirements in United States v. Alabama Power Company, 01-HS-0152-S (N.D. Ala.) Docket No. 101, United States Memorandum of Law Regarding the Correct Legal Test For Determining Whether There Has Been a "Modification" for the Purposes of the Clean Air Act's Prevention of Significant Deterioration Provisions, at 13 (attached as Exhibit 3). The United States' Memorandum states:

> The new rule which would apply prospectively only, was challenged by environmental organizations and certain states, was stayed by the D. C. Circuit, and is now under reconsideration by EPA. Thus, both because of its prospective-only application and its current status, this rule is not at issue in this case. However, we note that EPA stated in its preamble to the rule that it believed that both the 1980 regulations and the new rule represent reasonable approaches within its rulemaking authority. 68 Fed. Reg. 61 248 251 (Oct. 27 2003). Indeed, EPA made explicit that it "continue[s] to believe that [its] prior narrower and entirely case-by-case approach" which applies to projects that, like the Alabama Power projects at issue, were undertaken before the new rule's effective date, "was consistent with the relevant language of the CAA and a reasonable effort to effectuate its policies" and is entitled to judicial deference. Id. at 61,251.

Id. at 13 (internal citations omitted). Therefore, the TVA Paradise Title V Permit must include PSD requirements, as "applicable requirements" under 40 C.F.R. § 70.2, for Units 1, 2, and 3 for NOx.

Petitioners raised this issue in their comments, but DAQ refused to respond to the substance of the comment. Rather, DAQ postponed a determination, stating: "The U.S. EPA considers this an active enforcement case and is proceeding. Upon settlement or judicial ruling the Division will incorporate those terms and conditions into this permit." Response to Comments at 3. This is a deficient and unlawful response. DAQ must include all applicable requirements, including PSD requirements. It cannot postpone determination of whether a requirement applies until later.

2. 401 KAR 50:055 § 2(5) Is An Applicable Requirement That Mandates That the SCRs be Operated At All Times Of Operation.

As noted above, the Title V permit must include all "applicable requirements," which includes all SIP requirements. 40 C.F.R. § 70.2. One such SIP-based "applicable requirement" is 401 KAR 50:055 section 2(5), that provides:

> at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

This requires the facility to operate its pollution controls at all times, so as to minimize emissions. This was recognized in the case of Sierra Club v. EPPC and TGC, LLC, FILE

NO. DAQ-26003-037 FILE NO. DAQ-26048-037, wherein the law firm of Hunton and Williams, a noted utility industry law firm, conceded that 401 KAR 50:055 Section 2(5) and similar regulations in other states would require the year round operation of SCRs once they are installed. DAQ supported Hunton and Williams position on this issue. However, TVA does not run the SCRs on Paradise year round and the proposed permit does not expressly require them to do so.

Petitioners made this comment, but DAQ asserted that 401 KAR 50.055 has not meaning other than to merely restate requirements found in other provisions—in this case the provisions in 401 KAR 51:160 requiring TVA to purchase credits. Response to Comments at 3. This not only eviscerates 401 KAR 50:055 section 2(5), by making it mere surplusage to other regulations, but ignores its plain meaning that refers expressly to pollution control equipment (not credit trading programs) and requires the equipment to be operated at all times consistent with good practices to minimize emissions. 401 KAR 50:055 section 2(5) is an applicable requirement that the state refused to apply to the SCRs, resulting in more NOx emissions that allowed by law, and, therefore, the Administrator must object.

II. THE PERMIT DOES NOT REQUIRE SUFFICIENT MONITORING FOR THE OPACITY LIMITS

40 C.F.R. Part 51, Appendix P requires TVA Paradise have a Continuous Opacity Monitoring System ("COMS") for each of its main boilers. Pursuant to 40 C.F.R. § 70.6(a)(3)(b), these COMS should be used to monitor compliance with the opacity limit

for Units 1 and 2.[4] Those limits do not incorporate a monitoring requirement, as an NSPS standards would do, and therefore § 70.6(a)(3)(i)(b) is applicable.

The permit only includes monitoring by Method 9—which is inconsistent, can only be conducted during hours of daylight and other specified conditions, and does not provide sufficient "reliable data from the relevant time period that are representative of the source's compliance with the permit." Indeed, EPA has concluded that COMS, rather than Method 9, should be used because Method 9 is inconsistent and provides deficient data to demonstrate continuous compliance, through numerous NSPS standards, NESHAPS, and EPA-issued permits. In short, a Method 9 test onece every 14 days is insufficient to comply with 40 C.F.R. § 70.6(a)(3)(i)(B), especially when COMS are available and, if necessary, could be located upstream from scrubbers that could have wet plumes.

DAQ rejected Petitioners' comments regarding the inadequate opacity monitoring by asserting that 40 KAR 50:055, section 2(3) requires Method 9. Response to Comments at 6. However, DAQ does not assert—nor could it-- that 401 KAR 50:055, section 2(3) prohibits the use of COMS pursuant to 40 C.F.R. § 70.6(a)(3)(i)(B). The monitoring provisions in 40 C.F.R. § 70.6(a)(3)(i)(B) were intended for just this type of scenario, where the underlying opacity limits contain no monitoring requirement and the SIP, generally, does not provide sufficient monitoring to demonstrate continuous compliance. The Administrator must object.

[4] The Permit must also require a Continuous Emission Monitoring System ("CEMS") for NOx.

III. GACT5 SYNTHETIC MINOR CAP IS NOT SUFFICIENT AND THERE IS NOT SUFFICIENT MONITORING

There is deficient monitoring for PM emissions from GACT5, Condition 2(a), (b) and (c). The PM limit is not enforceable as a practical matter which synthetic minor caps, such as Condition 2(a) must be. DAQ's response to comments purports that monitoring the amount of coal processed and hours of operation will be sufficient to demonstrate that the emission sources do not violate their synthetic minor caps. Response to Comments at 9. However, hours and throughput are not the only variables that affect emissions. Indeed, DAQ believes that an "enclosure," a continuously operating "foam suppression system," and compliance with manufacturer specifications (that are not provided in the permit) are necessary to ensure compliance. There is no requirement to monitor these variables, nor any explanation for DAQ's apparent belief that merely monitoring throughput and hours of operation is sufficient to ensure compliance with the important synthetic minor limits. This is not sufficient monitoring to demonstrate compliance, in violation of 40 C.F.R. § 70.6(a)(3)(i)(B). The Administrator must object. E.g., In re Midwest Generation Fisk Power Plant, Petition V-2004-0 1, at 6-7 (March 25, 2005).

IV. THE PERMIT DOES NOT REQUIRE THE REPORTING OF ALL MONITORING RESULTS

Condition F.5 currently excuses the permittee from reporting COMS and CEMS data. The Administrator must object because Title V requires submission of all COMS and CEMS data.

The Clean Air Act provides, in relevant part:

> Each permit issued under this subchapter shall include . . . a requirement that the permittee submit to the permitting authority, no less often than every 6 months, the results of *any* required monitoring[.]

42 U.S.C. § 7661c(a) (emphasis added).

EPA's regulation implementing 42 U.S.C. § 7661c(a) similarly provides, in relevant part:

> With respect to reporting, the permit shall incorporate all applicable reporting requirements and require the following:
>
> (A)Submittal of reports of *any* required monitoring at least every 6 months. All instants of deviations from permit requirements must be clearly identified in such reports.

40 C.F.R. § 70.6(a)(3)(iii)(A)(emphasis added). The plain language of the Act and the Part 70 regulations are clear and provide no discretion to limit the monitoring that must be provided and publicly available. Christensen v. Harris County, 529 U.S. 576, 588 (2000) (if regulation is clear, court need look no further); Paralyzed Veterans of America v. D.C. Area L.P., 117 F.3d 579, 586 (D.C. Cir. 1997) ("to allow an agency to make a fundamental change in its interpretation of a substantive regulation without notice and comment obviously would undermine those [5 U.S.C. §551(5)] APA requirements"); Chevron U.S.A., Inc. v. Natural Res. Def. Council, 467 U.S. 837, 842 (1984); Griffin v. Oceanic Contractors, Inc., 458 U.S. 564, 570 (1982) ("Our task is to give effect to the will of Congress, and where its will has been expressed in reasonably plain terms, that language must ordinarily be regarded as conclusive."). Courts have repeatedly held that agencies cannot interpret a statutory or regulatory mandate for

"all" into something less than "all." Harrison v. PPG Indus., Inc., 446 U.S. 578, 589 (1980); Teicher v. SEC, 177 F.3d 1016, 1017–18 (D.C. Cir. 1999) (where statute referred to "an investment adviser," court refused to allow agency to limit the term to registered advisers); National Ass'n of Mfrs. v. Dept. of Labor, 159 F.3d 597, 600 (D.C. Cir. 1998) ("There is, of course, no such 'except' clause in the statute, and we are without authority to insert one"); Sierra Club v. EPA, 129 F.3d 137, 138–140 (D.C. Cir. 1997) ("we hold that the grace period [created by EPA] impermissibly creates an exception to the unqualified requirement in the statute that the federal government not approve a transportation activity unless that activity has complied with the conformity rules.").

In fact, at one point, EPA Region Four's reviewer of Title V permits *agreed* with Petitioners that 40 C.F.R. § 70.6(a)(3)(iii)(A) requires reporting of any monitoring, not just deviations. EPA Region 4 sent a memorandum to the Georgia Environmental Protection Division which set forth this position. EPA Region Four stated:

> 40 CFR § 70.6(a)(3)(iii)(A) requires that reports of "any required monitoring" be submitted at least every six months, including all instances of permit deviations. However, it appears that the [Georgia EPD's] permit only requires the reporting of deviations (e.g., exceedances, excess emissions, and excursions) with regard to required monitoring on a semi-annual basis. EPA interprets this rule to require semi-annual reports of all monitoring needed to assure compliance with the terms and conditions of the permit pursuant to § 70.6(c)(1), not just reports of deviations. Therefore, to satisfy the requirements of § 70.6(a)(3)(iii)(A), the permit must be revised to require the submittal of reports of any required monitoring at least every six months.

See Administrative Record in Sierra Club v. Horinko, 03-10262-F (11th Cir. 2003) R. J-4 at 2. ; see Gilbert v. NLRB, 56 F.3d 1438, 1445 (D.C. Cir. 1995) ("It is, of course, elementary

that an agency must conform to its prior decisions or explain the reason for its departure from such precedent." (citations omitted)).

Furthermore, the preamble to EPA's Title V regulations provide that the purpose of 40 C.F.R. § 70.6 is to "enable the source, States, EPA and the public to better understand... whether [a] source is meeting [applicable] requirements," 56 Fed. Reg. 21,712, 21,713 (May 10, 1991), and, therefore, the regulations require "permittee to submit the results of *all* required monitoring at least every 6 months[.]" Id. at 21,737)(emphasis added). "The term 'monitoring' refers to many different types of data collection. It could include, but is not limited to, periodic stack sampling, *continuous emission or opacity monitoring*, ambient air monitoring, or measurements of various parameters of process or control devices (e.g., temperature, pressure drops, voltages)." Id. (emphasis added).

Petitioner made these comments to DAQ, which responded through a conclusory statement that the monitoring in the permit "is consistent with 42 U.S.C. § 7661c(a) and the EPA regulations implementing this provision, 40 C.F.R. 70.6(a)(3)(iii)(A)." Response to Comments at 9. DAQ ignored the substance of the comment and is incorrect on its interpretation of the applicable law. As a result, the permit lacks sufficient reporting for EPA and the public to ensure compliance and the Administrator must object.

V. THE PERMIT DOES NOT CONTAIN LANGUAGE THAT ALLOWS FOR THE USE OF ANY CREDIBLE EVIDENCE

The Permit must contain language that allows for the use of any credible evidence. It is not enough that the permit merely not preclude the use of credible evidence.

> It is the United States Environmental Protections Agency's position that the general language addressing the use of credible evidence is necessary to make it clear that despite any other language contained in the permit, credible evidence can be used to show compliance or noncompliance with applicable requirements. . . . [A] regulated entity could construe the language to mean that the methods for demonstrating compliance specified in the permit are the only methods admissible to demonstrate violation of the permit terms. It is important that Title V permits not lend themselves to this improper construction.

Letter from Cheryl L. Newton, Acting Chief, Air Programs Branch, EPA, to Robert F. Hodanbosi, Chief, Division of Air Pollution Control, Ohio Environmental Protection Agency, dated October 30, 1998. While it is true that anyone may rely on all credible evidence, regardless of whether the permit express states so, it is also true that as a matter of law and policy, EPA requires the permit to expressly state so to avoid any confusion (or boilerplate defenses by violators in enforcement cases regarding use of credible evidence that would clearly lack merit but would unnecessarily consume resources of the parties and courts to deal with).

> Notwithstanding the conditions of this permit that state specific methods that may be used to assess compliance or noncompliance with applicable requirements, other credible evidence may be used to demonstrate compliance or noncompliance.

Letter from Stephen Rothblatt, Acting Director, Air and Radiation Division, US EPA, to Paul Deubenetzky, Indiana Department of Environmental Management, dated July 28, 1998. The Credible Evidence Rule is an applicable requirement for this Title V permit.

EPA should object to the TVA Paradise Title V permit because of its lack of language that makes clear to all that any credible evidence can be used to demonstrate compliance or non-compliance.

VI. THE PERMIT MUST CONTAIN A CASE-BY-CASE MACT STANDARD.

As the Response to Comments notes, Emission Units 4, 5 and 6 are subject to Clean Air Act § 112. Response to Comments at 10 (noting that the units are subject to the NESHAP for industrial boilers that has been vacated). As the response also notes, after the comment period for this Title V permit closed, the NESHAP or "MCAT" promulgated by EPA was vacated by the Court of Appeals. Id. Upon vacatur of the Boiler MACT, another federal Clean Air Act requirement known as the Section 112(j) "MACT hammer," codified in 42 U.S.C. 7412(j)(2), became effective. This provision requires permitting authorities to issue case-by-case MACT determinations when the USEPA has failed to promulgate a MACT for an identified source category such as boilers. The permit must contain a case-by-case "MACT Hammer" limit. Although this specific comment (MACT Hammer) was not raised in the comments, a comment about the then-existing NESHAP was, and the basis for the MACT Hammer did not arise until after the comment period closed, when the Court of Appeals vacated the NESHAP, triggering the MACT Hammer requirement. Because MACT is an applicable requirement, and the permit lacks a MACT limit for units 4-6, the Administrator must object.

VII. CONCLUSION

For the reasons explained above, Petitioners request that EPA object to the TVA Paradise Title V permit.

Respectfully submitted,
GARVEY MCNEIL & MCGILLIVRAY, S.C.

David C. Bender

Counsel for Petitioners

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 the above Petition to the United States Environmental Protection Agency regarding the Tennessee Valley Authority Paradise Fossil Plant, Permit No. V-07-018, via Certified Mail, Return Receipt Requested:

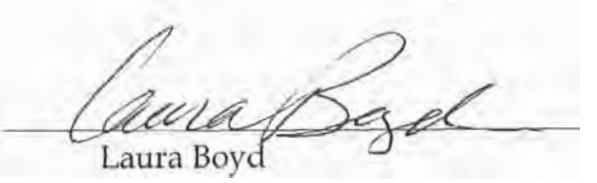
Stephen L. Johnson
US EPA Administrator
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

John S. Lyons, Director
Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601

Tennessee Valley Authority
1101 Market Street,
Chattanooga, Tennessee 37402

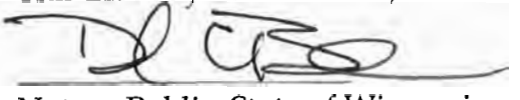
TVA - Paradise Fossil Plant
Mailing Address: 13246 State Route 176, Suite 10
Drakesboro, KY 42337-2345

Dated : December 21, 2007



Laura Boyd

Signed and sworn to before me
This 21st day of December, 2007



Notary Public, State of Wisconsin
My commission is permanent.

ROBERT UKEILEY, P.S.C.
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September 15, 2004

Mr. James Morse
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601;

RE: TVA Paradise Fossil Plant Draft Title V Permit No. V-04-024

Dear Mr. Morse:

On behalf of Kentucky Heartwood, the Center for Biological Diversity, the Sierra Club, Hilary Lambert and Preston Forysthe, I am writing to submit comments on the draft Title V permit for the Tennessee Valley Authority's Paradise Fossil Plant ("TVA Paradise"). You have assigned this draft permit No. V-04-024.

TVA Paradise is one of the largest sources of air pollution in the nation. It sits in Muhlenberg County, Kentucky, which at various times has been designed nonattainment for sulfur dioxide (SO2) and particulate matter (PM). TVA Paradise was one of the major causes of this nonattainment designation. TVA Paradise also sits near the Green River. TVA Paradise, along with the other power plants in the area, can withdraw up to 40% of the water in the Green River, which obviously has an adverse effect on the river ecology. Economically, the impacts of TVA Paradise far outweigh the economic benefits. TVA Paradise's economic impacts are felt in a variety of ways such as premature mortality and health care costs from its pollution, missed days of work and school caused by adverse health impacts, decreased crop production due to its pollution and decreased recreational dollars, especially at Mammoth Cave National Park, due to TVA Paradise's pollution. It is against this background that we offer these comments.

1) PSD IS AN APPLICABLE REQUIREMENT FOR THE THREE MAIN BOILERS WHICH NEEDS TO BE INCLUDED IN THE PERMIT.

The Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act's New Source Review program, 40 CFR 52.21, is an applicable requirement with regard to nitrogen oxides (NOx) emissions from TVA Paradise Units 1, 2, and 3 because TVA modified those units after 40 CFR 52.21 became effective but before Kentucky had an approved PSD program in its SIP. Therefore, the PSD provisions must be include in TVA Paradise's Title V permit.

EXHIBIT 1

Specifically, the modifications that made PSD applicable with regard to NOx are:

> The work was essentially the same at all three units. It included the replacement of all cyclone burners attached to each boiler and the replacement of the lower furnace walls, floor and headers. EPA Enforcement Ex. 273; EPA Enforcement Ex. 279, at 40-42 (Hekking's pre-filed testimony); TVA Ex. 4, at 23-26 (Golden's pre-filed testimony).
>
> Through these projects, TVA replaced all fourteen cyclone burners at each of Units 1 and 2 and replaced all twenty-three cyclone burners at Unit 3. In addition, TVA cut out and replaced the waterwall below 465 feet, including the lower headers and floor at Unit 1. TVA performed the same work at Unit 2. At Unit 3, in addition to the twenty-three cyclones, TVA replaced the waterwalls between 418 feet to 501 feet. TVA Ex. 4, at 23-25 (Golden's pre-filed testimony); EPA Enforcement Ex. 279, at 42 (Hekking's pre-filed testimony).
>
> The magnitude of the work at each of these units was significant. Indeed, TVA had to construct monorails at the front and rear walls for lifting and positioning the cyclones at each unit. EPA Enforcement Ex. 279, at 43 (Hekking's pre-filed testimony). TVA installed a trolley system to transport the cyclones in and out of the building, and TVA constructed rigging inside the furnace to assist in attaching the wall panels and floor panels. Id.
>
> After approval from the Board of Directors and after years of planning, the central office's Fossil and Hydro Power Division performed work on these units sequentially. [FN7] TVA implemented the work at Unit 3 first, beginning in the Fall of 1984 and requiring the unit to be shut down for six months. It then worked on Unit 1, shutting it down for approximately 6.5 months beginning in March of 1985. Finally, TVA performed the work on Unit 2 beginning in November of 1985 and lasting 4.5 months. In each case, the units were shut down for periods well beyond the four weeks typical of scheduled maintenance outages.
>
> The work at Unit 1 and 2 required the replacement of approximately 18.5% of the total tubing in the boiler. TVA Ex. 4, at 23, 25 (Golden's pre-filed testimony). TVA replaced approximately 19.4% of the total tubing in Unit 3's boiler. Id. at 26.

In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at Appendix A, p. 108-109. In support of our claim that PSD for NOx is an applicable requirement, we hereby incorporate by reference all of the evidence, including the transcripts of the live testimony, from In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000).

The fact that the United States Court of Appeals for the Eleventh Circuit subsequently found that the Administrative Compliance Order issued to TVA was **facially** unconstitutional is not relevant to this comment. We are saying that if you review the information that EPA Enforcement presented to the EAB during the course of the proceeding in light of the arguments made by EPA Enforcement and even use the emission test more favorable to TVA (actual to projected actual) and use the PSD regulations that we applicable at the time of the modification, you will independently determine that there was indeed a major modification at all three units at TVA Paradise so that PSD applies to those units for NOx.[1] It is important to remember that the Eleventh Circuit's decision was based on facial analysis of Administrative Compliance Orders which does not describe any particular process for its issuance. However, in the TVA case, TVA was actually given extensive process to try to defend its case. See e.g. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at 8. Even after this trial type process, the evidence showed that TVA had indeed performed major modifications at TVA Paradise.

Therefore, the Title V Permit must include BACT limits for Units 1, 2 and 3 for NOx. We suggest that you set a temporary BACT limit of 0.085 lbs/MMBtu NOx for Unit 1, 0.1 lbs/MMBtu NOx for Unit 2 and 0.15 lbs/MMBtu based on a thirty day rolling average. The limits for Units 1 and 2 are based on TVA Paradise's actual emissions during the 2002 ozone season. See Exhibit 1. Obviously, what a particular unit achieves is achievable. Our purposed limit for Unit 3 is based on the NSPS limit. These temporary limits should go into effect immediately and should apply year round. The final BACT limits will be significantly lower but may require construction in order to comply.

The Title V permit should also include a compliance schedule which requires TVA to submit a full PSD application within 3 months of the issuance of the permit. To the extent that pre-construction monitoring is necessary, TVA should be given additional time to complete its pre-construction monitoring. While this is an aggressive schedule, the people of Kentucky should not be forced to endure TVA Paradise's illegal pollution any longer than necessary.

2) THE PERMIT SHOULD INLCUDE A COMPLIANCE SCHEDULE TO REQUIRE THE SCRs TO BE OPERATED YEAR ROUND PURSUANT TO 401 KAR 50:055 SECTION 2(5).

401 KAR 50:055 SECTION 2(5) provides that:

> at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for

[1] We are not saying that the "actual to projected actual" test is legally mandated. We are merely saying that even using this test, which is the most favorable to TVA, you will still find a significant increase in NOx.

minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

Recently, in the case of Sierra Club v. EPPC and TGC, LLC, FILE NO. DAQ-26003-037 FILE NO. DAQ-26048-037, the law firm of Hunton and Williams, a noted utility industry law firm, took the position that 401 KAR 50:055 Section 2(5) and similar regulations in other states would require the year round operation of SCRs once they are installed. DAQ seemed to support Hunton and Williams position on this issue. However, a review of the information on the US EPA Air Markets Division web page, which is hereby incorporated by reference, indicates that TVA does not run the SCRs on Paradise year round. Therefore, the permit should include a compliance schedule that requires TVA to operate the SCRs on Paradise year round.

Section B.7(a) of the draft permit has some language that does not appear in 401 KAR 50:055 Section 2(5). It states that the source shall operate control equipment to maintain compliance with permitted emission limits. As long as it is clear that Section B.7(a) is a separate requirement that has no bearing on requirement to also comply with 401 KAR 50:055 Section 2(5), Section B.7(a) does not present any problems. However, if Section B.7(a) is meant to limit the applicability of 401 KAR 50:055 Section 2(5), then Section B.7(a) must be removed or altered for there is no legal basis to such an interpretation.

3) PSD IS APPLICABLE TO EMISSION UNITS GACT7, GACT8, GACT 10 AND GACT 11.

To begin with the draft permit does not state that the conditions in Section B for Emission Units GACT7 or GACT8 or in Section D(3) is to limit the applicability of PSD. However, the SOB does so state. The permit should be made clear to state that this condition is to limit the applicability of PSD if that is ultimately what this condition requires.

However, it appears that this synthetic minor cap for these units is not currently being met and is impossible to meet. Section B, Condition 2(a) sets a limit for the three units conveying transfer point, silo loading, and surge hopper and weigh hopper of 632 tpy PM (51.4 lbs/hr + 51.4 lbs/hr + 41.6 lbs/hr * 8760 hr/yr / 2000 lbs/ton = 632.472 tpy). However, the synthetic minor cap needs to be at 25 tpy which would equate to approximately 1.9 lbs/hr limit for each of these emission units. Even this limit of 1.9 lbs/hr would not include fugitive emissions from EQPT16 Limestone Receiving, EQPT18 Limestone Stock-out and Storage, and EQPT20 Limestone Silo Unloading which also must be included in the synthetic minor cap. See 401 KAR 51:017 § 8(c). Furthermore, the synthetic minor cap would need to include a limit of both PM at 25 tpy and PM10 at 15 tpy. See Id. At § 22. See also Exhibit 2 at Page 2, Comment 5 (KY DAQ states "Both Pm and PM10 are regulated in the Kentucky PSD Regulation).

Because there is no evidence that GACT7 and GACT8 have or could meet these limits of 25 tpy PM and 15 tpy PM10, these sources constitute a major modification. Therefore, the permit should include a compliance schedule to require TVA to submit a PSD permit application for these sources.[2]

Finally, GACT10 and GACT11 should be also be considered part of the major modification that involved GACT7 and GACT8. Although construction is staggered, all of these units are obviously all part of the same project. Thus, the permit should also contain a compliance schedule that requires GACT10 and GACT11 to be part of the PSD permit application which TVA is required to submit.[3]

4) THERE IS NO MONITORING FOR OPACITY.

The Statement of Basis (SOB) states that Method 9 is of questionable use for TVA Paradise Boilers 1 and 2. However, the SOB also admits that there is no other monitoring in place for the opacity limit. Title V and its implementing regulations require that there be monitoring in place. Thus, the draft permit's lack of monitoring renders the permit deficient. Condition G(a)18 must be removed as it would allow the inclusion of monitoring for opacity without public participation. Rather, this permit needs to include monitoring and reporting for compliance with the opacity limit for Boilers 1 and 2.

40 CFR Part 51, Appendix P requires TVA Paradise to have a continuous opacity monitoring system (COMS) for each of the main boilers. Therefore, the Title V permit must require a COMS and the COMS should be used to monitor compliance with the opacity limit for Units 1 and 2.[4]

Furthermore, for Unit 3, the draft permit requires a Method 9 test to monitor for opacity compliance "as required by the division." This monitoring is not sufficient to assure compliance. To begin with, Method 9 cannot be used at night or when there is cloud cover. Thus, there is no assurance of compliance with the opacity limit for at least a third and probably two-thirds of the time. In addition, there is no specification of the frequency of the Method 9 test. If there is no specification of the frequency, then there is not adequate monitoring to assure compliance. As with Units 1 and 2, there is no logical reason to not specify that COMS shall be used to assure compliance with the opacity limit for Unit 3.

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[2] This also means that other facilities in Muhlenberg County, such as Peabody's Thoroughbred Generating Station should have to re-submit there PM increment modeling as GACT7 and GACT8 established the minor source baseline date for PM in Muhlenberg County but Peabody's modeled was based on the minor source baseline date being established by Thoroughbred Generating Station.

[3] We will note for the record that all of the emission limits and standards for GACT7, GACT8 and GACT10 and GACT11 including Condition D(3) are not enforceable as a practical matter and do not contain monitoring and reporting to assure compliance. For example, there is no performance testing required and no CEMS or COMS required.

[4] The Permit must also require a CEMS for NOx.

As to the CAM requirement for opacity, again, there is no defensible reason to require a Method 9 test if the COMS shows an exceedance. Again, a Method 9 test cannot be done at night or in cloudy weather. In addition, the Method 9 test will be done after the COMS violation so that the Method 9 test will not provide information about whether there was a violation at the time that the COMS reading demonstrated a violation. Rather, CAM should be simply based on COMS.

Furthermore, as to the CAM requirement for PM, PS 11 should be used. An one time stack test and COMS correlation is not sufficient to account for changes at the plant, especially changes in the quality of the coal being burned..

5) THE PM MONITORING IS NOT SUFFICIENT

The permit does not specify a method for the required PM stack tests for the main boilers. The permit must specify a PM test method which will test for filterable and condensable PM. See Exhibit 2 at Page 3, Comment 6. It seems Method 202 would be appropriate. In addition, the Opacity limit should be re-adjusted downward if any opacity reading is lower than 61% during the stack test.

6) THE PARAMETERTIC MONITORING FOR THE FGD DOES NOT APPEAR TO BE SUFFICIENT

Condition B.4(g) for Unit 1 allows the use of pump amperage as a surrogate for flow rate of make-up scrubbing liquor. It would seem that the flow rate could be affected by factors other than the pump amperage such as physical damage to the pump. Monitoring the actual flow rate seems to be the better approach.

7) MANY EMISSION UNITS DO NOT HAVE LIMITS OR STANDARDS THAT ARE ENFORCEABLE AS A PRACTICAL MATTER AND DO NOT HAVE MONITORING AND REPORTING TO ASSURE COMPLIANCE

For emission units Comb4, Comb5, EQPT36, and EQPT22, there needs to be monitoring for the opacity limit. Also, AP-42 should not be the basis of compliance demonstration. Rather, the permit should require periodic stack tests to obtain site specific data.

The PM limit for GACT4 is based on a 99.99998% control. Yet, there is no monitoring to assure compliance with this level of control. A strict monitoring program must be but in place to assure compliance with a 99.99998% control efficiency. Also, there is no monitoring to assure compliance with the opacity limit for GACT4.

For GACT6, Condition 2(a) is not enforceable as a practical matter as it does not specify control measures that must be in place. There is also no monitoring to assure compliance with Condition 2(b). Finally, the narrative should explain why EPQT12 is

rated at 3,000 tons per hour while all of the other equipment is rated at 2,000 tons per hour.

For EQPT15, there is an operating limit of 5 tons/hr as well as 350 tons/year. However, the permit only requires monitoring of the processing on a monthly basis. Monitoring on a monthly basis is not adequate to assure compliance with a hourly processing rate. In addition, there is no monitoring or testing for the opacity and particulate limits. There is no authority for assuming compliance. Rather, the applicable regulations require monitoring to assure compliance. Monitoring should be achieved using a COMS and a PM CEMS in compliance with PS 11.

8) GACT5 SYNTHETIC MINOR CAP IS NOT SUFFICIENT AND THERE IS NOT SUFFICIENT MONITORING

For GACT5, the SOB and the draft permit do not appear to be consistent. The SOB states that the coal washing unit was build under the old PSD regulations that only required a 100 lb/hr, 1000lb/day, and 50 tn/yr limit on particulate matter emissions. Yet Condition 2(a) states that the PM limits are imposed to prevent the applicability of the current PSD regulations, 401 KAR 51:017. However, if this is the case, the limit would have to be 25 tpy PM and 15 tpy PM10. See 401 KAR 51:017 § 22. This confusion is exacerbated by the fact that the description of this unit does not include the year it commenced construction, although for other units, the permit does include the date that construction commenced. This needs to be clarified and corrected to 25 tpy PM **and** 15 tpy PM10 if this is indeed a condition to prevent the applicability of 401 KAR 51:017. See Id. At § 22.

In addition, there is no monitoring to assure compliance with the opacity and PM limits and the PM limit is not enforceable as a practical matter which synthetic minor caps must be. As explained above, there is no authority to allow for the assumption of compliance. Rather, there must be monitoring and reporting to assure compliance. Again, we believe that COMS and a PM CEMS, in compliance with PS 11, are appropriate to assure compliance, especially considering that the synthetic minor cap is set so close to the PSD significant level.

Finally, the manufactures specifications referenced in Condition 7(a) must be specifically identified in the permit and a copy of these specifications must be included in the permit folder. There must be monitoring and reporting to assure compliance with this requirement.

9) THERE MUST BE REPORTING OF ANY MONITORING RESULTS

Condition F.5 must require the submission of all COMS and CEMS data. See 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(3)(iii)(A)

10) THE NEW BOILER MACT IS AN APPLICABLE REQUIRMENT

US EPA recently finalized a MACT standard for Industrial, Commercial, and Institutional Boilers and Process Heaters. See 69 Fed. Reg. 55217 (Sept. 13, 2004). This new MACT is an applicable requirement for COMB4 (26) Unit 1 Building Heat Boiler and Unit 2 Building Heat Boiler, COMB5 (28) Unit 3 Building Heat Boiler, EQPT22 (29a) Eight Dravo Heaters, and EQPT36 (29b) Three Dravo Heaters. Therefore, the new MACT should be included in the permit. The permit should identify which particular requirements in the new MACT apply to each emission unit in order to be practically enforceable.

11) THE STATEMENT OF BASIS DOES NOT PROVIDE A FACTUAL AND LEGAL BASIS FOR THE PERMIT CONDITIONS.

The Statement of Basis (SOB) is inadequate. For example, the SOB does not provide any explanation for the applicability of PSD to Boilers 1, 2, and 3. It makes no mention of the EPA's enforcement action against TVA Paradise and the EAB's decision in that case. The SOB says that the three units have "redistributed SO2 limits" but does not provide the factual or legal basis for these limits. The SOB does not explain the legal or factual basis for Condition B.7(a). The SOB does not provide the factual and legal basis for the PM stack testing requirements of the COMS and Method 9 testing. The SOB did not explain the factual and legal basis for allowing pump amperage to be a surrogate for flow rate for the FGDs.

12) THE PERMIT MUST CONTAIN LANGUAGE THAT ALLOWS FOR THE USE OF ANY CREDIBLE EVIDENCE.

The Permit must contain language that allows for the use of any credible evidence. EPA supports the inclusion of credible evidence language in all Title V permits. As explained by the Acting Chief of US EPA's Air Programs branch:

> It is the United States Environmental Protections Agency's position that the general language addressing the use of credible evidence is necessary to make it clear that despite any other language contained in the permit, credible evidence can be used to show compliance or noncompliance with applicable requirements. . . . [A] regulated entity could construe the language to mean that the methods for demonstrating compliance specified in the permit are the only methods admissible to demonstrate violation of the permit terms. It is important that Title V permits not lend themselves to this improper construction.

Letter from Cheryl L. Newton, Acting Chief, Air Programs Branch, EPA, to Robert F. Hodanbosi, Chief, Division of Air Pollution Control, Ohio Environmental Protection Agency, dated October 30, 1998.

While anyone may rely on *all* credible evidence regardless of whether this condition appears in the permit, DAQ should include credible evidence language in the permits and permit template to make the point clear. Specifically, EPA has recommended that the following language be included in all Title V permits:

> Notwithstanding the conditions of this permit that state specific methods that may be used to assess compliance or noncompliance with applicable requirements, other credible evidence may be used to demonstrate compliance or noncompliance.

Letter from Stephen Rothblatt, Acting Director, Air and Radiation Division, US EPA, to Paul Deubenetzky, Indiana Department of Environmental Management, dated July 28, 1998.

In conclusion, thank you for this opportunity to comment on this draft permit. We look forward to this permit becoming another step in the effort to eventual provide the people of Kentucky with air that is safe to breath.

Sincerely,

Robert Ukeiley
Counsel for Kentucky Heartwood, the Center for Biological Diversity, the Sierra Club, Hilary Lambert and Preston Forysthe

Cc: Jim Little, EPA Region 4
David Lyodd, EPA Region 4
Edward Messina, EPA HQ

Commonwealth of Kentucky
Division for Air Quality

RESPONSE TO COMMENTS

ON TITLE V (DRAFT) NO. V-04-024
TENNESSEE VALLEY AUTHORITY
DRAKESBORO KY.
JANUARY 13, 2005
BEN MARKIN, REVIEWER
SOURCE I.D. #: 21-177-00006
SOURCE A.I. #: 3239
ACTIVITY #: APE20040002

SOURCE DESCRIPTION:

Tennessee Valley Authority (TVA) operates three coal fired electric generating boilers. The facility also includes coal handling equipment, limestone handling equipment, building heat boilers and heaters, and ash and gypsum disposal processes. All three electric generating units are equipped with selective catalytic reduction for NOx control. To control particulate matter and SO_2 emissions Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers, and one is under construction on Unit 3.

Emission Factors were obtained primarily from AP-42 and stack test data.

The large boiler units are regulated by 401 KAR 61:015, Existing boilers. The newer coal handling is regulated by 40 CFR 60 Subpart Y, Standards of Performance for Coal Preparation Plants. 40 CFR 60 Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, is applicable to the newer limestone handling at the facility. 401 KAR 51:010 and 61:020, New and Existing processes, and 401 KAR 63:010, Fugitive emissions, covers the remaining units.

The three electric generating units have redistributed SO2 limits. They are source specific, and do not match those found in 401 KAR 61:015. Units number 1 and 2 also have increased opacity limits. 401 KAR 61:015 sets them at 20%. TVA followed the procedure found in 401 KAR 50:055 to increase these allowables while meeting the particulate matter emission limits.

PUBLIC AND U.S. EPA REVIEW:

On August 18, 2004, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Leader-News* in Muhlenberg, Kentucky. The public comment period expired 30 days from the date of publication. Comments were received from Robert Ukeiley, Attorney at Law, Berea, Kentucky on September 15, 2004 and Tennessee Valley Authority on September 16, 2004, respectively. Attachment A to this document lists the comments received and the Division's response to each comment. Minor changes were made to the permit as a result of the comments received, however, in no case were any emissions standards, or any monitoring, recordkeeping or reporting requirements relaxed. Please see Attachment A for a detailed explanation of the changes made to the permit. The U.S. EPA has 45 days to comment on this proposed permit. If no comments are received from U.S. EPA during this period, the proposed permit shall become the final permit.

EXHIBIT 2

ATTACHMENT A

Response to Comments

Comments on the Paradise Fossil Power Plant (TVA) Draft Title V Air Quality Permit submitted by Robert Ukeiley, Attorney at Law, Berea, Kentucky, on behalf of Kentucky Heartwood, the Center for Biological Diversity, the Sierra Club, Hilary Lambert, and Preston Forsythe.

By letter dated September 15, 2004, Robert Ukeiley submitted extensive comments on the draft Title V permit issued for the Tennessee Valley Authority's Paradise Fossil Plant. These comments were submitted on behalf of the Sierra Club, the Center for Biological Diversity, and two individuals.

Comment No. 1: PSD IS AN APPLICABLE REQUIREMENT FOR THE THREE MAIN BOILERS WHICH NEEDS TO BE INCLUDED IN THE PERMIT.
The Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act's New Source Review program, 40 CFR 52.21, is an applicable requirement with regard to nitrogen oxides (NOx) emissions from TVA Paradise Units 1, 2, and 3 because TVA modified those units after 40 CFR 52.21 became effective but before Kentucky had an approved PSD program in its SIP. Therefore, the PSD provisions must be include in TVA Paradise's Title V permit.

Specifically, the modifications that made PSD applicable with regard to NOx are: The work was essentially the same at all three units. It included the replacement of all cyclone burners attached to each boiler and the replacement of the lower furnace walls, floor and headers. EPA Enforcement Ex. 273; EPA Enforcement Ex. 279, at 40-42 (Hekking's pre-filed testimony); TVA Ex. 4, at 23-26 (Golden's pre-filed testimony). Through these projects, TVA replaced all fourteen cyclone burners at each of Units 1 and 2 and replaced all twenty-three cyclone burners at Unit 3. In addition, TVA cut out and replaced the waterwall below 465 feet, including the lower headers and floor at Unit 1. TVA performed the same work at Unit 2. At Unit 3, in addition to the twenty-three cyclones, TVA replaced the waterwalls between 418 feet to 501 feet. TVA Ex. 4, at 23-25 (Golden's pre-filed testimony); EPA Enforcement Ex. 279, at 42 (Hekking's pre-filed testimony). The magnitude of the work at each of these units was significant. Indeed, TVA had to construct monorails at the front and rear walls for lifting and positioning the cyclones at each unit. EPA Enforcement Ex. 279, at 43 (Hekking's pre-filed testimony). TVA installed a trolley system to transport the cyclones in and out of the building, and TVA constructed rigging inside the furnace to assist in attaching the wall panels and floor panels. Id. After approval from the Board of Directors and after years of planning, the central office's Fossil and Hydro Power Division performed work on these units sequentially. [FN7] TVA implemented the work at Unit 3 first, beginning in the Fall of 1984 and requiring the unit to be shut down for six months. It then worked on Unit 1, shutting it down for approximately 6.5 months beginning in March of 1985. Finally, TVA performed the work on Unit 2 beginning in November of 1985 and lasting 4.5 months. In each case, the units were shut down for periods well beyond the four weeks typical of scheduled maintenance outages. The work at Unit 1 and 2 required the replacement of approximately 18.5% of the total tubing in the boiler. TVA Ex. 4, at 23, 25 (Golden's pre-filed testimony). TVA replaced approximately 19.4% of the total tubing in Unit 3's boiler. Id. at 26. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at Appendix A, p. 108-109. In support of our claim that PSD for NOx is an applicable requirement, we hereby incorporate by reference all of the evidence, including the transcripts of the live testimony,

from In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000).

The fact that the United States Court of Appeals for the Eleventh Circuit subsequently found that the Administrative Compliance Order issued to TVA was facially unconstitutional is not relevant to this comment. We are saying that if you review the information that EPA Enforcement presented to the EAB during the course of the proceeding in light of the arguments made by EPA Enforcement and even use the emission test more favorable to TVA (actual to projected actual) and use the PSD regulations that we applicable at the time of the modification, you will independently determine that there was indeed a major modification at all three units at TVA Paradise so that PSD applies to those units for NOx. [Footnote 1: We are not saying that the "actual to projected actual" test is legally mandated. We are merely saying that even using this test, which is the most favorable to TVA, you will still find a significant increase in NOx.] It is important to remember that the Eleventh Circuit's decision was based on facial analysis of Administrative Compliance Orders which does not describe any particular process for its issuance. However, in the TVA case, TVA was actually given extensive process to try to defend its case. See e.g. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at 8. Even after this trial type process, the evidence showed that TVA had indeed performed major modifications at TVA Paradise. Therefore, the Title V Permit must include BACT limits for Units 1, 2 and 3 for NOx. We suggest that you set a temporary BACT limit of 0.085 lbs/MMBtu NOx for Unit 1, 0.1 lbs/MMBtu NOx for Unit 2 and 0.15 lbs/MMBtu based on a thirty day rolling average. The limits for Units 1 and 2 are based on TVA Paradise's actual emissions during the 2002 ozone season. See Exhibit 1. Obviously, what a particular unit achieves is achievable. Our purposed limit for Unit 3 is based on the NSPS limit. These temporary limits should go into effect immediately and should apply year round. The final BACT limits will be significantly lower but may require construction in order to comply. The Title V permit should also include a compliance schedule which requires TVA to submit a full PSD application within 3 months of the issuance of the permit. To the extent that pre-construction monitoring is necessary, TVA should be given additional time to complete its pre-construction monitoring. While this is an aggressive schedule, the people of Kentucky should not be forced to endure TVA Paradise's illegal pollution any longer than necessary.

Division's response:

Kentucky DAQ is aware of the current enforcement action against TVA.

EPA initially pursued TVA for alleged NSR violations through the Administrative Compliance Order (ACO) process. However, in June 2003 a three-judge panel of the 11th Circuit Court of Appeals ruled that instead of following the ACO process EPA must "prove the existence of a CAA violation in district court, including the alleged violation that spurred EPA to issue the ACO in this case." [Tennessee Valley Authority v. Whitman, 336 F.3d 1236, 1260 (11th Cir. 2003)]. U.S. EPA sought review of that decision in the U.S. Supreme Court. In May 2004 the Supreme Court declined to grant EPA's request for review of the 11th Circuit ruling. [Leavitt v. Tennessee Valley Authority, 124 S.Ct. 2096 (2004)]. To date, there is no judicial determination of the merits of TVA's alleged NSR violations.

The U.S. EPA considers this an active enforcement case and is proceeding. Upon settlement or judicial ruling Kentucky DAQ will incorporate those terms and conditions into this permit.

Comment No. 2:
THE PERMIT SHOULD INLCUDE A COMPLIANCE SCHEDULE TO REQUIRE THE SCRs TO BE OPERATED YEAR ROUND PURSUANT TO 401 KAR 50:055 SECTION 2(5). 401 KAR 50:055 SECTION 2(5) provides that: at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. Recently, in the case of Sierra Club v. EPPC and TGC, LLC, FILE NO. DAQ-26003-037 FILE NO. DAQ-26048-037, the law firm of Hunton and Williams, a noted utility industry law firm, took the position that 401 KAR 50:055 Section 2(5) and similar regulations in other states would require the year round operation of SCRs once they are installed. DAQ seemed to support Hunton and Williams position on this issue. However, a review of the information on the US EPA Air Markets Division web page, which is hereby incorporated by reference, indicates that TVA does not run the SCRs on Paradise year round. Therefore, the permit should include a compliance schedule that requires TVA to operate the SCRs on Paradise year round. Section B.7(a) of the draft permit has some language that does not appear in 401 KAR 50:055 Section 2(5). It states that the source shall operate control equipment to maintain compliance with permitted emission limits. As long as it is clear that Section B.7(a) is a separate requirement that has no bearing on requirement to also comply with 401 KAR 50:055 Section 2(5), Section B.7(a) does not present any problems. However, if Section B.7(a) is meant to limit the applicability of 401 KAR 50:055 Section 2(5), then Section B.7(a) must be removed or altered for there is no legal basis to such an interpretation.

Division's response:

The SCR's are not subject to an applicable standard other than 401 KAR 51:160, NOx requirements for large utility and industrial boilers. It is DAQ's interpretation of 401 KAR 50:055, Section 2, Compliance with Standards and Maintenance Requirements, that this section applies to sources subject to an emission standard. The only standard applicable to these units is that they have sufficient NOx allowances to address emissions during the ozone control period of May through September of each year. There is no requirement for TVA to operate their SCRs during the ozone control period, since they could instead purchase allowances to comply with 401 KAR 51:160. As there is no requirement in the permit for TVA to operate the SCRs, and there is no permit limit that requires operation of the SCRs in order to preclude the applicability of an air pollutant standard, DAQ does not concur that 401 KAR 50:055, Section 2(5) applies.

Comment No. 3: PSD IS APPLICABLE TO EMISSION UNITS GACT7, GACT8, GACT 10 AND GACT 11. To begin with the draft permit does not state that the conditions in Section B for Emission Units GACT7 or GACT8 or in Section D(3) is to limit the applicability of PSD. However, the SOB does so state. The permit should be made clear to state that this condition is to limit the applicability of PSD if that is ultimately what this condition requires. However, it appears that this synthetic minor cap for these units is not currently being met and is impossible to meet. Section B, Condition 2(a) sets a limit for the three units conveying transfer point, silo loading, and surge hopper and weigh hopper of 632 tpy PM (51.4 lbs/hr + 51.4 lbs/hr + 41.6 lbs/hr * 8760 hr/yr / 2000 lbs/ton = 632.472 tpy). However, the synthetic minor cap needs to be at 25 tpy which would

equate to approximately 1.9 lbs/hr limit for each of these emission units. Even this limit of 1.9 lbs/hr would not include fugitive emissions from EQPT16 Limestone Receiving, EQPT18 Limestone Stock-out and Storage, and EQPT20 Limestone Silo Unloading which also must be included in the synthetic minor cap. See 401 KAR 51:017 § 8(c). Furthermore, the synthetic minor cap would need to include a limit of both PM at 25 tpy and PM10 at 15 tpy. See Id. At § 22. See also Exhibit 2 at Page 2, Comment 5 (KY DAQ states "Both Pm and PM10 are regulated in the Kentucky PSD Regulation). Because there is no evidence that GACT7 and GACT8 have or could meet these limits of 25 tpy PM and 15 tpy PM10, these sources constitute a major modification. Therefore, the permit should include a compliance schedule to require TVA to submit a PSD permit application for these sources. [Footnote 2: This also means that other facilities in Muhlenberg County, such as Peabody's Thoroughbred Generating Station should have to re-submit there [sic] PM increment modeling as GACT7 and GACT8 established the minor source baseline date for PM in Muhlenberg County but Peabody's modeled [sic] was based on the minor source baseline date being established by Thoroughbred Generating Station.] Finally, GACT10 and GACT11 should be also be considered part of the major modification that involved GACT7 and GACT8. Although construction is staggered, all of these units are obviously all part of the same project. Thus, the permit should also contain a compliance schedule that requires GACT10 and GACT11 to be part of the PSD permit application, which TVA is required to submit. [Footnote 3: We will note for the record that all of the emission limits and standards for GACT7, GACT8, and GACT11 including Condition D(3) are not enforceable as a practical matter and do not contain monitoring and reporting to assure compliance. For example, there is no performance testing required and no CEMS or COMS required.]

Division's response:

DAQ does not concur, but upon further investigation has revised the statement of basis to include emission points GACT7, GACT8 (existing limestone handling systems), GACT10 and GACT11 (limestone handling systems under construction).

TVA obtained a NSR permit on 8/17/1979 based on an application submitted 11/2/1978. This was for the coal washing plant. Emissions were not subject to a full PSD/NSR review at that time because the construction was limited to less than 50 tons/year, 1000 lbs/day and 100 lbs of total suspended particulates. This action was performed under a previous version of PSD/NSR regulations, when the applicable threshold for uncontrolled emissions was 50 tons.

A Federal Consent decree required TVA to install control equipment for the control of particulate and sulfur dioxide emissions. TVA had to build support facilities (limestone handling). These facilities were built without a permit from Kentucky, under a federal order. Operation at the allowable and actual hourly emission rates would have resulted in an annual particulate emission rate of more than 25 tons per year. Operating permit O-86-75 was conditioned to limit annual emissions rates to less than 25 tons per year, to preclude applicability of PSD/NSR. The limit established by O-86-75 remains in effect for particulate emissions.

Units GACT10 and GACT11 are not considered part of GACT7 and GACT8 because these units are associated with a new limestone handing system and the new scrubber on Unit 3. A construction permit application for this limestone handling system was submitted to the Division on March 3, 2003 and approved on August 6, 2003. The GACT10 and GACT11 project will primarily support the scrubber currently under construction for Unit 3, but will have redundant capacity that can be used to feed the Unit 1 and 2 scrubbers when needed.

Comment No. 4: THERE IS NO MONITORING FOR OPACITY.

The Statement of Basis (SOB) states that Method 9 is of questionable use for TVA Paradise Boilers 1 and 2. However, the SOB also admits that there is no other monitoring in place for the opacity limit. Title V and its implementing regulations require that there be monitoring in place. Thus, the draft permit's lack of monitoring renders the permit deficient. Condition G(a)18 must be removed as it would allow the inclusion of monitoring for opacity without public participation. Rather, this permit needs to include monitoring and reporting for compliance with the opacity limit for Boilers 1 and 2. 40 CFR Part 51, Appendix P requires TVA Paradise to have a continuous opacity monitoring system (COMS) for each of the main boilers. Therefore, the Title V permit must require a COMS and the COMS should be used to monitor compliance with the opacity limit for Units 1 and 2. [Footnote 4: The Permit must also require a CEMS for NOx.] Furthermore, for Unit 3, the draft permit requires a Method 9 test to monitor for opacity compliance "as required by the division." This monitoring is not sufficient to assure compliance. To begin with, Method 9 cannot be used at night or when there is cloud cover. Thus, there is no assurance of compliance with the opacity limit for at least a third and probably two-thirds of the time. In addition, there is no specification of the frequency of the Method 9 test. If there is no specification of the frequency, then there is not adequate monitoring to assure compliance. As with Units 1 and 2, there is no logical reason to not specify that COMS shall be used to assure compliance with the opacity limit for Unit 3. As to the CAM requirement for opacity, again, there is no defensible reason to require a Method 9 test if the COMS shows an exceedance. Again, a Method 9 test cannot be done at night or in cloudy weather. In addition, the Method 9 test will be done after the COMS violation so that the Method 9 test will not provide information about whether there was a violation at the time that the COMS reading demonstrated a violation. Rather, CAM should be simply based on COMS. Furthermore, as to the CAM requirement for PM, PS 11 should be used. An one time stack test and COMS correlation is not sufficient to account for changes at the plant, especially changes in the quality of the coal being burned..

Division's response:

The Division considers the assertion that continuous opacity monitors (COMs) must be installed and used on Paradise Units 1 and 2 in accordance with 40 C.F.R. Part 51, Appendix P, as incorrect. Section 6.1 of Appendix P of the same regulation expressly provides that ***alternative*** *monitoring requirements may be prescribed if a specified monitoring device "would not provide accurate determinations of emissions (e.g., condensed uncombined water vapor may prevent an accurate determination of opacity using commercially available continuous monitoring systems)." The Division is aware that Units 1 and 2 (and soon Unit 3) are scrubbed and have wet plumes, and consistent with the Agreed Order, Permit Condition G(a)18 requires TVA to propose an alternative method within 90 days of issuance of the permit.*

The frequency of determining compliance with EPA method 9 is established in Condition No. 4g of the permit.

CAM requirements will be applicable to the unit upon renewal of the initial Title V permit [40 CFR 64]. The request that COM readings be used in lieu of Method 9 to determine compliance would establish a different substantive requirement for the facility, contrary to EPA guidance that the Title V permitting process should not result in new substantive requirements but rather should identify and collect in one permit existing applicable requirements. See 57 Fed. Reg. 32,250, 32,251 (July 21, 1992). Substituting COM readings for Method 9 as the compliance method would make the opacity standard more stringent unless some measure was taken to offset this (e.g., employing a de minimis exclusion to a percentage of the COM readings).

See, e.g., Sierra Club v. Tennessee Valley Authority, Case No. CV-02-HS-2279-NW (N.D. Ala. Sept. 14, 2004); National Parks Conservation Association v. Tennessee Valley Authority, 175 F.Supp.2d 1071 (E.D. Tenn. 2001). There are no existing regulatory requirements for continuous monitoring for particulate matter in accordance with Performance Specification 11, which is requested for COMB1 and COMB2.

Comment No. 5: *THE PM MONITORING IS NOT SUFFICIENT*
The permit does not specify a method for the required PM stack tests for the main boilers. The permit must specify a PM test method which will test for filterable and condensable PM. See Exhibit 2 at Page 3, Comment 6. It seems Method 202 would be appropriate. In addition, the Opacity limit should be re-adjusted downward if any opacity reading is lower than 61% during the stack test.

Division's response:

PM test methods (and other applicable test methods) are established by 401 KAR 50:015, Section 1 that is incorporated by reference through Condition No. D2. There is no regulatory basis for such an adjustment of the 61% opacity standard for Unit 1 or the 50% opacity standard for Unit 2. Further, the alternate opacity standards for these units were not established to set a minimum opacity surrogate for judging particulate matter performance. They were established at a level correlated to a particulate matter emission rate, determined by stack testing, deemed to be well within the emission standard. Finally, Unit 1 and Unit 2 are tested quarterly to determine compliance with the particulate matter emission standard.

Comment No. 6: THE PARAMETERTIC MONITORING FOR THE FGD DOES NOT APPEAR TO BE SUFFICIENT
Condition B.4(g) for Unit 1 allows the use of pump amperage as a surrogate for flow rate of make-up scrubbing liquor. It would seem that the flow rate could be affected by factors other than the pump amperage such as physical damage to the pump. Monitoring the actual flow rate seems to be the better approach.

Division's response:

Apart from asserting that flow rates could be affected by factors other than pump amperage, no technical support is provided for this comment. The reliable technical way to conduct periodic monitoring for particulate matter performance on Unit 1 and Unit 2 is to monitor the scrubber pump motor amps. The motors that drive the pumps that deliver scrubber slurry to the venturi sections on each unit do so at a consistent power consumption rate. This rate is tracked by monitoring the pump motor amperage level. Changes in performance correlate to changes in pump motor power consumption rate and this would be indicated by a change in amperage level.

The use of flow monitors in this application would not yield a more accurate measure of flow rate than currently provided by the pump motor amperage reading. There are not appropriate sections of piping on the discharge side of the scrubber slurry pumps to take accurate flow monitor readings. Flow monitors require laminar flow and without such will report fluctuating flow measurements. Thus improperly installed flow monitors would provide only an indication of flow that would be

inferior to simply monitoring pump amperage.

Comment No. 7: *MANY EMISSION UNITS DO NOT HAVE LIMITS OR STANDARDS THAT ARE ENFORCEABLE AS A PRACTICAL MATTER AND DO NOT HAVE MONITORING AND REPORTING TO ASSURE COMPLIANCE*
For emission units Comb4, Comb5, EQPT36, and EQPT22, there needs to be monitoring for the opacity limit. Also, AP-42 should not be the basis of compliance demonstration. Rather, the permit should require periodic stack tests to obtain site specific data. The PM limit for GACT4 is based on a 99.99998% control. Yet, there is no monitoring to assure compliance with this level of control. A strict monitoring program must be but [sic] in place to assure compliance with a 99.99998% control efficiency. Also, there is no monitoring to assure compliance with the opacity limit for GACT4. For GACT6, Condition 2(a) is not enforceable as a practical matter as it does not specify control measures that must be in place. There is also no monitoring to assure compliance with Condition 2(b). Finally, the narrative should explain why EPQT12 is rated at 3,000 tons per hour while all of the other equipment is rated at 2,000 tons per hour. For EQPT15, there is an operating limit of 5 tons/hr as well as 350 tons/year. However, the permit only requires monitoring of the processing on a monthly basis. Monitoring on a monthly basis is not adequate to assure compliance with a hourly processing rate. In addition, there is no monitoring or testing for the opacity and particulate limits. There is no authority for assuming compliance. Rather, the applicable regulations require monitoring to assure compliance. Monitoring should be achieved using a COMS and a PM CEMS in compliance with PS 11.

Division's response:

The opacity monitoring for GACT4 has been addressed. Periodic stack testing for the units is not warranted. Monitoring requirements will include "The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis and maintain a log of the observations. If visible emissions from the stack are seen (not including condensed water vapor within the plume), then the opacity shall be determined by Reference Method 9. If emissions are in excess of the applicable opacity limit, then an inspection of control equipment shall be initiated for all necessary repairs."

New Source Performance Standards do not require stack testing or opacity readings for newly installed units of similar sized, oil-fired units. Compliance assurance based on fuel type and AP-42 emission factors is reasonable. AP-42 factors for oil-fired boilers and heaters are based on decades of sampling data and carry the highest confidence level for emission factors.

The origin of the assertion that the PM limit for GACT4 is based on 99.99998% control efficiency is unclear. The correct control efficiencies are set forth in the original Title V application that TVA submitted in November 1996. These estimates are found in Table 4.2 Paradise Fossil Plant: Maximum Particulate Matter (PM) Emissions from Significant Sources for the Solid Fuel Handling Process. For the Three Coal Breakers and Five Conditioners (Emission Point 16) the control efficiency ranged from 85% to 97% depending on the control technology applied at the various coal processing points. For Coal Conveying and Bunker Room (Emission Point 17) the control efficiency ranged from 70% to 91% depending on the control technology applied to the various coal transfer points. It is also noted that the

maximum estimated particulate matter emission rate of 10.57 lbs/hr from this emission unit is well below the 86.9 lbs/hour limit.

The 3000 tons/hour rating for EQPT12 (Emission Point 15), Receiving and Reclaim Hoppers, is simply a description of its capacity as provided in the application. Concerning EQPT15 (Emission Point19), Two Lime Storage Silos: The 5 ton/hr limit on process weight throughput is a limit carried forward from permit number O-86-75. At one point in time (approximately 1978-1983), Muhlenberg County was non-attainment for total suspended particulates (TSP). Therefore, pursuant to regulation 401 KAR 50:012, this limit has not been relaxed. As stated in the permit, compliance with this limit is assumed when the required bagfilters are maintained and operated in accordance with manufacturer's specifications. For purposes of clarity, the bagfilters have been added to the emission point description, and operation of the bagfilters any time that material is being processed into or out of the silos has been added as an operating limit. It is unnecessary to monitor hourly process weight. Monitoring this emission unit with COMS or PM CEMS is not necessary.

The draft permit identifies enforceable compliance methods for EQPT12. The amount of lime processed must be monitored and recorded. This provides a very practical means of enforcing the specified emission requirements. The Division considers good operating practices and maintenance of this equipment as adequate to ensure compliance with the particulate matter and opacity standards.

Comment No. 8: GACT5 SYNTHETIC MINOR CAP IS NOT SUFFICIENT AND THERE IS NOT SUFFICIENT MONITORING

For GACT5, the SOB and the draft permit do not appear to be consistent. The SOB states that the coal washing unit was build [sic] under the old PSD regulations that only required a 100 lb/hr, 1000lb/day, and 50 tn/yr limit on particulate matter emissions. Yet Condition 2(a) states that the PM limits are imposed to prevent the applicability of the current PSD regulations, 401 KAR 51:017. However, if this is the case, the limit would have to be 25 tpy PM and 15 tpy PM10. See 401 KAR 51:017 § 22. This confusion is exacerbated by the fact that the description of this unit does not include the year it commenced construction, although for other units, the permit does include the date that construction commenced. This needs to be clarified and corrected to 25 tpy PM and 15 tpy PM10 if this is indeed a condition to prevent the applicability of 401 KAR 51:017. See Id. At § 22. In addition, there is no monitoring to assure compliance with the opacity and PM limits and the PM limit is not enforceable as a practical matter which synthetic minor caps must be. As explained above, there is no authority to allow for the assumption of compliance. Rather, there must be monitoring and reporting to assure compliance. Again, we believe that COMS and a PM CEMS, in compliance with PS 11, are appropriate to assure compliance, especially considering that the synthetic minor cap is set so close to the PSD significant level. Finally, the manufactures specifications referenced in Condition 7(a) must be specifically identified in the permit and a copy of these specifications must be included in the permit folder. There must be monitoring and reporting to assure compliance with this requirement.

Division's response:

The Permit Statement of Basis correctly states that GACT5, the coal-washing plant,

was constructed before the current PSD regulation became effective. See response to Comment No. 3. The regulation in effect for this area at that time was 401 KAR 51:050. Under that regulation, the applicable emission threshold was 50 tons per year. The draft permit requires that the amount of coal processed and hours of operation be monitored (GACT5, Section B, Condition 4). This provides a practicably enforceable means of tracking compliance with the applicable limitations.

Comment No. 9: THERE MUST BE REPORTING OF ANY MONITORING RESULTS
Condition F.5 must require the submission of all COMS and CEMS data. See 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(3)(iii)(A)

Division's response:

The Division considers that Section F of the draft permit addresses the requirements and is consistent with 42 U.S.C. § 7661c(a) and the EPA regulation implementing this provision, 40 C.F.R. 70.6(a)(3)(iii)(A).

Comment No. 10: THE NEW BOILER MACT IS AN APPLICABLE REQUIREMENT
US EPA recently finalized a MACT standard for Industrial, Commercial, and Institutional Boilers and Process Heaters. See 69 Fed. Reg. 55217 (Sept. 13, 2004). This new MACT is an applicable requirement for COMB4 (26) Unit 1 Building Heat Boiler and Unit 2 Building Heat Boiler, COMB5 (28) Unit 3 Building Heat Boiler, EQPT22 (29a) Eight Dravo Heaters, and EQPT36 (29b) Three Dravo Heaters. Therefore, the new MACT should be included in the permit. The permit should identify which particular requirements in the new MACT apply to each emission unit in order to be practically enforceable.

Division's response:

The Division acknowledges that the regulations are applicable to COMB4 (26) Unit 1 Building Heat Boiler, Unit 2 Building Heat Boiler, and COMB5 (28) Unit 3 Building Heat Boiler for initial notification requirements (40 CFR 63.9(b)), but there are no applicable emission standards, monitoring, recordkeeping and reporting for the units at this time. The applicable regulations will be added to the appropriate sections of the permit.

EQPT22 (29a) Eight Dravo Heaters and EQPT36 (29b) Three Dravo Heaters are classified in the small liquid fuel subcategory as defined in 40 CFR 63.7575. As such these emission units are not subject to any requirements of 40 CFR 63, Subpart DDDDD and 40 CFR 63.9(b).

Comment No. 11: THE STATEMENT OF BASIS DOES NOT PROVIDE A FACTUAL AND LEGAL BASIS FOR THE PERMIT CONDITIONS.
The Statement of Basis (SOB) is inadequate. For example, the SOB does not provide any explanation for the applicability of PSD to Boilers 1, 2, and 3. It makes no mention of the EPA's enforcement action against TVA Paradise and the EAB's decision in that case. The SOB says that the three units have "redistributed SO2 limits" but does not provide the factual or legal basis for these limits. The SOB does not explain the legal or factual basis for Condition B.7(a). The SOB does not provide the factual and legal basis for the PM stack testing requirements of the COMS and

Method 9 testing. The SOB did not explain the factual and legal basis for allowing pump amperage to be a surrogate for flow rate for the FGDs.

Division's response:

The legal and factual basis is contained in the State Implementation Plan (SIP). [40 CFR 52 Subpart S—Kentucky. *The statement of basis fulfills the requirement of 40 CFR 70.6. The basis for the "redistributed SO_2 limits" was not referenced in the Permit Statement of Basis. The draft permit properly provides the basis for these emission limits; see Condition 2c in the Boiler Unit provisions of the permit. We concur that a description of this emission limit merits note in the statement of basis, and we have amended the "Comments" section of the statement of basis to include that information.*

Comment No. 12: THE PERMIT MUST CONTAIN LANGUAGE THAT ALLOWS FOR THE USE OF ANY CREDIBLE EVIDENCE.

The Permit must contain language that allows for the use of any credible evidence. EPA supports the inclusion of credible evidence language in all Title V permits. As explained by the Acting Chief of US EPA's Air Programs branch: It is the United States Environmental Protections Agency's position that the general language addressing the use of credible evidence is necessary to make it clear that despite any other language contained in the permit, credible evidence can be used to show compliance or noncompliance with applicable requirements. . . . [A] regulated entity could construe the language to mean that the methods for demonstrating compliance specified in the permit are the only methods admissible to demonstrate violation of the permit terms. It is important that Title V permits not lend themselves to this improper construction.

Letter from Cheryl L. Newton, Acting Chief, Air Programs Branch, EPA, to Robert F. Hodanbosi, Chief, Division of Air Pollution Control, Ohio Environmental Protection Agency, dated October 30, 1998. While anyone may rely on all credible evidence regardless of whether this condition appears in the permit, DAQ should include credible evidence language in the permits and permit template to make the point clear. Specifically, EPA has recommended that the following language be included in all Title V permits: Notwithstanding the conditions of this permit that state specific methods that may be used to assess compliance or noncompliance with applicable requirements, other credible evidence may be used to demonstrate compliance or noncompliance. Letter from Stephen Rothblatt, Acting Director, Air and Radiation Division, US EPA, to Paul Deubenetzky, Indiana Department of Environmental Management, dated July 28, 1998.

Division's response::

The Permit Statement of Basis correctly states that Kentucky has not adopted the EPA Credible Evidence rule as part of its SIP. No further response to this comment is needed.

***Comments on the Paradise Fossil Power Plant (TVA) Draft Title V Air Quality Permit submitted by* Janet K. Watts, Manager of Environmental Affairs, TVA, Chattanooga.**

PERMIT APPLICATION SUMMARY FORM

COMMENT No1

1. EMISSIONS SUMMARY (p. 2) - Actual and potential emissions for each pollutant could be presented here as reported on the 2003 Emissions Survey summarized by Kentucky Division for Air Quality on August 2, 2004, as this is the most recent summary available.

Division's response:

The draft permit was issued before the 2003 data was available, however the emission summary has been updated to include the 2003 actual emissions.

COMMENT No 2

2. SOURCE PROCESS DESCRIPTION (p. 2) - Should be changed as indicated: "Tennessee Valley Authority operates three coal-fired electric *steam* generating boilers. All three are equipped with selective catalytic reduction for NOx control. *To control particulate matter and SO_2 emissions,* Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers. *Particulate matter emissions from Unit 3 are controlled by electrostatic precipitators with flue gas conditioning, as needed. A flue gas desulfurization scrubber is under construction on Unit 3 with projected start-up in late 2006.* ~~and one is under construction on Unit 3 to control particulate matter and SO2 emissions~~. The facility also includes coal handling equipment, limestone handling equipment, building heat boilers and heaters, and ash, gypsum, and coal wash plant disposal processes."

Division's response:

The changes have been made in the permit.

PERMIT STATEMENT OF BASIS

COMMENT No 3

(p. 1) - Should be changed as indicated: "All three electric generating units are equipped with selective catalytic reduction for NO_x control. To control particulate matter and SO_2 emissions Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers. *Particulate matter emissions from Unit 3 are controlled by electrostatic precipitators with flue gas conditioning, as needed. A flue gas desulfurization scrubber* ~~and one~~ is under construction on Unit 3 *with projected start-up in late 2006."*

Division's response::

Changes have been made in the Statement of Basis.

DRAFT PERMIT

COMMENT No 4

SECTION B

COMB1 (Emission Point 01) Boiler Unit 1

1. Description (p. 2)
   - Add to Emission Unit Description - Secondary fuels: "*No. 2 fuel oil in addition to petroleum coke, wood waste, used oil with less than 50 ppm PCBs, nonhazardous solvents, and oil-contaminated materials/rags and paper as submitted on Form DEP7007A in the permit application.*"

Division's response:

The secondary fuel has been added to the description as requested. This approval is only for compliance with standards under the Clean Air Act. It does not relieve the need to obtain other permits or approvals from Division of Waste Management or under TSCA(Toxic Substances Control Act).

COMMENT No 5

2. Applicable Regulations
   - Specific Monitoring Requirements, 4.g.1 (p. 3) — Revise the sentence as follows: "Flow rate of ~~make up~~ *recycle* scrubbing liquor. Pump amperage for each *recycle* pump can be used as a surrogate for flow rate."

Division's response:

The change has been made.

COMMENT No 6

- Specific Monitoring Requirements, 4.g.2 (p. 3) — TVA demonstrated in July 1998 that at minimum achievable differential pressure through the venturi sections and at high, medium and low loads Units 1 & 2 operate well within the mass emission limit. This information was previously submitted to the Division and is an attachment to these comments. As discussed in our meeting on September 13, 2004, the Division will take into account the conclusions of the report that allow this condition to be dropped from the proposed permit.

Division's response::

*The Division does not concur. Specific Monitoring Requirements,*4.g.2 (p. 3) *is a monitoring requirement to record the pressure drop across the scrubber at least once per shift. These records are useful to ensure proper operation of an air pollution control device that is used to ensure compliance with the SO2 and PM allowable under 401 KAR 61:015. Compliance with the SO2 allowable can be determined through the SO2 CEM. It is our understanding that the source's position is that compliance with the PM limit is assured by compliance with the SO2 limit, as there is a common control device. The Division does not concur that this is the case in all circumstances. Compliance with the S02 limit is a function of the control device and concentration of sulfur in the fuel.*

Monitoring of the pressure drop is part of the compliance assurance that particulate emissions and opacity are in compliance. This condition only requires some periodic recordkeeping to ensure proper operation of the control device, and is not a direct measure of compliance. In light of the fact opacity can not be monitored

consistently at this stack to ensure compliance, the Division believes it is justified in requiring that records be maintained and be made available to the Division to demonstrate good air pollution control operation.

COMMENT No 7

COMB2 (Emission Point 02) Boiler Unit 2

1. Description (p. 5)
   - Add to Emission Unit Description - "*Secondary fuels: No. 2 fuel oil in addition to petroleum coke, wood waste, used oil with less than 50 ppm PCBs, nonhazardous solvents, and oil-contaminated materials/rags and paper as submitted on Form DEP7007A in the permit application.*"

Division's response:

The addition has been made. The secondary fuel has been added to the description as requested. This approval is only for compliance with standards under the Clean Air Act. It does not relieve the need to obtain other permits or approvals from Division of Waste Management or under Toxic Substances Control Act (TSCA).

COMMENT No 8

2. Applicable Regulations
   - Specific Monitoring Requirements, 4.g.1 (p. 6) — Revise the sentence as follows: "Flow rate of ~~make up~~ *recycle* scrubbing liquor. Pump amperage for each *recycle* pump can be used as a surrogate for flow rate."

Division's response:

The change has been made.

COMMENT No 9

- Specific Monitoring Requirements, 4.g.2 (p. 3) — TVA demonstrated in July 1998 that at minimum achievable differential pressure through the venturi sections and at high, medium and low loads Units 1 & 2 operate well within the mass emission limit. This information was previously submitted to the Division and is an attachment to these comments. As discussed in our meeting on September 13, 2004, the Division will take into account the conclusions of the report that allow this condition to be dropped from the proposed permit.

Division's response:

The Division does not concur. Specific Monitoring Requirements, 4.g.2 (p. 3) is a monitoring requirement to record the pressure drop across the scrubber at least once per shift. These records are useful to ensure proper operation of an air pollution control device that is used to ensure compliance with the SO2 and PM allowable under 401 KAR 61:015. Compliance with the SO2 allowable can be determined through the SO2 CEM.

It is our understanding that the source's position is that compliance with the PM limit is assured by compliance with the SO2 limit, as there is a common control device. The Division does not concur that this is the case in all circumstances. Compliance with the S02 limit is a function of the control device and concentration of sulfur in the fuel. Monitoring of the pressure drop is part of the compliance

assurance that particulate emissions and opacity are in compliance. This condition only requires some periodic recordkeeping to ensure proper operation of the control device, and is not a direct measure of compliance. In light of the fact opacity can not be monitored consistently at this stack to ensure compliance, the Division believes it is justified in requiring that records be maintained and be made available to the Division to demonstrate good air pollution control operation.

COMMENT No 10

COMB3 (Emission Point 03) Boiler Unit 3

1. Description (p. 8)
   - Revise the Controls description as follows: "Selective Catalytic Reduction, Electrostatic Precipitators with flue gas conditioning as needed, and Dual Contact Flow Flue Gas Desulfurization Scrubber (under construction, *projected start-up late* 2006). *This unit can be operated with the scrubber by-passed, as needed.*"
   - Add to Emission Unit Description - "*Secondary fuels: No. 2 fuel oil in addition to petroleum coke, wood waste, used oil with less than 50 ppm PCBs, nonhazardous solvents, and oil-contaminated materials/rags and paper as submitted on Form DEP7007A in the permit application.*"

Division's response:

The secondary fuel has been added to the description as requested. This approval is only for compliance with standards under the Clean Air Act. It does not relieve the need to obtain other permits or approvals from Division of Waste Management or under TSCA(Toxic Substances Control Act).

COMMENT No 11

2. Applicable Regulations
   - Emission Limitations, 2.b (p. 8)—Revise to read: "Pursuant to 401 KAR 61:015, Section 4 (2), *and 401 KAR 50:055,* emissions shall not exceed twenty (20) percent opacity based on a 6-minute average, *except: (1) a maximum of forty (40) percent opacity shall be permissible for not more than one (1) 6-minute period in any sixty (60) consecutive minutes; and (2) during periods of malfunction, shutdown and startup."* Alternatively, this provision could read: *"Pursuant to 401 KAR 61:015, Section 4(2), and consistent with 401 KAR 50:055, emissions shall not exceed twenty (20) percent opacity based on a 6-minute average."*

Division's response:

The Division acknowledges this comment. 401 KAR 50:055 is a compliance requirement and cannot be used under specific opacity requirements.

COMMENT No 12

- Testing Requirements, 3.a (p. 8) As discussed in our meeting at the Division on September 13, 2002 this condition will be revised to read: "*The opacity trigger level for **COMB03 Boiler Unit 3** shall be 20%, based on a three-hour average.* The permittee shall submit, within six months from the issuance date of the proposed permit, a schedule to conduct at least one performance test for particulate within one year following the

issuance of this permit. ~~Opacity data from the Continuous Opacity Monitor (COM) obtained during the performance test shall be correlated with the particulate emission rate to establish an average opacity level pursuant to Condition 4.f below.~~ *If no additional stack tests are performed pursuant to Condition 4.d, the permittee shall conduct a performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the applicable standard."*

This 20% opacity trigger level for Unit 3 is based on stack testing conducted in July 1991 that correlated compliance with the mass standard of 0.11 lbs/MM BTU up to an opacity of 36%. This information was submitted to the Division on July 29, 1991, and is an attachment to these comments. This correlation shows that the proposed action level of 20% (based on a three-hour average) provides sufficient compliance margin with the mass standard.

Division's response:

See response to comment number 14 below.

COMMENT No 13

- Testing Requirements, 3.b (p. 8) — Revise to read: "The permittee shall determine the opacity of emissions from the stack by EPA Reference Method 9 *for determination of compliance with the opacity standard* upon request by the Division."

  Consistent with 401 KAR 50:055, compliance with the opacity standard is determined by Method 9 observations. Opacity data derived from the use of COMS provides an indication of good operation of control equipment and is sufficient to meet periodic monitoring requirements for opacity.

Division's response:

The testing requirements will not change.

COMMENT No 14

- Specific Monitoring Requirements, 4.f (p. 9) — As discussed in our meeting at the Division on September 13, 2002, this condition will be revised to read: "Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). ~~The average opacity level, determined pursuant to condition 3.a above, plus 5% opacity, will become the opacity trigger level.~~ Excluding the startup, shut down, *malfunction,* and once per hour exemption periods, if the six-minute ~~opacity~~ *opacity readings* (averaged over a period of three hours) exceed the opacity trigger level *set forth in 3.a above* the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs.

  If five (5) percent or greater of COM data (excluding startup, shut down, malfunctions and once-per-hour exclusion periods, data averaged over a ~~six minute period~~ *three-hour period*) recorded in a calendar quarter show excursions above the opacity trigger level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G (a)(17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been

corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

Division's response:

The concept of an opacity trigger level and the establishment of the five percent (5%) excursion in any calendar quarter standard was agreed to by the Division and the Utility Information Exchange. It identifies that point at which the facility will be required to take specific actions-- inspection and repair of equipment or conducting a stack test. It is not a regulatory or permit limit; it is a description of the condition of operation that the Division has determined warrants corrective action. Its purpose was to ensure consistency between Regional Offices and individual inspectors so that utilities were not required to take different actions based on the same circumstances. Since it is based on an agreement that has met the purpose for which it was intended satisfactorily, the Division declines to change it in this permit. This trigger level has nothing to do with any opacity limit as specified in the applicable regulations. As it is based on a correlation test between mass emissions and opacity it only identifies the level of opacity at which a presumption is made that the mass emission limit may be exceeded, and therefore a corrective action (i.e., inspection and repair) is appropriate. Until TVA Paradise has a source specific SIP revision approved by U.S. EPA, the opacity limit will remain as specified by the regulations.

COMMENT No 15

- Specific Monitoring Requirements, 4.i.1 (p. 10) — This condition should be deleted. There is no applicable standard requiring that scrubber liquor flow rate be monitored. In addition periodic monitoring for sulfur dioxide will be accomplished by using CEMS.

Division's response:

The Division does not concur. Specific Monitoring Requirements, 4.i.1 (p. 10) is a monitoring requirement to record the pressure drop across the scrubber at least once per shift. These records are useful to ensure proper operation of an air pollution control device that is used to ensure compliance with the SO2 and PM allowable under 401 KAR 61:015. Compliance with the SO2 allowable can be determined through the SO2 CEM. It is our understanding that the source's position is that compliance with the PM limit is assured by compliance with the SO2 limit, as there is a common control device. The Division does not concur that this is the case in all circumstances. Compliance with the S02 limit is a function of the control device and concentration of sulfur in the fuel. Monitoring of the pressure drop is part of the compliance assurance that particulate emissions and opacity are in compliance.

This condition only requires some periodic recordkeeping to ensure proper operation of the control device, and is not a direct measure of compliance. In light of the fact opacity can not be monitored consistently at this stack to ensure compliance, the Division believes it is justified in requiring that records be maintained and be made available to the Division to demonstrate good air pollution control operation.

COMMENT No 16

- Specific Monitoring Requirements, 4.i.2 (p. 10) — This condition should be deleted. There is no applicable standard limiting operating hours. In addition, periodic monitoring for sulfur dioxide will be accomplished using CEMS.

Division's response:

The permit does not contain operating limitation on hours of operation. See response number 15 above.

COMMENT No 17

- Specific Record Keeping Requirements, 5.b (p. 10)—Delete "... on a three-hour rolling average basis," because a 3-hour rolling average is not used to determine compliance for these units. Replace "indicator range" with "*opacity standard.*" This is consistent with Condition 6.b.

Division's response:

The three-hour rolling average is a standard for continuous opacity monitoring and will not be changed as requested. "Opacity standard" has been changed to "trigger level".

COMMENT No 18

- Specific Reporting Requirements, 6.a.1 (p. 10)—Revise the second sentence: "The averaging period used for data reporting should correspond to the emission standard averaging period ~~of twenty-four (24) hour~~." Opacity is not a 24-hour standard and the bases are listed in the emission limitations section.

Division's response:

The averaging period is for the sulfur dioxide limitation and will not change.

COMMENT No 19

- Unit 2 Scrubber By-Pass Capability - On May 28, 2003, TVA submitted an addendum to the Title V permit application for the Unit 3 Flue Gas Desulfurization Scrubber. This submittal included updated permit application forms and dispersion modeling results for different plant operating scenarios. The study indicates that the Unit 3 scrubber will reduce local ambient SO_2 levels and local SO_2 levels will remain below the National Ambient Air Quality Standards. This also demonstrated that the project meets the state and U. S. Environmental Protection Agency designation as an environmentally beneficial project.

As stated in the May 2003 submittal the design of the Unit 3 scrubber and associated ductwork incorporates provisions to by-pass the scrubber through the existing stack, if needed. TVA anticipates infrequent use of this by-pass capability once the scrubber is commission in late 2006. However, because we will have this capability it is important to address the following issues specifically in the proposed permit:

- Unit 3 Scrubber By-Pass Capability - The permit should include language in Description that addresses this capability.

- Unit 3 Emission Points - Once the new scrubber and new stack are commissioned in late 2006, Unit 3 will have two (2) emission points. The emission point represented by the current stack and the emission point represented by the new stack should be assigned separate numbers. These emission point identification numbers should be listed in the Description for this emission unit in the proposed permit.
- Unit 3 Opacity Continuous Monitoring - As discussed with the Division during the scrubber permit application process, when operation of the new scrubber commences, opacity monitoring will occur downstream of the electrostatic precipitators but upstream of the scrubber. The COMS system will be used in both normal and by-pass operation after the scrubber is commissioned in later 2006. The existing COMS system will be decommissioned after the system described above is in place.
- Unit 3 Sulfur Dioxide and Nitrogen Dioxide Emissions Monitoring - As discussed with the Division during the scrubber permit application process, when operation of the new scrubber commences, sulfur dioxide and nitrogen dioxide emissions monitoring will occur downstream of the scrubber at the appropriate point in the new stack. When the scrubber is by-passed sulfur dioxide and nitrogen dioxide emissions monitoring will occur at the current location in the existing stack. TVA will maintain the existing CEMS units in their current location as a contingency for scrubber by-pass events.

Division's response:

The Division does not have the regulatory authority to grant the scrubber by-pass capability at this time. The permittee may submit an application to the Division detailing stack and CEMs data to that effect when the scrubbers come on line in 2006.

COMMENT No 20

GACT4 (Emission Points 16 & 17) Existing Coal Handling Processes

1. Applicable Regulations
   - Specific Control Equipment Operating Conditions, 7.a (p. 16) — Revise to read: "The enclosure shall be maintained and the foam suppression system shall be ~~continuously~~ operated *as needed* to maintain compliance with the permitted emission limitations~~, in accordance with manufacturer's specification and/or good operating practices~~."

Division's response:

The compliance demonstration of these units with respect to emissions can be achieved through the continuous operation of the pollution control device, as such; the permit control equipment language will not change.

COMMENT No 21

GACT6 (Emission Points 15 & 18) Existing Coal Handling Fugitives

1. Applicable Regulations
   - Specific Monitoring Requirements, 4 (p. 17) - Propose that this condition be changed to read: "The amount of coal processed shall be monitored on a monthly basis *and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 22

EQPT15 (Emission Points 19) Two Lime Storage Silos

1. Applicable Regulations
   - Specific Monitoring Requirements, 4.a (p. 18) - Propose that this condition be changed to read: "The amount of lime processed shall be monitored on a monthly basis *and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 23

- Specific Control Equipment Operating Conditions, 7.a (p. 18) — Revise the condition as follows: "The ~~bagfilters~~ *air pollution control equipment* shall be ~~continuously~~ operated ~~to maintain compliance with the permitted emission limitations, in accordance with manufacturer's specifications and/or~~ *and maintained in accordance with* good operating practices *to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number 20.

COMMENT No 24

GACT5 (Emission Points 04 through14) Coal Washing Plant

1. Applicable Regulations
   - Operating Limitations, (p. 19) - Propose the addition of new condition that reads: "*Coal processed through Emission Unit GACT5 as defined herein shall not exceed 13,000,000 tons in any 12-month period.*"

Division's response:

The changes have been made.

COMMENT No 25

- Specific Monitoring Requirements, 4.a (p. 20) - Propose that this condition be changed to read: "The amount of coal processed shall be monitored on a ~~monthly~~ *daily* basis, *compiled into monthly totals, and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 26

- Specific Monitoring Requirements, 4.b (p. 20) - Propose this condition be deleted. There is no applicable standard limiting operating hours. Compliance assurance with 401 KAR 51:017 can be achieved by record keeping of coal tonnage processed on a daily basis and tabulated into a 12-month rolling total. Compliance demonstration with hourly and daily particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission point.

Division's response:

The only means to determine that the BACT standards are being met is through the monitoring of hours of operations, which is practically enforceable.

COMMENT No 27

- Specific Control Equipment Operating Conditions, 7.a (p. 20) — Revise to read: "The enclosure shall be maintained and the foam suppression system shall be ~~continuously~~ operated *as needed* to maintain compliance with the permitted emission limitations~~, in accordance with manufacturer's specification and/or good operating practices~~."

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 28

GACT7 (EQPT 21, 23, 25) Limestone Handling Process

1. Applicable Regulations

In our correspondence on January 30, 2004, TVA identified an exception in the 2003 compliance certification related to the limestone handling system. The permit application for the process reflects bagfilters on the prep building surge hoppers and the bagfilters were not operable during that compliance period. Emission estimates provided in January 2004 for the compliance period demonstrate that the limestone handling system met the emission standard for the source relying on transfer point & conveyor enclosures to provide sufficient emissions control.

PAF has operated the limestone handling system since 1982 and based on our experience operating this system, TVA has determined that the bagfilters on the system are not needed to control fugitive dust. Therefore, we propose that the bagfilters be removed from the permit application and from the proposed Title V permit.

Division's response:

Permitted requirement are not based on single year emission data, therefore the pollution control device will remain in the permit.

COMMENT No 29

- Emission Limitations, 2.b (p. 21) - Propose that this condition be changed to read: "Compliance *is demonstrated when* ~~will be assumed while bagfilters~~ enclosures are ~~utilized properly~~ *maintained in accordance with good operating practices to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 30

Specific Control Equipment Operating Conditions, 7.a (p. 21) - Revise the condition as follows: "The ~~bagfilters~~ *enclosures* shall be ~~continuously operated to maintain compliance with the permitted emission limitations, in accordance with manufacturer's specifications and/or~~ *maintained in accordance with* good operating practices *to ensure*

compliance with permitted emission limitations."

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 31

GACT8 (EQPT 16, 18, & 20) Limestone Handling Fugitives

1. Applicable Regulations
   - Specific Monitoring Requirements, 4.a (p. 22) - Propose that this condition be changed to read: "The amount of limestone processed shall be monitored on a ~~monthly~~ *daily basis, compiled into monthly totals, and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 32

- Specific Monitoring Requirements, 4.b (p. 22) - Propose this condition be deleted. There is no applicable standard limiting operating hours. Compliance demonstration with hourly and annual particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission point.

Division's response:

The Division believes this requirement is a necessary means of facilitating better information gathering for the unit.

COMMENT No 33

EQPT23 (Emission Point 30) Ash Handling System

1. **Description (p. 23) To maintain consistency** with other sections of the permit add individual process weight to each activity as follows:

Ash/Slag Reclaim from Slag Pond	134 tons/hr
Ash/Slag Reclaim from Dewatering Area	200 tons/hr
Ash/Slag Reclaim from Slag Pond	200 tons/hr

Division's response:

The changes have been made.

COMMENT No 34

2. Applicable Regulations
   - Operating Limitations (p. 23) - Propose deletion of operating limitation. There are no hourly or annual throughput restrictions for the Ash Handling System.

Division's response:

The operating limitation has been deleted.

COMMENT No 35

- Specific Monitoring Requirements, 4.a (p. 23) - Propose that this condition be changed to read: "The amount of ash and slag processed shall be monitored on a monthly basis

and annual throughput maintained as a rolling 12-month total."

Division's response:

The changes have been made.

COMMENT No 36

- Specific Monitoring Requirements, 4.b (p. 23) - This condition should be deleted. There is no applicable standard limiting operating hours. Compliance demonstration with particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission point.

Division's response:

See response to comment number 32.

COMMENT No 37

EQPT30 (Emission Point 42) Gypsum Handling

1. Description (p. 24)

- To maintain consistency with other sections of the permit modify description and add individual process weight to each activity as follows:

Sluicing to Gypsum Disposal Pond	108 tons/hr
Gypsum Dewatering/Drying	167 tons/hr
Excavation and Transport of Dewatered Gypsum	167 tons/hr
Soil Cover Transport	358 tons/hr

Division's response:

The changes have been made.

COMMENT No 38

2. Applicable Regulations

- Operating Limitations (p. 24) - Propose deletion of operating limitation. There are no hourly or annual throughput restrictions for Gypsum Handling.

Division's response:

The operating limitation has been deleted.

COMMENT No 39

- Specific Monitoring Requirements, 4.a (p. 24) - Propose that this condition be changed to read: "The amount of gypsum processed shall be monitored on a monthly basis *and annual throughput maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 40

- Specific Monitoring Requirements, 4.b (p. 24) - This condition should be deleted. There is no applicable standard limiting operating hours. Compliance demonstration with particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission

point.

Division's response:

See response to comment number 32.

COMMENT No 41

GACT10 (Emission Points 75 & 76) Unit 3 Limestone Handling (Under Construction)

1. Applicable Regulations

- Compliance Demonstration Method (p. 26) - Revise the sentence as follows: "Compliance is ~~assumed~~ *demonstrated* when the ~~baghouses and bin vents~~ *enclosures* for this emission unit are ~~operated continuously and~~ maintained ~~in accordance with manufacturer's recommendations.~~ *in accordance with* good operating practices *to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 42

- Testing Requirements (p. 26) - Propose that this condition be deleted. Small baghouse dust collectors and bin vents are difficult to test using Method 5 or Method 17. In both cases it is unlikely that Method 1 and Method 2 can establish an appropriate and valid test point locations and discharge gas velocity profile, respectively. This is due to the compact nature of the clean-side plenum and arrangement of the discharge point (stack).

Division's response:

Kentucky does not have the authority to circumvent the requirement of a Federal New Source Performance Standard.

COMMENT No 43

- Specific Monitoring Requirements, 4.b (p. 26) - Propose that this condition be changed to read: "The amount of limestone processed shall be monitored on a monthly basis *and annual throughput maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 44

- Specific Control Equipment Operating Conditions, 7.a (p. 27) - Revise the condition as follows: "The ~~baghouses and bin vents~~ *air pollution control equipment* shall be ~~continuously~~ operated ~~to maintain compliance with the permitted emission limitations, in accordance with manufacturer's specifications and/or~~ *and maintained in accordance with* good operating practices *to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 45

GACT11 (Emission Points 73, 74, & 77) Unit 3 Limestone Handling Fugitives (under construction)

1. Applicable Regulations
   - Specific Monitoring Requirements, 4.a (p. 28) - Propose that this condition be changed to read: "The amount of limestone processed shall be monitored on a monthly basis *and maintained as a rolling 12-month total*."

Division's response:

The change has been made.

COMMENT No 46
SECTION D

- Compliance Demonstration Method, (p. 32) - Revise the condition as follows: "Compliance is ~~assumed~~ *demonstrated* when the ~~bagfilters~~ *air pollution control equipment* is operated ~~continuously~~ and maintained ~~in accordance with manufacturer's recommendations~~ *according to good operating practices pursuant to 401 KAR 50:055, Section 2(5)*."

Division's response:

The permit control equipment language will not change. See response to comment number20.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.

Commonwealth of Kentucky
Division for Air Quality

RESPONSE TO COMMENTS

ON TITLE V (DRAFT) NO. V-04-024
TENNESSEE VALLEY AUTHORITY
DRAKESBORO KY.
MARCH 9, 2005
BEN MARKIN, REVIEWER
SOURCE I.D. #: 21-177-00006
SOURCE A.I. #: 3239
ACTIVITY #: APE20040002

SOURCE DESCRIPTION:

Tennessee Valley Authority (TVA) operates three coal fired electric generating boilers. The facility also includes coal handling equipment, limestone handling equipment, building heat boilers and heaters, and ash and gypsum disposal processes. All three electric generating units are equipped with selective catalytic reduction for NOx control. To control particulate matter and SO_2 emissions Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers, and one is under construction on Unit 3.

Emission Factors were obtained primarily from AP-42 and stack test data.

The large boiler units are regulated by 401 KAR 61:015, Existing boilers. The newer coal handling is regulated by 40 CFR 60 Subpart Y, Standards of Performance for Coal Preparation Plants. 40 CFR 60 Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, is applicable to the newer limestone handling at the facility. 401 KAR 51:010 and 61:020, New and Existing processes, and 401 KAR 63:010, Fugitive emissions, covers the remaining units.

The three electric generating units have redistributed SO2 limits. They are source specific, and do not match those found in 401 KAR 61:015. Units number 1 and 2 also have increased opacity limits. 401 KAR 61:015 sets them at 20%. TVA followed the procedure found in 401 KAR 50:055 to increase these allowables while meeting the particulate matter emission limits.

PUBLIC AND U.S. EPA REVIEW:

On August 18, 2004, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Leader-News* in Muhlenberg, Kentucky. The public comment period expired 30 days from the date of publication. Comments were received from Robert Ukeiley, Attorney at Law, Berea, Kentucky on September 15, 2004 and Tennessee Valley Authority on September 16, 2004, respectively. Attachment A to this document lists the comments received and the Division's response to each comment. Minor changes were made to the permit as a result of the comments received, however, in no case were any emissions standards, or any monitoring, recordkeeping or reporting requirements relaxed. Please see Attachment A for a detailed explanation of the changes made to the permit. The U.S. EPA has 45 days to comment on this proposed permit. If no comments are received from U.S. EPA during this period, the proposed permit shall become the final permit.

EXHIBIT 3

ATTACHMENT A

Response to Comments

Comments on the Paradise Fossil Power Plant (TVA) Draft Title V Air Quality Permit submitted by Robert Ukeiley, Attorney at Law, Berea, Kentucky, on behalf of Kentucky Heartwood, the Center for Biological Diversity, the Sierra Club, Hilary Lambert, and Preston Forsythe.

By letter dated September 15, 2004, Robert Ukeiley submitted extensive comments on the draft Title V permit issued for the Tennessee Valley Authority's Paradise Fossil Plant. These comments were submitted on behalf of the Sierra Club, the Center for Biological Diversity, and two individuals.

Comment No. 1: PSD IS AN APPLICABLE REQUIREMENT FOR THE THREE MAIN BOILERS WHICH NEEDS TO BE INCLUDED IN THE PERMIT.
The Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act's New Source Review program, 40 CFR 52.21, is an applicable requirement with regard to nitrogen oxides (NOx) emissions from TVA Paradise Units 1, 2, and 3 because TVA modified those units after 40 CFR 52.21 became effective but before Kentucky had an approved PSD program in its SIP. Therefore, the PSD provisions must be include in TVA Paradise's Title V permit.

Specifically, the modifications that made PSD applicable with regard to NOx are: The work was essentially the same at all three units. It included the replacement of all cyclone burners attached to each boiler and the replacement of the lower furnace walls, floor and headers. EPA Enforcement Ex. 273; EPA Enforcement Ex. 279, at 40-42 (Hekking's pre-filed testimony); TVA Ex. 4, at 23-26 (Golden's pre-filed testimony). Through these projects, TVA replaced all fourteen cyclone burners at each of Units 1 and 2 and replaced all twenty-three cyclone burners at Unit 3. In addition, TVA cut out and replaced the waterwall below 465 feet, including the lower headers and floor at Unit 1. TVA performed the same work at Unit 2. At Unit 3, in addition to the twenty-three cyclones, TVA replaced the waterwalls between 418 feet to 501 feet. TVA Ex. 4, at 23-25 (Golden's pre-filed testimony); EPA Enforcement Ex. 279, at 42 (Hekking's pre-filed testimony). The magnitude of the work at each of these units was significant. Indeed, TVA had to construct monorails at the front and rear walls for lifting and positioning the cyclones at each unit. EPA Enforcement Ex. 279, at 43 (Hekking's pre-filed testimony). TVA installed a trolley system to transport the cyclones in and out of the building, and TVA constructed rigging inside the furnace to assist in attaching the wall panels and floor panels. Id. After approval from the Board of Directors and after years of planning, the central office's Fossil and Hydro Power Division performed work on these units sequentially. [FN7] TVA implemented the work at Unit 3 first, beginning in the Fall of 1984 and requiring the unit to be shut down for six months. It then worked on Unit 1, shutting it down for approximately 6.5 months beginning in March of 1985. Finally, TVA performed the work on Unit 2 beginning in November of 1985 and lasting 4.5 months. In each case, the units were shut down for periods well beyond the four weeks typical of scheduled maintenance outages. The work at Unit 1 and 2 required the replacement of approximately 18.5% of the total tubing in the boiler. TVA Ex. 4, at 23, 25 (Golden's pre-filed testimony). TVA replaced approximately 19.4% of the total tubing in Unit 3's boiler. Id. at 26. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at Appendix A, p. 108-109. In support of our claim that PSD for NOx is an applicable requirement, we hereby incorporate by reference all of the evidence, including the transcripts of the live testimony,

from In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000).

The fact that the United States Court of Appeals for the Eleventh Circuit subsequently found that the Administrative Compliance Order issued to TVA was facially unconstitutional is not relevant to this comment. We are saying that if you review the information that EPA Enforcement presented to the EAB during the course of the proceeding in light of the arguments made by EPA Enforcement and even use the emission test more favorable to TVA (actual to projected actual) and use the PSD regulations that we applicable at the time of the modification, you will independently determine that there was indeed a major modification at all three units at TVA Paradise so that PSD applies to those units for NOx. [Footnote 1: We are not saying that the "actual to projected actual" test is legally mandated. We are merely saying that even using this test, which is the most favorable to TVA, you will still find a significant increase in NOx.] It is important to remember that the Eleventh Circuit's decision was based on facial analysis of Administrative Compliance Orders which does not describe any particular process for its issuance. However, in the TVA case, TVA was actually given extensive process to try to defend its case. See e.g. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at 8. Even after this trial type process, the evidence showed that TVA had indeed performed major modifications at TVA Paradise. Therefore, the Title V Permit must include BACT limits for Units 1, 2 and 3 for NOx. We suggest that you set a temporary BACT limit of 0.085 lbs/MMBtu NOx for Unit 1, 0.1 lbs/MMBtu NOx for Unit 2 and 0.15 lbs/MMBtu based on a thirty day rolling average. The limits for Units 1 and 2 are based on TVA Paradise's actual emissions during the 2002 ozone season. See Exhibit 1. Obviously, what a particular unit achieves is achievable. Our purposed limit for Unit 3 is based on the NSPS limit. These temporary limits should go into effect immediately and should apply year round. The final BACT limits will be significantly lower but may require construction in order to comply. The Title V permit should also include a compliance schedule which requires TVA to submit a full PSD application within 3 months of the issuance of the permit. To the extent that pre-construction monitoring is necessary, TVA should be given additional time to complete its pre-construction monitoring. While this is an aggressive schedule, the people of Kentucky should not be forced to endure TVA Paradise's illegal pollution any longer than necessary.

Division's response:

Kentucky DAQ is aware of the current enforcement action against TVA.

EPA initially pursued TVA for alleged NSR violations through the Administrative Compliance Order (ACO) process. However, in June 2003 a three-judge panel of the 11th Circuit Court of Appeals ruled that instead of following the ACO process EPA must "prove the existence of a CAA violation in district court, including the alleged violation that spurred EPA to issue the ACO in this case." [Tennessee Valley Authority v. Whitman, 336 F.3d 1236, 1260 (11th Cir. 2003)]. U.S. EPA sought review of that decision in the U.S. Supreme Court. In May 2004 the Supreme Court declined to grant EPA's request for review of the 11th Circuit ruling. [Leavitt v. Tennessee Valley Authority, 124 S.Ct. 2096 (2004)]. To date, there is no judicial determination of the merits of TVA's alleged NSR violations.

The U.S. EPA considers this an active enforcement case and is proceeding. Upon settlement or judicial ruling Kentucky DAQ will incorporate those terms and conditions into this permit.

Comment No. 2:
THE PERMIT SHOULD INLCUDE A COMPLIANCE SCHEDULE TO REQUIRE THE SCRs TO BE OPERATED YEAR ROUND PURSUANT TO 401 KAR 50:055 SECTION 2(5). 401 KAR 50:055 SECTION 2(5) provides that: at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. Recently, in the case of Sierra Club v. EPPC and TGC, LLC, FILE NO. DAQ-26003-037 FILE NO. DAQ-26048-037, the law firm of Hunton and Williams, a noted utility industry law firm, took the position that 401 KAR 50:055 Section 2(5) and similar regulations in other states would require the year round operation of SCRs once they are installed. DAQ seemed to support Hunton and Williams position on this issue. However, a review of the information on the US EPA Air Markets Division web page, which is hereby incorporated by reference, indicates that TVA does not run the SCRs on Paradise year round. Therefore, the permit should include a compliance schedule that requires TVA to operate the SCRs on Paradise year round. Section B.7(a) of the draft permit has some language that does not appear in 401 KAR 50:055 Section 2(5). It states that the source shall operate control equipment to maintain compliance with permitted emission limits. As long as it is clear that Section B.7(a) is a separate requirement that has no bearing on requirement to also comply with 401 KAR 50:055 Section 2(5), Section B.7(a) does not present any problems. However, if Section B.7(a) is meant to limit the applicability of 401 KAR 50:055 Section 2(5), then Section B.7(a) must be removed or altered for there is no legal basis to such an interpretation.

Division's response:

The SCR's are not subject to an applicable standard other than 401 KAR 51:160, NOx requirements for large utility and industrial boilers. It is DAQ's interpretation of 401 KAR 50:055, Section 2, Compliance with Standards and Maintenance Requirements, that this section applies to sources subject to an emission standard. The only standard applicable to these units is that they have sufficient NOx allowances to address emissions during the ozone control period of May through September of each year. There is no requirement for TVA to operate their SCRs during the ozone control period, since they could instead purchase allowances to comply with 401 KAR 51:160. As there is no requirement in the permit for TVA to operate the SCRs, and there is no permit limit that requires operation of the SCRs in order to preclude the applicability of an air pollutant standard, DAQ does not concur that 401 KAR 50:055, Section 2(5) applies.

Comment No. 3: PSD IS APPLICABLE TO EMISSION UNITS GACT7, GACT8, GACT 10 AND GACT 11. To begin with the draft permit does not state that the conditions in Section B for Emission Units GACT7 or GACT8 or in Section D(3) is to limit the applicability of PSD. However, the SOB does so state. The permit should be made clear to state that this condition is to limit the applicability of PSD if that is ultimately what this condition requires. However, it appears that this synthetic minor cap for these units is not currently being met and is impossible to meet. Section B, Condition 2(a) sets a limit for the three units conveying transfer point, silo loading, and surge hopper and weigh hopper of 632 tpy PM (51.4 lbs/hr + 51.4 lbs/hr + 41.6 lbs/hr * 8760 hr/yr / 2000 lbs/ton = 632.472 tpy). However, the synthetic minor cap needs to be at 25 tpy which would

equate to approximately 1.9 lbs/hr limit for each of these emission units. Even this limit of 1.9 lbs/hr would not include fugitive emissions from EQPT16 Limestone Receiving, EQPT18 Limestone Stock-out and Storage, and EQPT20 Limestone Silo Unloading which also must be included in the synthetic minor cap. See 401 KAR 51:017 § 8(c). Furthermore, the synthetic minor cap would need to include a limit of both PM at 25 tpy and PM10 at 15 tpy. See Id. At § 22. See also Exhibit 2 at Page 2, Comment 5 (KY DAQ states "Both Pm and PM10 are regulated in the Kentucky PSD Regulation). Because there is no evidence that GACT7 and GACT8 have or could meet these limits of 25 tpy PM and 15 tpy PM10, these sources constitute a major modification. Therefore, the permit should include a compliance schedule to require TVA to submit a PSD permit application for these sources. [Footnote 2: This also means that other facilities in Muhlenberg County, such as Peabody's Thoroughbred Generating Station should have to re-submit there [sic] PM increment modeling as GACT7 and GACT8 established the minor source baseline date for PM in Muhlenberg County but Peabody's modeled [sic] was based on the minor source baseline date being established by Thoroughbred Generating Station.] Finally, GACT10 and GACT11 should be also be considered part of the major modification that involved GACT7 and GACT8. Although construction is staggered, all of these units are obviously all part of the same project. Thus, the permit should also contain a compliance schedule that requires GACT10 and GACT11 to be part of the PSD permit application, which TVA is required to submit. [Footnote 3: We will note for the record that all of the emission limits and standards for GACT7, GACT8, and GACT11 including Condition D(3) are not enforceable as a practical matter and do not contain monitoring and reporting to assure compliance. For example, there is no performance testing required and no CEMS or COMS required.]

Division's response:

DAQ does not concur, but upon further investigation has revised the statement of basis to include emission points GACT7, GACT8 (existing limestone handling systems), GACT10 and GACT11 (limestone handling systems under construction).

TVA obtained a NSR permit on 8/17/1979 based on an application submitted 11/2/1978. This was for the coal washing plant. Emissions were not subject to a full PSD/NSR review at that time because the construction was limited to less than 50 tons/year, 1000 lbs/day and 100 lbs of total suspended particulates. This action was performed under a previous version of PSD/NSR regulations, when the applicable threshold for uncontrolled emissions was 50 tons.

A Federal Consent decree required TVA to install control equipment for the control of particulate and sulfur dioxide emissions. TVA had to build support facilities (limestone handling). These facilities were built without a permit from Kentucky, under a federal order. Operation at the allowable and actual hourly emission rates would have resulted in an annual particulate emission rate of more than 25 tons per year. Operating permit O-86-75 was conditioned to limit annual emissions rates to less than 25 tons per year, to preclude applicability of PSD/NSR. The limit established by O-86-75 remains in effect for particulate emissions.

Units GACT10 and GACT11 are not considered part of GACT7 and GACT8 because these units are associated with a new limestone handing system and the new scrubber on Unit 3. A construction permit application for this limestone handling system was submitted to the Division on March 3, 2003 and approved on August 6, 2003. The GACT10 and GACT11 project will primarily support the scrubber currently under construction for Unit 3, but will have redundant capacity that can be used to feed the Unit 1 and 2 scrubbers when needed.

Comment No. 4: THERE IS NO MONITORING FOR OPACITY

The Statement of Basis (SOB) states that Method 9 is of questionable use for TVA Paradise Boilers 1 and 2. However, the SOB also admits that there is no other monitoring in place for the opacity limit. Title V and its implementing regulations require that there be monitoring in place. Thus, the draft permit's lack of monitoring renders the permit deficient. Condition G(a)18 must be removed as it would allow the inclusion of monitoring for opacity without public participation. Rather, this permit needs to include monitoring and reporting for compliance with the opacity limit for Boilers 1 and 2. 40 CFR Part 51, Appendix P requires TVA Paradise to have a continuous opacity monitoring system (COMS) for each of the main boilers. Therefore, the Title V permit must require a COMS and the COMS should be used to monitor compliance with the opacity limit for Units 1 and 2. [Footnote 4: The Permit must also require a CEMS for NOx.] Furthermore, for Unit 3, the draft permit requires a Method 9 test to monitor for opacity compliance "as required by the division." This monitoring is not sufficient to assure compliance. To begin with, Method 9 cannot be used at night or when there is cloud cover. Thus, there is no assurance of compliance with the opacity limit for at least a third and probably two-thirds of the time. In addition, there is no specification of the frequency of the Method 9 test. If there is no specification of the frequency, then there is not adequate monitoring to assure compliance. As with Units 1 and 2, there is no logical reason to not specify that COMS shall be used to assure compliance with the opacity limit for Unit 3. As to the CAM requirement for opacity, again, there is no defensible reason to require a Method 9 test if the COMS shows an exceedance. Again, a Method 9 test cannot be done at night or in cloudy weather. In addition, the Method 9 test will be done after the COMS violation so that the Method 9 test will not provide information about whether there was a violation at the time that the COMS reading demonstrated a violation. Rather, CAM should be simply based on COMS. Furthermore, as to the CAM requirement for PM, PS 11 should be used. An one time stack test and COMS correlation is not sufficient to account for changes at the plant, especially changes in the quality of the coal being burned..

Division's response:

The Division considers the assertion that continuous opacity monitors (COMs) must be installed and used on Paradise Units 1 and 2 in accordance with 40 C.F.R. Part 51, Appendix P, as incorrect. Section 6.1 of Appendix P of the same regulation expressly provides that ***alternative*** *monitoring requirements may be prescribed if a specified monitoring device "would not provide accurate determinations of emissions (e.g., condensed uncombined water vapor may prevent an accurate determination of opacity using commercially available continuous monitoring systems)." The Division is aware that Units 1 and 2 (and soon Unit 3) are scrubbed and have wet plumes, and consistent with the Agreed Order, Permit Condition G(a)18 requires TVA to propose an alternative method within 90 days of issuance of the permit.*

The frequency of determining compliance with EPA method 9 is established in Condition No. 4g of the permit.

CAM requirements will be applicable to the unit upon renewal of the initial Title V permit [40 CFR 64]. The request that COM readings be used in lieu of Method 9 to determine compliance would establish a different substantive requirement for the facility, contrary to EPA guidance that the Title V permitting process should not result in new substantive requirements but rather should identify and collect in one permit existing applicable requirements. See 57 Fed. Reg. 32,250, 32,251 (July 21, 1992). Substituting COM readings for Method 9 as the compliance method would make the opacity standard more stringent unless some measure was taken to offset this (e.g., employing a de minimis exclusion to a percentage of the COM readings).

See, e.g., Sierra Club v. Tennessee Valley Authority, Case No. CV-02-HS-2279-NW (N.D. Ala. Sept. 14, 2004); National Parks Conservation Association v. Tennessee Valley Authority, 175 F.Supp.2d 1071 (E.D. Tenn. 2001). There are no existing regulatory requirements for continuous monitoring for particulate matter in accordance with Performance Specification 11, which is requested for COMB1 and COMB2.

Comment No. 5: *THE PM MONITORING IS NOT SUFFICIENT*
The permit does not specify a method for the required PM stack tests for the main boilers. The permit must specify a PM test method which will test for filterable and condensable PM. See Exhibit 2 at Page 3, Comment 6. It seems Method 202 would be appropriate. In addition, the Opacity limit should be re-adjusted downward if any opacity reading is lower than 61% during the stack test.

Division's response:

PM test methods (and other applicable test methods) are established by 401 KAR 50:015, Section 1 that is incorporated by reference through Condition No. D2. There is no regulatory basis for such an adjustment of the 61% opacity standard for Unit 1 or the 50% opacity standard for Unit 2. Further, the alternate opacity standards for these units were not established to set a minimum opacity surrogate for judging particulate matter performance. They were established at a level correlated to a particulate matter emission rate, determined by stack testing, deemed to be well within the emission standard. Finally, Unit 1 and Unit 2 are tested quarterly to determine compliance with the particulate matter emission standard.

Comment No. 6: THE PARAMETERTIC MONITORING FOR THE FGD DOES NOT APPEAR TO BE SUFFICIENT
Condition B.4(g) for Unit 1 allows the use of pump amperage as a surrogate for flow rate of make-up scrubbing liquor. It would seem that the flow rate could be affected by factors other than the pump amperage such as physical damage to the pump. Monitoring the actual flow rate seems to be the better approach.

Division's response:

Apart from asserting that flow rates could be affected by factors other than pump amperage, no technical support is provided for this comment. The reliable technical way to conduct periodic monitoring for particulate matter performance on Unit 1 and Unit 2 is to monitor the scrubber pump motor amps. The motors that drive the pumps that deliver scrubber slurry to the venturi sections on each unit do so at a consistent power consumption rate. This rate is tracked by monitoring the pump motor amperage level. Changes in performance correlate to changes in pump motor power consumption rate and this would be indicated by a change in amperage level.

The use of flow monitors in this application would not yield a more accurate measure of flow rate than currently provided by the pump motor amperage reading. There are not appropriate sections of piping on the discharge side of the scrubber slurry pumps to take accurate flow monitor readings. Flow monitors require laminar flow and without such will report fluctuating flow measurements. Thus improperly installed flow monitors would provide only an indication of flow that would be

inferior to simply monitoring pump amperage.

Comment No. 7: *MANY EMISSION UNITS DO NOT HAVE LIMITS OR STANDARDS THAT ARE ENFORCEABLE AS A PRACTICAL MATTER AND DO NOT HAVE MONITORING AND REPORTING TO ASSURE COMPLIANCE*

For emission units Comb4, Comb5, EQPT36, and EQPT22, there needs to be monitoring for the opacity limit. Also, AP-42 should not be the basis of compliance demonstration. Rather, the permit should require periodic stack tests to obtain site specific data. The PM limit for GACT4 is based on a 99.99998% control. Yet, there is no monitoring to assure compliance with this level of control. A strict monitoring program must be but [sic] in place to assure compliance with a 99.99998% control efficiency. Also, there is no monitoring to assure compliance with the opacity limit for GACT4. For GACT6, Condition 2(a) is not enforceable as a practical matter as it does not specify control measures that must be in place. There is also no monitoring to assure compliance with Condition 2(b). Finally, the narrative should explain why EPQT12 is rated at 3,000 tons per hour while all of the other equipment is rated at 2,000 tons per hour. For EQPT15, there is an operating limit of 5 tons/hr as well as 350 tons/year. However, the permit only requires monitoring of the processing on a monthly basis. Monitoring on a monthly basis is not adequate to assure compliance with a hourly processing rate. In addition, there is no monitoring or testing for the opacity and particulate limits. There is no authority for assuming compliance. Rather, the applicable regulations require monitoring to assure compliance. Monitoring should be achieved using a COMS and a PM CEMS in compliance with PS 11.

Division's response:

The opacity monitoring for GACT4 has been addressed. Periodic stack testing for the units is not warranted. Monitoring requirements will include "The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis and maintain a log of the observations. If visible emissions from the stack are seen (not including condensed water vapor within the plume), then the opacity shall be determined by Reference Method 9. If emissions are in excess of the applicable opacity limit, then an inspection of control equipment shall be initiated for all necessary repairs."

New Source Performance Standards do not require stack testing or opacity readings for newly installed units of similar sized, oil-fired units. Compliance assurance based on fuel type and AP-42 emission factors is reasonable. AP-42 factors for oil-fired boilers and heaters are based on decades of sampling data and carry the highest confidence level for emission factors.

The origin of the assertion that the PM limit for GACT4 is based on 99.99998% control efficiency is unclear. The correct control efficiencies are set forth in the original Title V application that TVA submitted in November 1996. These estimates are found in Table 4.2 Paradise Fossil Plant: Maximum Particulate Matter (PM) Emissions from Significant Sources for the Solid Fuel Handling Process. For the Three Coal Breakers and Five Conditioners (Emission Point 16) the control efficiency ranged from 85% to 97% depending on the control technology applied at the various coal processing points. For Coal Conveying and Bunker Room (Emission Point 17) the control efficiency ranged from 70% to 91% depending on the control technology applied to the various coal transfer points. It is also noted that the

maximum estimated particulate matter emission rate of 10.57 lbs/hr from this emission unit is well below the 86.9 lbs/hour limit.

The 3000 tons/hour rating for EQPT12 (Emission Point 15), Receiving and Reclaim Hoppers, is simply a description of its capacity as provided in the application. Concerning EQPT15 (Emission Point19), Two Lime Storage Silos: The 5 ton/hr limit on process weight throughput is a limit carried forward from permit number O-86-75. At one point in time (approximately 1978-1983), Muhlenberg County was non-attainment for total suspended particulates (TSP). Therefore, pursuant to regulation 401 KAR 50:012, this limit has not been relaxed. As stated in the permit, compliance with this limit is assumed when the required bagfilters are maintained and operated in accordance with manufacturer's specifications. For purposes of clarity, the bagfilters have been added to the emission point description, and operation of the bagfilters any time that material is being processed into or out of the silos has been added as an operating limit. It is unnecessary to monitor hourly process weight. Monitoring this emission unit with COMS or PM CEMS is not necessary.

The draft permit identifies enforceable compliance methods for EQPT12. The amount of lime processed must be monitored and recorded. This provides a very practical means of enforcing the specified emission requirements. The Division considers good operating practices and maintenance of this equipment as adequate to ensure compliance with the particulate matter and opacity standards.

Comment No. 8: GACT5 SYNTHETIC MINOR CAP IS NOT SUFFICIENT AND THERE IS NOT SUFFICIENT MONITORING

For GACT5, the SOB and the draft permit do not appear to be consistent. The SOB states that the coal washing unit was build [sic] under the old PSD regulations that only required a 100 lb/hr, 1000lb/day, and 50 tn/yr limit on particulate matter emissions. Yet Condition 2(a) states that the PM limits are imposed to prevent the applicability of the current PSD regulations, 401 KAR 51:017. However, if this is the case, the limit would have to be 25 tpy PM and 15 tpy PM10. See 401 KAR 51:017 § 22. This confusion is exacerbated by the fact that the description of this unit does not include the year it commenced construction, although for other units, the permit does include the date that construction commenced. This needs to be clarified and corrected to 25 tpy PM and 15 tpy PM10 if this is indeed a condition to prevent the applicability of 401 KAR 51:017. See Id. At § 22. In addition, there is no monitoring to assure compliance with the opacity and PM limits and the PM limit is not enforceable as a practical matter which synthetic minor caps must be. As explained above, there is no authority to allow for the assumption of compliance. Rather, there must be monitoring and reporting to assure compliance. Again, we believe that COMS and a PM CEMS, in compliance with PS 11, are appropriate to assure compliance, especially considering that the synthetic minor cap is set so close to the PSD significant level. Finally, the manufactures specifications referenced in Condition 7(a) must be specifically identified in the permit and a copy of these specifications must be included in the permit folder. There must be monitoring and reporting to assure compliance with this requirement.

Division's response:

The Permit Statement of Basis correctly states that GACT5, the coal-washing plant,

was constructed before the current PSD regulation became effective. See response to Comment No. 3. The regulation in effect for this area at that time was 401 KAR 51:050. Under that regulation, the applicable emission threshold was 50 tons per year. The draft permit requires that the amount of coal processed and hours of operation be monitored (GACT5, Section B, Condition 4). This provides a practicably enforceable means of tracking compliance with the applicable limitations.

Comment No. 9: THERE MUST BE REPORTING OF ANY MONITORING RESULTS
Condition F.5 must require the submission of all COMS and CEMS data. See 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(3)(iii)(A)

Division's response:

The Division considers that Section F of the draft permit addresses the requirements and is consistent with 42 U.S.C. § 7661c(a) and the EPA regulation implementing this provision, 40 C.F.R. 70.6(a)(3)(iii)(A).

Comment No. 10: THE NEW BOILER MACT IS AN APPLICABLE REQUIREMENT
US EPA recently finalized a MACT standard for Industrial, Commercial, and Institutional Boilers and Process Heaters. See 69 Fed. Reg. 55217 (Sept. 13, 2004). This new MACT is an applicable requirement for COMB4 (26) Unit 1 Building Heat Boiler and Unit 2 Building Heat Boiler, COMB5 (28) Unit 3 Building Heat Boiler, EQPT22 (29a) Eight Dravo Heaters, and EQPT36 (29b) Three Dravo Heaters. Therefore, the new MACT should be included in the permit. The permit should identify which particular requirements in the new MACT apply to each emission unit in order to be practically enforceable.

Division's response:

The Division acknowledges that the regulations are applicable to COMB4 (26) Unit 1 Building Heat Boiler, Unit 2 Building Heat Boiler, and COMB5 (28) Unit 3 Building Heat Boiler for initial notification requirements (40 CFR 63.9(b)), but there are no applicable emission standards, monitoring, recordkeeping and reporting for the units at this time. The applicable regulations will be added to the appropriate sections of the permit.

EQPT22 (29a) Eight Dravo Heaters and EQPT36 (29b) Three Dravo Heaters are classified in the small liquid fuel subcategory as defined in 40 CFR 63.7575. As such these emission units are not subject to any requirements of 40 CFR 63, Subpart DDDDD and 40 CFR 63.9(b).

Comment No. 11: THE STATEMENT OF BASIS DOES NOT PROVIDE A FACTUAL AND LEGAL BASIS FOR THE PERMIT CONDITIONS.
The Statement of Basis (SOB) is inadequate. For example, the SOB does not provide any explanation for the applicability of PSD to Boilers 1, 2, and 3. It makes no mention of the EPA's enforcement action against TVA Paradise and the EAB's decision in that case. The SOB says that the three units have "redistributed SO2 limits" but does not provide the factual or legal basis for these limits. The SOB does not explain the legal or factual basis for Condition B.7(a). The SOB does not provide the factual and legal basis for the PM stack testing requirements of the COMS and

Method 9 testing. The SOB did not explain the factual and legal basis for allowing pump amperage to be a surrogate for flow rate for the FGDs.

Division's response:

The legal and factual basis is contained in the State Implementation Plan (SIP). [40 CFR 52 Subpart S—Kentucky. *The statement of basis fulfills the requirement of 40 CFR 70.6. The basis for the "redistributed SO_2 limits" was not referenced in the Permit Statement of Basis. The draft permit properly provides the basis for these emission limits; see Condition 2c in the Boiler Unit provisions of the permit. We concur that a description of this emission limit merits note in the statement of basis, and we have amended the "Comments" section of the statement of basis to include that information.*

Comment No. 12: THE PERMIT MUST CONTAIN LANGUAGE THAT ALLOWS FOR THE USE OF ANY CREDIBLE EVIDENCE.

The Permit must contain language that allows for the use of any credible evidence. EPA supports the inclusion of credible evidence language in all Title V permits. As explained by the Acting Chief of US EPA's Air Programs branch: It is the United States Environmental Protections Agency's position that the general language addressing the use of credible evidence is necessary to make it clear that despite any other language contained in the permit, credible evidence can be used to show compliance or noncompliance with applicable requirements. . . . [A] regulated entity could construe the language to mean that the methods for demonstrating compliance specified in the permit are the only methods admissible to demonstrate violation of the permit terms. It is important that Title V permits not lend themselves to this improper construction.

Letter from Cheryl L. Newton, Acting Chief, Air Programs Branch, EPA, to Robert F. Hodanbosi, Chief, Division of Air Pollution Control, Ohio Environmental Protection Agency, dated October 30, 1998. While anyone may rely on all credible evidence regardless of whether this condition appears in the permit, DAQ should include credible evidence language in the permits and permit template to make the point clear. Specifically, EPA has recommended that the following language be included in all Title V permits: Notwithstanding the conditions of this permit that state specific methods that may be used to assess compliance or noncompliance with applicable requirements, other credible evidence may be used to demonstrate compliance or noncompliance. Letter from Stephen Rothblatt, Acting Director, Air and Radiation Division, US EPA, to Paul Deubenetzky, Indiana Department of Environmental Management, dated July 28, 1998.

Division's response::

The Permit Statement of Basis correctly states that Kentucky has not adopted the EPA Credible Evidence rule as part of its SIP. No further response to this comment is needed.

***Comments on the Paradise Fossil Power Plant (TVA) Draft Title V Air Quality Permit submitted by* Janet K. Watts, Manager of Environmental Affairs, TVA, Chattanooga.**

PERMIT APPLICATION SUMMARY FORM

COMMENT No1

1. EMISSIONS SUMMARY (p. 2) - Actual and potential emissions for each pollutant could be presented here as reported on the 2003 Emissions Survey summarized by Kentucky Division for Air Quality on August 2, 2004, as this is the most recent summary available.

Division's response:

The draft permit was issued before the 2003 data was available, however the emission summary has been updated to include the 2003 actual emissions.

COMMENT No 2

2. SOURCE PROCESS DESCRIPTION (p. 2) - Should be changed as indicated: "Tennessee Valley Authority operates three coal-fired electric *steam* generating boilers. All three are equipped with selective catalytic reduction for NOx control. *To control particulate matter and SO_2 emissions,* Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers. *Particulate matter emissions from Unit 3 are controlled by electrostatic precipitators with flue gas conditioning, as needed. A flue gas desulfurization scrubber is under construction on Unit 3 with projected start-up in late 2006.* ~~and one is under construction on Unit 3 to control particulate matter and SO2 emissions~~. The facility also includes coal handling equipment, limestone handling equipment, building heat boilers and heaters, and ash, gypsum, and coal wash plant disposal processes."

Division's response:

The changes have been made in the permit.

PERMIT STATEMENT OF BASIS

COMMENT No 3

(p. 1) - Should be changed as indicated: "All three electric generating units are equipped with selective catalytic reduction for NO_x control. To control particulate matter and SO_2 emissions Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers. *Particulate matter emissions from Unit 3 are controlled by electrostatic precipitators with flue gas conditioning, as needed. A flue gas desulfurization scrubber* ~~and one~~ is under construction on Unit 3 *with projected start-up in late 2006."*

Division's response::

Changes have been made in the Statement of Basis.

DRAFT PERMIT

COMMENT No 4

SECTION B

COMB1 (Emission Point 01) Boiler Unit 1

1. Description (p. 2)
   - Add to Emission Unit Description - Secondary fuels: "*No. 2 fuel oil in addition to petroleum coke, wood waste, used oil with less than 50 ppm PCBs, nonhazardous solvents, and oil-contaminated materials/rags and paper as submitted on Form DEP7007A in the permit application.*"

Division's response:

The secondary fuel has been added to the description as requested. This approval is only for compliance with standards under the Clean Air Act. It does not relieve the need to obtain other permits or approvals from Division of Waste Management or under TSCA(Toxic Substances Control Act).

COMMENT No 5

2. Applicable Regulations
   - Specific Monitoring Requirements, 4.g.1 (p. 3) — Revise the sentence as follows: "Flow rate of ~~make up~~ *recycle* scrubbing liquor. Pump amperage for each *recycle* pump can be used as a surrogate for flow rate."

Division's response:

The change has been made.

COMMENT No 6

- Specific Monitoring Requirements, 4.g.2 (p. 3) — TVA demonstrated in July 1998 that at minimum achievable differential pressure through the venturi sections and at high, medium and low loads Units 1 & 2 operate well within the mass emission limit. This information was previously submitted to the Division and is an attachment to these comments. As discussed in our meeting on September 13, 2004, the Division will take into account the conclusions of the report that allow this condition to be dropped from the proposed permit.

Division's response::

*The Division does not concur. Specific Monitoring Requirements,*4.g.2 (p. 3) *is a monitoring requirement to record the pressure drop across the scrubber at least once per shift. These records are useful to ensure proper operation of an air pollution control device that is used to ensure compliance with the SO2 and PM allowable under 401 KAR 61:015. Compliance with the SO2 allowable can be determined through the SO2 CEM. It is our understanding that the source's position is that compliance with the PM limit is assured by compliance with the SO2 limit, as there is a common control device. The Division does not concur that this is the case in all circumstances. Compliance with the S02 limit is a function of the control device and concentration of sulfur in the fuel.*

Monitoring of the pressure drop is part of the compliance assurance that particulate emissions and opacity are in compliance. This condition only requires some periodic recordkeeping to ensure proper operation of the control device, and is not a direct measure of compliance. In light of the fact opacity can not be monitored

consistently at this stack to ensure compliance, the Division believes it is justified in requiring that records be maintained and be made available to the Division to demonstrate good air pollution control operation.

COMMENT No 7

COMB2 (Emission Point 02) Boiler Unit 2

1. Description (p. 5)
   - Add to Emission Unit Description - "*Secondary fuels: No. 2 fuel oil in addition to petroleum coke, wood waste, used oil with less than 50 ppm PCBs, nonhazardous solvents, and oil-contaminated materials/rags and paper as submitted on Form DEP7007A in the permit application.*"

Division's response:

The addition has been made. The secondary fuel has been added to the description as requested. This approval is only for compliance with standards under the Clean Air Act. It does not relieve the need to obtain other permits or approvals from Division of Waste Management or under Toxic Substances Control Act (TSCA).

COMMENT No 8

2. Applicable Regulations
   - Specific Monitoring Requirements, 4.g.1 (p. 6) — Revise the sentence as follows: "Flow rate of ~~make up~~ *recycle* scrubbing liquor. Pump amperage for each *recycle* pump can be used as a surrogate for flow rate."

Division's response:

The change has been made.

COMMENT No 9

- Specific Monitoring Requirements, 4.g.2 (p. 3) — TVA demonstrated in July 1998 that at minimum achievable differential pressure through the venturi sections and at high, medium and low loads Units 1 & 2 operate well within the mass emission limit. This information was previously submitted to the Division and is an attachment to these comments. As discussed in our meeting on September 13, 2004, the Division will take into account the conclusions of the report that allow this condition to be dropped from the proposed permit.

Division's response:

The Division does not concur. Specific Monitoring Requirements, 4.g.2 (p. 3) is a monitoring requirement to record the pressure drop across the scrubber at least once per shift. These records are useful to ensure proper operation of an air pollution control device that is used to ensure compliance with the SO2 and PM allowable under 401 KAR 61:015. Compliance with the SO2 allowable can be determined through the SO2 CEM.

It is our understanding that the source's position is that compliance with the PM limit is assured by compliance with the SO2 limit, as there is a common control device. The Division does not concur that this is the case in all circumstances. Compliance with the S02 limit is a function of the control device and concentration of sulfur in the fuel. Monitoring of the pressure drop is part of the compliance

assurance that particulate emissions and opacity are in compliance. This condition only requires some periodic recordkeeping to ensure proper operation of the control device, and is not a direct measure of compliance. In light of the fact opacity can not be monitored consistently at this stack to ensure compliance, the Division believes it is justified in requiring that records be maintained and be made available to the Division to demonstrate good air pollution control operation.

COMMENT No 10

COMB3 (Emission Point 03) Boiler Unit 3

1. Description (p. 8)
   - Revise the Controls description as follows: "Selective Catalytic Reduction, Electrostatic Precipitators with flue gas conditioning as needed, and Dual Contact Flow Flue Gas Desulfurization Scrubber (under construction, *projected start-up late* 2006). *This unit can be operated with the scrubber by-passed, as needed.*"
   - Add to Emission Unit Description - "*Secondary fuels: No. 2 fuel oil in addition to petroleum coke, wood waste, used oil with less than 50 ppm PCBs, nonhazardous solvents, and oil-contaminated materials/rags and paper as submitted on Form DEP7007A in the permit application.*"

Division's response:

The secondary fuel has been added to the description as requested. This approval is only for compliance with standards under the Clean Air Act. It does not relieve the need to obtain other permits or approvals from Division of Waste Management or under TSCA(Toxic Substances Control Act).

COMMENT No 11

2. Applicable Regulations
   - Emission Limitations, 2.b (p. 8)—Revise to read: "Pursuant to 401 KAR 61:015, Section 4 (2), *and 401 KAR 50:055,* emissions shall not exceed twenty (20) percent opacity based on a 6-minute average, *except: (1) a maximum of forty (40) percent opacity shall be permissible for not more than one (1) 6-minute period in any sixty (60) consecutive minutes; and (2) during periods of malfunction, shutdown and startup."* Alternatively, this provision could read: *"Pursuant to 401 KAR 61:015, Section 4(2), and consistent with 401 KAR 50:055, emissions shall not exceed twenty (20) percent opacity based on a 6-minute average."*

Division's response:

The Division acknowledges this comment. 401 KAR 50:055 is a compliance requirement and cannot be used under specific opacity requirements.

COMMENT No 12

- Testing Requirements, 3.a (p. 8) As discussed in our meeting at the Division on September 13, 2002 this condition will be revised to read: "*The opacity trigger level for **COMB03 Boiler Unit 3** shall be 20%, based on a three-hour average.* The permittee shall submit, within six months from the issuance date of the proposed permit, a schedule to conduct at least one performance test for particulate within one year following the

issuance of this permit. ~~Opacity data from the Continuous Opacity Monitor (COM) obtained during the performance test shall be correlated with the particulate emission rate to establish an average opacity level pursuant to Condition 4.f below.~~ *If no additional stack tests are performed pursuant to Condition 4.d, the permittee shall conduct a performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the applicable standard."*

This 20% opacity trigger level for Unit 3 is based on stack testing conducted in July 1991 that correlated compliance with the mass standard of 0.11 lbs/MM BTU up to an opacity of 36%. This information was submitted to the Division on July 29, 1991, and is an attachment to these comments. This correlation shows that the proposed action level of 20% (based on a three-hour average) provides sufficient compliance margin with the mass standard.

Division's response:

See response to comment number 14 below.

COMMENT No 13

- Testing Requirements, 3.b (p. 8) — Revise to read: "The permittee shall determine the opacity of emissions from the stack by EPA Reference Method 9 *for determination of compliance with the opacity standard* upon request by the Division."

  Consistent with 401 KAR 50:055, compliance with the opacity standard is determined by Method 9 observations. Opacity data derived from the use of COMS provides an indication of good operation of control equipment and is sufficient to meet periodic monitoring requirements for opacity.

Division's response:

The testing requirements will not change.

COMMENT No 14

- Specific Monitoring Requirements, 4.f (p. 9) — As discussed in our meeting at the Division on September 13, 2002, this condition will be revised to read: "Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). ~~The average opacity level, determined pursuant to condition 3.a above, plus 5% opacity, will become the opacity trigger level.~~ Excluding the startup, shut down, *malfunction,* and once per hour exemption periods, if the six-minute ~~opacity~~ *opacity readings* (averaged over a period of three hours) exceed the opacity trigger level *set forth in 3.a above* the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs.

  If five (5) percent or greater of COM data (excluding startup, shut down, malfunctions and once-per-hour exclusion periods, data averaged over a ~~six minute period~~ *three-hour period*) recorded in a calendar quarter show excursions above the opacity trigger level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G (a)(17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been

corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

Division's response:

The concept of an opacity trigger level and the establishment of the five percent (5%) excursion in any calendar quarter standard was agreed to by the Division and the Utility Information Exchange. It identifies that point at which the facility will be required to take specific actions-- inspection and repair of equipment or conducting a stack test. It is not a regulatory or permit limit; it is a description of the condition of operation that the Division has determined warrants corrective action. Its purpose was to ensure consistency between Regional Offices and individual inspectors so that utilities were not required to take different actions based on the same circumstances. Since it is based on an agreement that has met the purpose for which it was intended satisfactorily, the Division declines to change it in this permit. This trigger level has nothing to do with any opacity limit as specified in the applicable regulations. As it is based on a correlation test between mass emissions and opacity it only identifies the level of opacity at which a presumption is made that the mass emission limit may be exceeded, and therefore a corrective action (i.e., inspection and repair) is appropriate. Until TVA Paradise has a source specific SIP revision approved by U.S. EPA, the opacity limit will remain as specified by the regulations.

COMMENT No 15

- Specific Monitoring Requirements, 4.i.1 (p. 10) — This condition should be deleted. There is no applicable standard requiring that scrubber liquor flow rate be monitored. In addition periodic monitoring for sulfur dioxide will be accomplished by using CEMS.

Division's response:

The Division does not concur. Specific Monitoring Requirements, 4.i.1 (p. 10) is a monitoring requirement to record the pressure drop across the scrubber at least once per shift. These records are useful to ensure proper operation of an air pollution control device that is used to ensure compliance with the SO2 and PM allowable under 401 KAR 61:015. Compliance with the SO2 allowable can be determined through the SO2 CEM. It is our understanding that the source's position is that compliance with the PM limit is assured by compliance with the SO2 limit, as there is a common control device. The Division does not concur that this is the case in all circumstances. Compliance with the S02 limit is a function of the control device and concentration of sulfur in the fuel. Monitoring of the pressure drop is part of the compliance assurance that particulate emissions and opacity are in compliance.

This condition only requires some periodic recordkeeping to ensure proper operation of the control device, and is not a direct measure of compliance. In light of the fact opacity can not be monitored consistently at this stack to ensure compliance, the Division believes it is justified in requiring that records be maintained and be made available to the Division to demonstrate good air pollution control operation.

COMMENT No 16

Specific Monitoring Requirements, 4.i.2 (p. 10) — This condition should be deleted. There is no applicable standard limiting operating hours. In addition, periodic monitoring for sulfur dioxide will be accomplished using CEMS.

Division's response:

The permit does not contain operating limitation on hours of operation. See response number 15 above.

COMMENT No 17

Specific Record Keeping Requirements, 5.b (p. 10)—Delete "... on a three-hour rolling average basis," because a 3-hour rolling average is not used to determine compliance for these units. Replace "indicator range" with "*opacity standard.*" This is consistent with Condition 6.b.

Division's response:

The three-hour rolling average is a standard for continuous opacity monitoring and will not be changed as requested. "Opacity standard" has been changed to "trigger level".

COMMENT No 18

- Specific Reporting Requirements, 6.a.1 (p. 10)—Revise the second sentence: "The averaging period used for data reporting should correspond to the emission standard averaging period ~~of twenty-four (24) hour~~." Opacity is not a 24-hour standard and the bases are listed in the emission limitations section.

Division's response:

The averaging period is for the sulfur dioxide limitation and will not change.

COMMENT No 19

- Unit 2 Scrubber By-Pass Capability - On May 28, 2003, TVA submitted an addendum to the Title V permit application for the Unit 3 Flue Gas Desulfurization Scrubber. This submittal included updated permit application forms and dispersion modeling results for different plant operating scenarios. The study indicates that the Unit 3 scrubber will reduce local ambient SO_2 levels and local SO_2 levels will remain below the National Ambient Air Quality Standards. This also demonstrated that the project meets the state and U. S. Environmental Protection Agency designation as an environmentally beneficial project.

As stated in the May 2003 submittal the design of the Unit 3 scrubber and associated ductwork incorporates provisions to by-pass the scrubber through the existing stack, if needed. TVA anticipates infrequent use of this by-pass capability once the scrubber is commission in late 2006. However, because we will have this capability it is important to address the following issues specifically in the proposed permit:

- Unit 3 Scrubber By-Pass Capability - The permit should include language in Description that addresses this capability.

- Unit 3 Emission Points - Once the new scrubber and new stack are commissioned in late 2006, Unit 3 will have two (2) emission points. The emission point represented by the current stack and the emission point represented by the new stack should be assigned separate numbers. These emission point identification numbers should be listed in the Description for this emission unit in the proposed permit.
- Unit 3 Opacity Continuous Monitoring - As discussed with the Division during the scrubber permit application process, when operation of the new scrubber commences, opacity monitoring will occur downstream of the electrostatic precipitators but upstream of the scrubber. The COMS system will be used in both normal and by-pass operation after the scrubber is commissioned in later 2006. The existing COMS system will be decommissioned after the system described above is in place.
- Unit 3 Sulfur Dioxide and Nitrogen Dioxide Emissions Monitoring - As discussed with the Division during the scrubber permit application process, when operation of the new scrubber commences, sulfur dioxide and nitrogen dioxide emissions monitoring will occur downstream of the scrubber at the appropriate point in the new stack. When the scrubber is by-passed sulfur dioxide and nitrogen dioxide emissions monitoring will occur at the current location in the existing stack. TVA will maintain the existing CEMS units in their current location as a contingency for scrubber by-pass events.

Division's response:

The Division does not have the regulatory authority to grant the scrubber by-pass capability at this time. The permittee may submit an application to the Division detailing stack and CEMs data to that effect when the scrubbers come on line in 2006.

COMMENT No 20

GACT4 (Emission Points 16 & 17) Existing Coal Handling Processes

1. Applicable Regulations
   - Specific Control Equipment Operating Conditions, 7.a (p. 16) — Revise to read: "The enclosure shall be maintained and the foam suppression system shall be ~~continuously~~ operated *as needed* to maintain compliance with the permitted emission limitations~~, in accordance with manufacturer's specification and/or good operating practices~~."

Division's response:

The compliance demonstration of these units with respect to emissions can be achieved through the continuous operation of the pollution control device, as such; the permit control equipment language will not change.

COMMENT No 21

GACT6 (Emission Points 15 & 18) Existing Coal Handling Fugitives

1. Applicable Regulations
   - Specific Monitoring Requirements, 4 (p. 17) - Propose that this condition be changed to read: "The amount of coal processed shall be monitored on a monthly basis *and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 22

EQPT15 (Emission Points 19) Two Lime Storage Silos

1. Applicable Regulations
   - Specific Monitoring Requirements, 4.a (p. 18) - Propose that this condition be changed to read: "The amount of lime processed shall be monitored on a monthly basis *and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 23

Specific Control Equipment Operating Conditions, 7.a (p. 18) — Revise the condition as follows: "The ~~bagfilters~~ *air pollution control equipment* shall be ~~continuously~~ operated ~~to maintain compliance with the permitted emission limitations, in accordance with manufacturer's specifications and/or~~ *and maintained in accordance with* good operating practices *to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number 20.

COMMENT No 24

GACT5 (Emission Points 04 through14) Coal Washing Plant

1. Applicable Regulations
   - Operating Limitations, (p. 19) - Propose the addition of new condition that reads: "*Coal processed through Emission Unit GACT5 as defined herein shall not exceed 13,000,000 tons in any 12-month period.*"

Division's response:

The changes have been made.

COMMENT No 25

- Specific Monitoring Requirements, 4.a (p. 20) - Propose that this condition be changed to read: "The amount of coal processed shall be monitored on a ~~monthly~~ *daily* basis, *compiled into monthly totals, and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 26

- Specific Monitoring Requirements, 4.b (p. 20) - Propose this condition be deleted. There is no applicable standard limiting operating hours. Compliance assurance with 401 KAR 51:017 can be achieved by record keeping of coal tonnage processed on a daily basis and tabulated into a 12-month rolling total. Compliance demonstration with hourly and daily particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission point.

Division's response:

The only means to determine that the BACT standards are being met is through the monitoring of hours of operations, which is practically enforceable.

COMMENT No 27

- Specific Control Equipment Operating Conditions, 7.a (p. 20) — Revise to read: "The enclosure shall be maintained and the foam suppression system shall be ~~continuously~~ operated *as needed* to maintain compliance with the permitted emission limitations~~, in accordance with manufacturer's specification and/or good operating practices~~."

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 28

GACT7 (EQPT 21, 23, 25) Limestone Handling Process

1. Applicable Regulations

In our correspondence on January 30, 2004, TVA identified an exception in the 2003 compliance certification related to the limestone handling system. The permit application for the process reflects bagfilters on the prep building surge hoppers and the bagfilters were not operable during that compliance period. Emission estimates provided in January 2004 for the compliance period demonstrate that the limestone handling system met the emission standard for the source relying on transfer point & conveyor enclosures to provide sufficient emissions control.

PAF has operated the limestone handling system since 1982 and based on our experience operating this system, TVA has determined that the bagfilters on the system are not needed to control fugitive dust. Therefore, we propose that the bagfilters be removed from the permit application and from the proposed Title V permit.

Division's response:

Permitted requirement are not based on single year emission data, therefore the pollution control device will remain in the permit.

COMMENT No 29

- Emission Limitations, 2.b (p. 21) - Propose that this condition be changed to read: "Compliance *is demonstrated when* ~~will be assumed while bagfilters~~ enclosures are ~~utilized properly~~ *maintained in accordance with good operating practices to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 30

- Specific Control Equipment Operating Conditions, 7.a (p. 21) - Revise the condition as follows: "The ~~bagfilters~~ *enclosures* shall be ~~continuously operated to maintain compliance with the permitted emission limitations, in accordance with manufacturer's specifications and/or~~ *maintained in accordance with* good operating practices *to ensure*

compliance with permitted emission limitations."

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 31

GACT8 (EQPT 16, 18, & 20) Limestone Handling Fugitives

1. Applicable Regulations
   - Specific Monitoring Requirements, 4.a (p. 22) - Propose that this condition be changed to read: "The amount of limestone processed shall be monitored on a ~~monthly~~ *daily basis, compiled into monthly totals, and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 32

- Specific Monitoring Requirements, 4.b (p. 22) - Propose this condition be deleted. There is no applicable standard limiting operating hours. Compliance demonstration with hourly and annual particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission point.

Division's response:

The Division believes this requirement is a necessary means of facilitating better information gathering for the unit.

COMMENT No 33

EQPT23 (Emission Point 30) Ash Handling System

1. **Description (p. 23) To maintain consistency** with other sections of the permit add individual process weight to each activity as follows:

Ash/Slag Reclaim from Slag Pond	134 tons/hr
Ash/Slag Reclaim from Dewatering Area	200 tons/hr
Ash/Slag Reclaim from Slag Pond	200 tons/hr

Division's response:

The changes have been made.

COMMENT No 34

2. Applicable Regulations
   - Operating Limitations (p. 23) - Propose deletion of operating limitation. There are no hourly or annual throughput restrictions for the Ash Handling System.

Division's response:

The operating limitation has been deleted.

COMMENT No 35

- Specific Monitoring Requirements, 4.a (p. 23) - Propose that this condition be changed to read: "The amount of ash and slag processed shall be monitored on a monthly basis

and annual throughput maintained as a rolling 12-month total."

Division's response:

The changes have been made.

COMMENT No 36

- Specific Monitoring Requirements, 4.b (p. 23) - This condition should be deleted. There is no applicable standard limiting operating hours. Compliance demonstration with particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission point.

Division's response:

See response to comment number 32.

COMMENT No 37

EQPT30 (Emission Point 42) Gypsum Handling

1. Description (p. 24)

- To maintain consistency with other sections of the permit modify description and add individual process weight to each activity as follows:

Sluicing to Gypsum Disposal Pond	108 tons/hr
Gypsum Dewatering/Drying	167 tons/hr
Excavation and Transport of Dewatered Gypsum	167 tons/hr
Soil Cover Transport	358 tons/hr

Division's response:

The changes have been made.

COMMENT No 38

2. Applicable Regulations

- Operating Limitations (p. 24) - Propose deletion of operating limitation. There are no hourly or annual throughput restrictions for Gypsum Handling.

Division's response:

The operating limitation has been deleted.

COMMENT No 39

- Specific Monitoring Requirements, 4.a (p. 24) - Propose that this condition be changed to read: "The amount of gypsum processed shall be monitored on a monthly basis *and annual throughput maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 40

- Specific Monitoring Requirements, 4.b (p. 24) - This condition should be deleted. There is no applicable standard limiting operating hours. Compliance demonstration with particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission

point.

Division's response:

See response to comment number 32.

COMMENT No 41

GACT10 (Emission Points 75 & 76) Unit 3 Limestone Handling (Under Construction)

1. Applicable Regulations
   - Compliance Demonstration Method (p. 26) - Revise the sentence as follows: "Compliance is ~~assumed~~ *demonstrated* when the ~~baghouses and bin vents~~ *enclosures* for this emission unit are ~~operated continuously and~~ maintained ~~in accordance with manufacturer's recommendations~~ *in accordance with* good operating practices *to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 42

- Testing Requirements (p. 26) - Propose that this condition be deleted. Small baghouse dust collectors and bin vents are difficult to test using Method 5 or Method 17. In both cases it is unlikely that Method 1 and Method 2 can establish an appropriate and valid test point locations and discharge gas velocity profile, respectively. This is due to the compact nature of the clean-side plenum and arrangement of the discharge point (stack).

Division's response:

Kentucky does not have the authority to circumvent the requirement of a Federal New Source Performance Standard.

COMMENT No 43

- Specific Monitoring Requirements, 4.b (p. 26) - Propose that this condition be changed to read: "The amount of limestone processed shall be monitored on a monthly basis *and annual throughput maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 44

- Specific Control Equipment Operating Conditions, 7.a (p. 27) - Revise the condition as follows: "The ~~baghouses and bin vents~~ *air pollution control equipment* shall be ~~continuously~~ operated ~~to maintain compliance with the permitted emission limitations, in accordance with manufacturer's specifications and/or~~ *and maintained in accordance with* good operating practices *to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 45

GACT11 (Emission Points 73, 74, & 77) Unit 3 Limestone Handling Fugitives (under construction)

1. Applicable Regulations
   - Specific Monitoring Requirements, 4.a (p. 28) - Propose that this condition be changed to read: "The amount of limestone processed shall be monitored on a monthly basis *and maintained as a rolling 12-month total.*"

Division's response:

The change has been made.

COMMENT No 46
SECTION D

- Compliance Demonstration Method, (p. 32) - Revise the condition as follows: "Compliance is ~~assumed~~ *demonstrated* when the ~~bagfilters~~ *air pollution control equipment* is operated ~~continuously~~ and maintained ~~in accordance with manufacturer's recommendations~~ *according to good operating practices pursuant to 401 KAR 50:055, Section 2(5).*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.

Commonwealth of Kentucky
Division for Air Quality

RESPONSE TO COMMENTS

ON TITLE V (DRAFT) NO. V-04-024
TENNESSEE VALLEY AUTHORITY
DRAKESBORO KY.
APRIL 21, 2005
BEN MARKIN, REVIEWER
SOURCE I.D. #: 21-177-00006
SOURCE A.I. #:3239
ACTIVITY #: APE20040002

SOURCE DESCRIPTION:

Tennessee Valley Authority (TVA) operates three coal fired electric generating boilers. The facility also includes coal handling equipment, limestone handling equipment, building heat boilers and heaters, and ash and gypsum disposal processes. All three electric generating units are equipped with selective catalytic reduction for NOx control. To control particulate matter and SO_2 emissions Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers, and one is under construction on Unit 3.

Emission Factors were obtained primarily from AP-42 and stack test data.

The large boiler units are regulated by 401 KAR 61:015, Existing boilers. The newer coal handling is regulated by 40 CFR 60 Subpart Y, Standards of Performance for Coal Preparation Plants. 40 CFR 60 Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants, is applicable to the newer limestone handling at the facility. 401 KAR 51:010 and 61:020, New and Existing processes, and 401 KAR 63:010, Fugitive emissions, covers the remaining units.

The three electric generating units have redistributed SO2 limits. They are source specific, and do not match those found in 401 KAR 61:015. Units number 1 and 2 also have increased opacity limits. 401 KAR 61:015 sets them at 20%. TVA followed the procedure found in 401 KAR 50:055 to increase these allowables while meeting the particulate matter emission limits.

PUBLIC AND U.S. EPA REVIEW:

On August 18, 2004, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Leader-News* in Muhlenberg, Kentucky. The public comment period expired 30 days from the date of publication. Comments were received from Robert Ukeiley, Attorney at Law, Berea, Kentucky on September 15, 2004 and Tennessee Valley Authority on September 16, 2004, respectively. Attachment A to this document lists the comments received and the Division's response to each comment. Minor changes were made to the permit as a result of the comments received, however, in no case were any emissions standards, or any monitoring, recordkeeping or reporting requirements relaxed. Please see Attachment A for a detailed explanation of the changes made to the permit. The U.S. EPA has 45 days to comment on this proposed permit. If no comments are received from U.S. EPA during this period, the proposed permit shall become the final permit.

EXHIBIT 4

ATTACHMENT A

Response to Comments

Comments on the Paradise Fossil Power Plant (TVA) Draft Title V Air Quality Permit submitted by Robert Ukeiley, Attorney at Law, Berea, Kentucky, on behalf of Kentucky Heartwood, the Center for Biological Diversity, the Sierra Club, Hilary Lambert, and Preston Forsythe.

By letter dated September 15, 2004, Robert Ukeiley submitted extensive comments on the draft Title V permit issued for the Tennessee Valley Authority's Paradise Fossil Plant. These comments were submitted on behalf of the Sierra Club, the Center for Biological Diversity, and two individuals.

Comment No. 1: PSD IS AN APPLICABLE REQUIREMENT FOR THE THREE MAIN BOILERS WHICH NEEDS TO BE INCLUDED IN THE PERMIT.
The Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act's New Source Review program, 40 CFR 52.21, is an applicable requirement with regard to nitrogen oxides (NOx) emissions from TVA Paradise Units 1, 2, and 3 because TVA modified those units after 40 CFR 52.21 became effective but before Kentucky had an approved PSD program in its SIP. Therefore, the PSD provisions must be include in TVA Paradise's Title V permit.

Specifically, the modifications that made PSD applicable with regard to NOx are: The work was essentially the same at all three units. It included the replacement of all cyclone burners attached to each boiler and the replacement of the lower furnace walls, floor and headers. EPA Enforcement Ex. 273; EPA Enforcement Ex. 279, at 40-42 (Hekking's pre-filed testimony); TVA Ex. 4, at 23-26 (Golden's pre-filed testimony). Through these projects, TVA replaced all fourteen cyclone burners at each of Units 1 and 2 and replaced all twenty-three cyclone burners at Unit 3. In addition, TVA cut out and replaced the waterwall below 465 feet, including the lower headers and floor at Unit 1. TVA performed the same work at Unit 2. At Unit 3, in addition to the twenty-three cyclones, TVA replaced the waterwalls between 418 feet to 501 feet. TVA Ex. 4, at 23-25 (Golden's pre-filed testimony); EPA Enforcement Ex. 279, at 42 (Hekking's pre-filed testimony). The magnitude of the work at each of these units was significant. Indeed, TVA had to construct monorails at the front and rear walls for lifting and positioning the cyclones at each unit. EPA Enforcement Ex. 279, at 43 (Hekking's pre-filed testimony). TVA installed a trolley system to transport the cyclones in and out of the building, and TVA constructed rigging inside the furnace to assist in attaching the wall panels and floor panels. Id. After approval from the Board of Directors and after years of planning, the central office's Fossil and Hydro Power Division performed work on these units sequentially. [FN7] TVA implemented the work at Unit 3 first, beginning in the Fall of 1984 and requiring the unit to be shut down for six months. It then worked on Unit 1, shutting it down for approximately 6.5 months beginning in March of 1985. Finally, TVA performed the work on Unit 2 beginning in November of 1985 and lasting 4.5 months. In each case, the units were shut down for periods well beyond the four weeks typical of scheduled maintenance outages. The work at Unit 1 and 2 required the replacement of approximately 18.5% of the total tubing in the boiler. TVA Ex. 4, at 23, 25 (Golden's pre-filed testimony). TVA replaced approximately 19.4% of the total tubing in Unit 3's boiler. Id. at 26. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at Appendix A, p. 108-109. In support of our claim that PSD for NOx is an applicable requirement, we hereby incorporate by reference all of the evidence, including the transcripts of the live testimony,

from In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000).

The fact that the United States Court of Appeals for the Eleventh Circuit subsequently found that the Administrative Compliance Order issued to TVA was facially unconstitutional is not relevant to this comment. We are saying that if you review the information that EPA Enforcement presented to the EAB during the course of the proceeding in light of the arguments made by EPA Enforcement and even use the emission test more favorable to TVA (actual to projected actual) and use the PSD regulations that we applicable at the time of the modification, you will independently determine that there was indeed a major modification at all three units at TVA Paradise so that PSD applies to those units for NOx. [Footnote 1: We are not saying that the "actual to projected actual" test is legally mandated. We are merely saying that even using this test, which is the most favorable to TVA, you will still find a significant increase in NOx.] It is important to remember that the Eleventh Circuit's decision was based on facial analysis of Administrative Compliance Orders which does not describe any particular process for its issuance. However, in the TVA case, TVA was actually given extensive process to try to defend its case. See e.g. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at 8. Even after this trial type process, the evidence showed that TVA had indeed performed major modifications at TVA Paradise. Therefore, the Title V Permit must include BACT limits for Units 1, 2 and 3 for NOx. We suggest that you set a temporary BACT limit of 0.085 lbs/MMBtu NOx for Unit 1, 0.1 lbs/MMBtu NOx for Unit 2 and 0.15 lbs/MMBtu based on a thirty day rolling average. The limits for Units 1 and 2 are based on TVA Paradise's actual emissions during the 2002 ozone season. See Exhibit 1. Obviously, what a particular unit achieves is achievable. Our purposed limit for Unit 3 is based on the NSPS limit. These temporary limits should go into effect immediately and should apply year round. The final BACT limits will be significantly lower but may require construction in order to comply. The Title V permit should also include a compliance schedule which requires TVA to submit a full PSD application within 3 months of the issuance of the permit. To the extent that pre-construction monitoring is necessary, TVA should be given additional time to complete its pre-construction monitoring. While this is an aggressive schedule, the people of Kentucky should not be forced to endure TVA Paradise's illegal pollution any longer than necessary.

Division's response:

Kentucky DAQ is aware of the current enforcement action against TVA.

EPA initially pursued TVA for alleged NSR violations through the Administrative Compliance Order (ACO) process. However, in June 2003 a three-judge panel of the 11th Circuit Court of Appeals ruled that instead of following the ACO process EPA must "prove the existence of a CAA violation in district court, including the alleged violation that spurred EPA to issue the ACO in this case." [Tennessee Valley Authority v. Whitman, 336 F.3d 1236, 1260 (11th Cir. 2003)]. U.S. EPA sought review of that decision in the U.S. Supreme Court. In May 2004 the Supreme Court declined to grant EPA's request for review of the 11th Circuit ruling. [Leavitt v. Tennessee Valley Authority, 124 S.Ct. 2096 (2004)]. To date, there is no judicial determination of the merits of TVA's alleged NSR violations.

The U.S. EPA considers this an active enforcement case and is proceeding. Upon settlement or judicial ruling Kentucky DAQ will incorporate those terms and conditions into this permit.

Comment No. 2:
THE PERMIT SHOULD INLCUDE A COMPLIANCE SCHEDULE TO REQUIRE THE SCRs TO BE OPERATED YEAR ROUND PURSUANT TO 401 KAR 50:055 SECTION 2(5). 401 KAR 50:055 SECTION 2(5) provides that: at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. Recently, in the case of Sierra Club v. EPPC and TGC, LLC, FILE NO. DAQ-26003-037 FILE NO. DAQ-26048-037, the law firm of Hunton and Williams, a noted utility industry law firm, took the position that 401 KAR 50:055 Section 2(5) and similar regulations in other states would require the year round operation of SCRs once they are installed. DAQ seemed to support Hunton and Williams position on this issue. However, a review of the information on the US EPA Air Markets Division web page, which is hereby incorporated by reference, indicates that TVA does not run the SCRs on Paradise year round. Therefore, the permit should include a compliance schedule that requires TVA to operate the SCRs on Paradise year round. Section B.7(a) of the draft permit has some language that does not appear in 401 KAR 50:055 Section 2(5). It states that the source shall operate control equipment to maintain compliance with permitted emission limits. As long as it is clear that Section B.7(a) is a separate requirement that has no bearing on requirement to also comply with 401 KAR 50:055 Section 2(5), Section B.7(a) does not present any problems. However, if Section B.7(a) is meant to limit the applicability of 401 KAR 50:055 Section 2(5), then Section B.7(a) must be removed or altered for there is no legal basis to such an interpretation.

Division's response:

The SCR's are not subject to an applicable standard other than 401 KAR 51:160, NOx requirements for large utility and industrial boilers. It is DAQ's interpretation of 401 KAR 50:055, Section 2, Compliance with Standards and Maintenance Requirements, that this section applies to sources subject to an emission standard. The only standard applicable to these units is that they have sufficient NOx allowances to address emissions during the ozone control period of May through September of each year. There is no requirement for TVA to operate their SCRs during the ozone control period, since they could instead purchase allowances to comply with 401 KAR 51:160. As there is no requirement in the permit for TVA to operate the SCRs, and there is no permit limit that requires operation of the SCRs in order to preclude the applicability of an air pollutant standard, DAQ does not concur that 401 KAR 50:055, Section 2(5) applies.

Comment No. 3: PSD IS APPLICABLE TO EMISSION UNITS GACT7, GACT8, GACT 10 AND GACT 11. To begin with the draft permit does not state that the conditions in Section B for Emission Units GACT7 or GACT8 or in Section D(3) is to limit the applicability of PSD. However, the SOB does so state. The permit should be made clear to state that this condition is to limit the applicability of PSD if that is ultimately what this condition requires. However, it appears that this synthetic minor cap for these units is not currently being met and is impossible to meet. Section B, Condition 2(a) sets a limit for the three units conveying transfer point, silo loading, and surge hopper and weigh hopper of 632 tpy PM (51.4 lbs/hr + 51.4 lbs/hr + 41.6 lbs/hr * 8760 hr/yr / 2000 lbs/ton = 632.472 tpy). However, the synthetic minor cap needs to be at 25 tpy which would

equate to approximately 1.9 lbs/hr limit for each of these emission units. Even this limit of 1.9 lbs/hr would not include fugitive emissions from EQPT16 Limestone Receiving, EQPT18 Limestone Stock-out and Storage, and EQPT20 Limestone Silo Unloading which also must be included in the synthetic minor cap. See 401 KAR 51:017 § 8(c). Furthermore, the synthetic minor cap would need to include a limit of both PM at 25 tpy and PM10 at 15 tpy. See Id. At § 22. See also Exhibit 2 at Page 2, Comment 5 (KY DAQ states "Both Pm and PM10 are regulated in the Kentucky PSD Regulation). Because there is no evidence that GACT7 and GACT8 have or could meet these limits of 25 tpy PM and 15 tpy PM10, these sources constitute a major modification. Therefore, the permit should include a compliance schedule to require TVA to submit a PSD permit application for these sources. [Footnote 2: This also means that other facilities in Muhlenberg County, such as Peabody's Thoroughbred Generating Station should have to re-submit there [sic] PM increment modeling as GACT7 and GACT8 established the minor source baseline date for PM in Muhlenberg County but Peabody's modeled [sic] was based on the minor source baseline date being established by Thoroughbred Generating Station.] Finally, GACT10 and GACT11 should be also be considered part of the major modification that involved GACT7 and GACT8. Although construction is staggered, all of these units are obviously all part of the same project. Thus, the permit should also contain a compliance schedule that requires GACT10 and GACT11 to be part of the PSD permit application, which TVA is required to submit. [Footnote 3: We will note for the record that all of the emission limits and standards for GACT7, GACT8, and GACT11 including Condition D(3) are not enforceable as a practical matter and do not contain monitoring and reporting to assure compliance. For example, there is no performance testing required and no CEMS or COMS required.]

Division's response:

DAQ does not concur, but upon further investigation has revised the statement of basis to include emission points GACT7, GACT8 (existing limestone handling systems), GACT10 and GACT11 (limestone handling systems under construction).

TVA obtained a NSR permit on 8/17/1979 based on an application submitted 11/2/1978. This was for the coal washing plant. Emissions were not subject to a full PSD/NSR review at that time because the construction was limited to less than 50 tons/year, 1000 lbs/day and 100 lbs of total suspended particulates. This action was performed under a previous version of PSD/NSR regulations, when the applicable threshold for uncontrolled emissions was 50 tons.

A Federal Consent decree required TVA to install control equipment for the control of particulate and sulfur dioxide emissions. TVA had to build support facilities (limestone handling). These facilities were built without a permit from Kentucky, under a federal order. Operation at the allowable and actual hourly emission rates would have resulted in an annual particulate emission rate of more than 25 tons per year. Operating permit O-86-75 was conditioned to limit annual emissions rates to less than 25 tons per year, to preclude applicability of PSD/NSR. The limit established by O-86-75 remains in effect for particulate emissions.

Units GACT10 and GACT11 are not considered part of GACT7 and GACT8 because these units are associated with a new limestone handing system and the new scrubber on Unit 3. A construction permit application for this limestone handling system was submitted to the Division on March 3, 2003 and approved on August 6, 2003. The GACT10 and GACT11 project will primarily support the scrubber currently under construction for Unit 3, but will have redundant capacity that can be used to feed the Unit 1 and 2 scrubbers when needed.

Comment No. 4: THERE IS NO MONITORING FOR OPACITY.

The Statement of Basis (SOB) states that Method 9 is of questionable use for TVA Paradise Boilers 1 and 2. However, the SOB also admits that there is no other monitoring in place for the opacity limit. Title V and its implementing regulations require that there be monitoring in place. Thus, the draft permit's lack of monitoring renders the permit deficient. Condition G(a)18 must be removed as it would allow the inclusion of monitoring for opacity without public participation. Rather, this permit needs to include monitoring and reporting for compliance with the opacity limit for Boilers 1 and 2. 40 CFR Part 51, Appendix P requires TVA Paradise to have a continuous opacity monitoring system (COMS) for each of the main boilers. Therefore, the Title V permit must require a COMS and the COMS should be used to monitor compliance with the opacity limit for Units 1 and 2. [Footnote 4: The Permit must also require a CEMS for NOx.] Furthermore, for Unit 3, the draft permit requires a Method 9 test to monitor for opacity compliance "as required by the division." This monitoring is not sufficient to assure compliance. To begin with, Method 9 cannot be used at night or when there is cloud cover. Thus, there is no assurance of compliance with the opacity limit for at least a third and probably two-thirds of the time. In addition, there is no specification of the frequency of the Method 9 test. If there is no specification of the frequency, then there is not adequate monitoring to assure compliance. As with Units 1 and 2, there is no logical reason to not specify that COMS shall be used to assure compliance with the opacity limit for Unit 3. As to the CAM requirement for opacity, again, there is no defensible reason to require a Method 9 test if the COMS shows an exceedance. Again, a Method 9 test cannot be done at night or in cloudy weather. In addition, the Method 9 test will be done after the COMS violation so that the Method 9 test will not provide information about whether there was a violation at the time that the COMS reading demonstrated a violation. Rather, CAM should be simply based on COMS. Furthermore, as to the CAM requirement for PM, PS 11 should be used. An one time stack test and COMS correlation is not sufficient to account for changes at the plant, especially changes in the quality of the coal being burned..

Division's response:

The Division considers the assertion that continuous opacity monitors (COMs) must be installed and used on Paradise Units 1 and 2 in accordance with 40 C.F.R. Part 51, Appendix P, as incorrect. Section 6.1 of Appendix P of the same regulation expressly provides that ***alternative*** *monitoring requirements may be prescribed if a specified monitoring device "would not provide accurate determinations of emissions (e.g., condensed uncombined water vapor may prevent an accurate determination of opacity using commercially available continuous monitoring systems)." The Division is aware that Units 1 and 2 (and soon Unit 3) are scrubbed and have wet plumes, and consistent with the Agreed Order, Permit Condition G(a)18 requires TVA to propose an alternative method within 90 days of issuance of the permit.*

The frequency of determining compliance with EPA method 9 is established in Condition No. 4g of the permit.

CAM requirements will be applicable to the unit upon renewal of the initial Title V permit [40 CFR 64]. The request that COM readings be used in lieu of Method 9 to determine compliance would establish a different substantive requirement for the facility, contrary to EPA guidance that the Title V permitting process should not result in new substantive requirements but rather should identify and collect in one permit existing applicable requirements. See 57 Fed. Reg. 32,250, 32,251 (July 21, 1992). Substituting COM readings for Method 9 as the compliance method would make the opacity standard more stringent unless some measure was taken to offset this (e.g., employing a de minimis exclusion to a percentage of the COM readings).

See, e.g., Sierra Club v. Tennessee Valley Authority, Case No. CV-02-HS-2279-NW (N.D. Ala. Sept. 14, 2004); National Parks Conservation Association v. Tennessee Valley Authority, 175 F.Supp.2d 1071 (E.D. Tenn. 2001). There are no existing regulatory requirements for continuous monitoring for particulate matter in accordance with Performance Specification 11, which is requested for COMB1 and COMB2.

Comment No. 5: *THE PM MONITORING IS NOT SUFFICIENT*
The permit does not specify a method for the required PM stack tests for the main boilers. The permit must specify a PM test method which will test for filterable and condensable PM. See Exhibit 2 at Page 3, Comment 6. It seems Method 202 would be appropriate. In addition, the Opacity limit should be re-adjusted downward if any opacity reading is lower than 61% during the stack test.

Division's response:

PM test methods (and other applicable test methods) are established by 401 KAR 50:015, Section 1 that is incorporated by reference through Condition No. D2. There is no regulatory basis for such an adjustment of the 61% opacity standard for Unit 1 or the 50% opacity standard for Unit 2. Further, the alternate opacity standards for these units were not established to set a minimum opacity surrogate for judging particulate matter performance. They were established at a level correlated to a particulate matter emission rate, determined by stack testing, deemed to be well within the emission standard. Finally, Unit 1 and Unit 2 are tested quarterly to determine compliance with the particulate matter emission standard.

Comment No. 6: THE PARAMETERTIC MONITORING FOR THE FGD DOES NOT APPEAR TO BE SUFFICIENT
Condition B.4(g) for Unit 1 allows the use of pump amperage as a surrogate for flow rate of make-up scrubbing liquor. It would seem that the flow rate could be affected by factors other than the pump amperage such as physical damage to the pump. Monitoring the actual flow rate seems to be the better approach.

Division's response:

Apart from asserting that flow rates could be affected by factors other than pump amperage, no technical support is provided for this comment. The reliable technical way to conduct periodic monitoring for particulate matter performance on Unit 1 and Unit 2 is to monitor the scrubber pump motor amps. The motors that drive the pumps that deliver scrubber slurry to the venturi sections on each unit do so at a consistent power consumption rate. This rate is tracked by monitoring the pump motor amperage level. Changes in performance correlate to changes in pump motor power consumption rate and this would be indicated by a change in amperage level.

The use of flow monitors in this application would not yield a more accurate measure of flow rate than currently provided by the pump motor amperage reading. There are not appropriate sections of piping on the discharge side of the scrubber slurry pumps to take accurate flow monitor readings. Flow monitors require laminar flow and without such will report fluctuating flow measurements. Thus improperly installed flow monitors would provide only an indication of flow that would be

inferior to simply monitoring pump amperage.

Comment No. 7: *MANY EMISSION UNITS DO NOT HAVE LIMITS OR STANDARDS THAT ARE ENFORCEABLE AS A PRACTICAL MATTER AND DO NOT HAVE MONITORING AND REPORTING TO ASSURE COMPLIANCE*

For emission units Comb4, Comb5, EQPT36, and EQPT22, there needs to be monitoring for the opacity limit. Also, AP-42 should not be the basis of compliance demonstration. Rather, the permit should require periodic stack tests to obtain site specific data. The PM limit for GACT4 is based on a 99.99998% control. Yet, there is no monitoring to assure compliance with this level of control. A strict monitoring program must be but [sic] in place to assure compliance with a 99.99998% control efficiency. Also, there is no monitoring to assure compliance with the opacity limit for GACT4. For GACT6, Condition 2(a) is not enforceable as a practical matter as it does not specify control measures that must be in place. There is also no monitoring to assure compliance with Condition 2(b). Finally, the narrative should explain why EPQT12 is rated at 3,000 tons per hour while all of the other equipment is rated at 2,000 tons per hour. For EQPT15, there is an operating limit of 5 tons/hr as well as 350 tons/year. However, the permit only requires monitoring of the processing on a monthly basis. Monitoring on a monthly basis is not adequate to assure compliance with a hourly processing rate. In addition, there is no monitoring or testing for the opacity and particulate limits. There is no authority for assuming compliance. Rather, the applicable regulations require monitoring to assure compliance. Monitoring should be achieved using a COMS and a PM CEMS in compliance with PS 11.

Division's response:

The opacity monitoring for GACT4 has been addressed. Periodic stack testing for the units is not warranted. Monitoring requirements will include "The permittee shall perform a qualitative visual observation of the opacity of emissions from the stack on a weekly basis and maintain a log of the observations. If visible emissions from the stack are seen (not including condensed water vapor within the plume), then the opacity shall be determined by Reference Method 9. If emissions are in excess of the applicable opacity limit, then an inspection of control equipment shall be initiated for all necessary repairs."

New Source Performance Standards do not require stack testing or opacity readings for newly installed units of similar sized, oil-fired units. Compliance assurance based on fuel type and AP-42 emission factors is reasonable. AP-42 factors for oil-fired boilers and heaters are based on decades of sampling data and carry the highest confidence level for emission factors.

The origin of the assertion that the PM limit for GACT4 is based on 99.99998% control efficiency is unclear. The correct control efficiencies are set forth in the original Title V application that TVA submitted in November 1996. These estimates are found in Table 4.2 Paradise Fossil Plant: Maximum Particulate Matter (PM) Emissions from Significant Sources for the Solid Fuel Handling Process. For the Three Coal Breakers and Five Conditioners (Emission Point 16) the control efficiency ranged from 85% to 97% depending on the control technology applied at the various coal processing points. For Coal Conveying and Bunker Room (Emission Point 17) the control efficiency ranged from 70% to 91% depending on the control technology applied to the various coal transfer points. It is also noted that the

maximum estimated particulate matter emission rate of 10.57 lbs/hr from this emission unit is well below the 86.9 lbs/hour limit.

The 3000 tons/hour rating for EQPT12 (Emission Point 15), Receiving and Reclaim Hoppers, is simply a description of its capacity as provided in the application. Concerning EQPT15 (Emission Point19), Two Lime Storage Silos: The 5 ton/hr limit on process weight throughput is a limit carried forward from permit number O-86-75. At one point in time (approximately 1978-1983), Muhlenberg County was non-attainment for total suspended particulates (TSP). Therefore, pursuant to regulation 401 KAR 50:012, this limit has not been relaxed. As stated in the permit, compliance with this limit is assumed when the required bagfilters are maintained and operated in accordance with manufacturer's specifications. For purposes of clarity, the bagfilters have been added to the emission point description, and operation of the bagfilters any time that material is being processed into or out of the silos has been added as an operating limit. It is unnecessary to monitor hourly process weight. Monitoring this emission unit with COMS or PM CEMS is not necessary.

The draft permit identifies enforceable compliance methods for EQPT12. The amount of lime processed must be monitored and recorded. This provides a very practical means of enforcing the specified emission requirements. The Division considers good operating practices and maintenance of this equipment as adequate to ensure compliance with the particulate matter and opacity standards.

Comment No. 8: GACT5 SYNTHETIC MINOR CAP IS NOT SUFFICIENT AND THERE IS NOT SUFFICIENT MONITORING

For GACT5, the SOB and the draft permit do not appear to be consistent. The SOB states that the coal washing unit was build [sic] under the old PSD regulations that only required a 100 lb/hr, 1000lb/day, and 50 tn/yr limit on particulate matter emissions. Yet Condition 2(a) states that the PM limits are imposed to prevent the applicability of the current PSD regulations, 401 KAR 51:017. However, if this is the case, the limit would have to be 25 tpy PM and 15 tpy PM10. See 401 KAR 51:017 § 22. This confusion is exacerbated by the fact that the description of this unit does not include the year it commenced construction, although for other units, the permit does include the date that construction commenced. This needs to be clarified and corrected to 25 tpy PM and 15 tpy PM10 if this is indeed a condition to prevent the applicability of 401 KAR 51:017. See Id. At § 22. In addition, there is no monitoring to assure compliance with the opacity and PM limits and the PM limit is not enforceable as a practical matter which synthetic minor caps must be. As explained above, there is no authority to allow for the assumption of compliance. Rather, there must be monitoring and reporting to assure compliance. Again, we believe that COMS and a PM CEMS, in compliance with PS 11, are appropriate to assure compliance, especially considering that the synthetic minor cap is set so close to the PSD significant level. Finally, the manufactures specifications referenced in Condition 7(a) must be specifically identified in the permit and a copy of these specifications must be included in the permit folder. There must be monitoring and reporting to assure compliance with this requirement.

Division's response:

The Permit Statement of Basis correctly states that GACT5, the coal-washing plant,

was constructed before the current PSD regulation became effective. See response to Comment No. 3. The regulation in effect for this area at that time was 401 KAR 51:050. Under that regulation, the applicable emission threshold was 50 tons per year. The draft permit requires that the amount of coal processed and hours of operation be monitored (GACT5, Section B, Condition 4). This provides a practicably enforceable means of tracking compliance with the applicable limitations.

Comment No. 9: THERE MUST BE REPORTING OF ANY MONITORING RESULTS
Condition F.5 must require the submission of all COMS and CEMS data. See 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(3)(iii)(A)

Division's response:

The Division considers that Section F of the draft permit addresses the requirements and is consistent with 42 U.S.C. § 7661c(a) and the EPA regulation implementing this provision, 40 C.F.R. 70.6(a)(3)(iii)(A).

Comment No. 10: THE NEW BOILER MACT IS AN APPLICABLE REQUIREMENT
US EPA recently finalized a MACT standard for Industrial, Commercial, and Institutional Boilers and Process Heaters. See 69 Fed. Reg. 55217 (Sept. 13, 2004). This new MACT is an applicable requirement for COMB4 (26) Unit 1 Building Heat Boiler and Unit 2 Building Heat Boiler, COMB5 (28) Unit 3 Building Heat Boiler, EQPT22 (29a) Eight Dravo Heaters, and EQPT36 (29b) Three Dravo Heaters. Therefore, the new MACT should be included in the permit. The permit should identify which particular requirements in the new MACT apply to each emission unit in order to be practically enforceable.

Division's response:

The Division acknowledges that the regulations are applicable to COMB4 (26) Unit 1 Building Heat Boiler, Unit 2 Building Heat Boiler, and COMB5 (28) Unit 3 Building Heat Boiler for initial notification requirements (40 CFR 63.9(b)), but there are no applicable emission standards, monitoring, recordkeeping and reporting for the units at this time. The applicable regulations will be added to the appropriate sections of the permit.

EQPT22 (29a) Eight Dravo Heaters and EQPT36 (29b) Three Dravo Heaters are classified in the small liquid fuel subcategory as defined in 40 CFR 63.7575. As such these emission units are not subject to any requirements of 40 CFR 63, Subpart DDDDD and 40 CFR 63.9(b).

Comment No. 11: THE STATEMENT OF BASIS DOES NOT PROVIDE A FACTUAL AND LEGAL BASIS FOR THE PERMIT CONDITIONS.
The Statement of Basis (SOB) is inadequate. For example, the SOB does not provide any explanation for the applicability of PSD to Boilers 1, 2, and 3. It makes no mention of the EPA's enforcement action against TVA Paradise and the EAB's decision in that case. The SOB says that the three units have "redistributed SO2 limits" but does not provide the factual or legal basis for these limits. The SOB does not explain the legal or factual basis for Condition B.7(a). The SOB does not provide the factual and legal basis for the PM stack testing requirements of the COMS and

Method 9 testing. The SOB did not explain the factual and legal basis for allowing pump amperage to be a surrogate for flow rate for the FGDs.

Division's response:

The legal and factual basis is contained in the State Implementation Plan (SIP). [40 CFR 52 Subpart S—Kentucky. *The statement of basis fulfills the requirement of 40 CFR 70.6. The basis for the "redistributed SO_2 limits" was not referenced in the Permit Statement of Basis. The draft permit properly provides the basis for these emission limits; see Condition 2c in the Boiler Unit provisions of the permit. We concur that a description of this emission limit merits note in the statement of basis, and we have amended the "Comments" section of the statement of basis to include that information.*

Comment No. 12: THE PERMIT MUST CONTAIN LANGUAGE THAT ALLOWS FOR THE USE OF ANY CREDIBLE EVIDENCE.

The Permit must contain language that allows for the use of any credible evidence. EPA supports the inclusion of credible evidence language in all Title V permits. As explained by the Acting Chief of US EPA's Air Programs branch: It is the United States Environmental Protections Agency's position that the general language addressing the use of credible evidence is necessary to make it clear that despite any other language contained in the permit, credible evidence can be used to show compliance or noncompliance with applicable requirements. . . . [A] regulated entity could construe the language to mean that the methods for demonstrating compliance specified in the permit are the only methods admissible to demonstrate violation of the permit terms. It is important that Title V permits not lend themselves to this improper construction.

Letter from Cheryl L. Newton, Acting Chief, Air Programs Branch, EPA, to Robert F. Hodanbosi, Chief, Division of Air Pollution Control, Ohio Environmental Protection Agency, dated October 30, 1998. While anyone may rely on all credible evidence regardless of whether this condition appears in the permit, DAQ should include credible evidence language in the permits and permit template to make the point clear. Specifically, EPA has recommended that the following language be included in all Title V permits: Notwithstanding the conditions of this permit that state specific methods that may be used to assess compliance or noncompliance with applicable requirements, other credible evidence may be used to demonstrate compliance or noncompliance. Letter from Stephen Rothblatt, Acting Director, Air and Radiation Division, US EPA, to Paul Deubenetzky, Indiana Department of Environmental Management, dated July 28, 1998.

Division's response::

The Permit Statement of Basis correctly states that Kentucky has not adopted the EPA Credible Evidence rule as part of its SIP. No further response to this comment is needed.

PERMIT APPLICATION SUMMARY FORM

COMMENT No1

1. EMISSIONS SUMMARY (p. 2) - Actual and potential emissions for each pollutant could be presented here as reported on the 2003 Emissions Survey summarized by Kentucky Division for Air Quality on August 2, 2004, as this is the most recent summary available.

Division's response:

The draft permit was issued before the 2003 data was available, however the emission summary has been updated to include the 2003 actual emissions.

COMMENT No 2

2. **SOURCE** PROCESS DESCRIPTION (p. 2) - Should be changed as indicated: "Tennessee Valley Authority operates three coal-fired electric *steam* generating boilers. All three are equipped with selective catalytic reduction for NOx control. *To control particulate matter and SO_2 emissions,* Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers. *Particulate matter emissions from Unit 3 are controlled by electrostatic precipitators with flue gas conditioning, as needed. A flue gas desulfurization scrubber is under construction on Unit 3 with projected start-up in late 2006.* ~~and one is under construction on Unit 3 to control particulate matter and SO2 emissions~~. The facility also includes coal handling equipment, limestone handling equipment, building heat boilers and heaters, and ash, gypsum, and coal wash plant disposal processes."

Division's response:

The changes have been made in the permit.

PERMIT STATEMENT OF BASIS

COMMENT No 3

(p. 1) - Should be changed as indicated: "All three electric generating units are equipped with selective catalytic reduction for NO_x control. To control particulate matter and SO_2 emissions Units 1 and 2 are equipped with venturi type flue gas desulfurization scrubbers. *Particulate matter emissions from Unit 3 are controlled by electrostatic precipitators with flue gas conditioning, as needed. A flue gas desulfurization scrubber* ~~and one~~ is under construction on Unit 3 *with projected start-up in late 2006."*

Division's response::

Changes have been made in the Statement of Basis.

DRAFT PERMIT

COMMENT No 4

SECTION B

COMB1 (Emission Point 01) Boiler Unit 1

1. Description (p. 2)
   - Add to Emission Unit Description - Secondary fuels: "*No. 2 fuel oil in addition to petroleum coke, wood waste, used oil with less than 50 ppm PCBs, nonhazardous solvents, and oil-contaminated materials/rags and paper as submitted on Form DEP7007A in the permit application.*"

Division's response:

The secondary fuel has been added to the description as requested. This approval is only for compliance with standards under the Clean Air Act. It does not relieve the need to obtain other permits or approvals from Division of Waste Management or under TSCA(Toxic Substances Control Act).

COMMENT No 5

2. Applicable Regulations
   - Specific Monitoring Requirements, 4.g.1 (p. 3) — Revise the sentence as follows: "Flow rate of ~~make up~~ *recycle* scrubbing liquor. Pump amperage for each *recycle* pump can be used as a surrogate for flow rate."

Division's response:

The change has been made.

COMMENT No 6

- Specific Monitoring Requirements, 4.g.2 (p. 3) — TVA demonstrated in July 1998 that at minimum achievable differential pressure through the venturi sections and at high, medium and low loads Units 1 & 2 operate well within the mass emission limit. This information was previously submitted to the Division and is an attachment to these comments. As discussed in our meeting on September 13, 2004, the Division will take into account the conclusions of the report that allow this condition to be dropped from the proposed permit.

Division's response::

*The Division does not concur. Specific Monitoring Requirements,*4.g.2 (p. 3) *is a monitoring requirement to record the pressure drop across the scrubber at least once per shift. These records are useful to ensure proper operation of an air pollution control device that is used to ensure compliance with the SO2 and PM allowable under 401 KAR 61:015. Compliance with the SO2 allowable can be determined through the SO2 CEM. It is our understanding that the source's position is that compliance with the PM limit is assured by compliance with the SO2 limit, as there is a common control device. The Division does not concur that this is the case in all circumstances. Compliance with the S02 limit is a function of the control device and concentration of sulfur in the fuel.*

Monitoring of the pressure drop is part of the compliance assurance that particulate emissions and opacity are in compliance. This condition only requires some periodic recordkeeping to ensure proper operation of the control device, and is not a direct measure of compliance. In light of the fact opacity can not be monitored

consistently at this stack to ensure compliance, the Division believes it is justified in requiring that records be maintained and be made available to the Division to demonstrate good air pollution control operation.

COMMENT No 7

COMB2 (Emission Point 02) Boiler Unit 2

1. Description (p. 5)
   - Add to Emission Unit Description - "*Secondary fuels: No. 2 fuel oil in addition to petroleum coke, wood waste, used oil with less than 50 ppm PCBs, nonhazardous solvents, and oil-contaminated materials/rags and paper as submitted on Form DEP7007A in the permit application.*"

Division's response:

The addition has been made. The secondary fuel has been added to the description as requested. This approval is only for compliance with standards under the Clean Air Act. It does not relieve the need to obtain other permits or approvals from Division of Waste Management or under Toxic Substances Control Act (TSCA).

COMMENT No 8

2. Applicable Regulations
   - Specific Monitoring Requirements, 4.g.1 (p. 6) — Revise the sentence as follows: "Flow rate of ~~make up~~ *recycle* scrubbing liquor. Pump amperage for each *recycle* pump can be used as a surrogate for flow rate."

Division's response:

The change has been made.

COMMENT No 9

- Specific Monitoring Requirements, 4.g.2 (p. 3) — TVA demonstrated in July 1998 that at minimum achievable differential pressure through the venturi sections and at high, medium and low loads Units 1 & 2 operate well within the mass emission limit. This information was previously submitted to the Division and is an attachment to these comments. As discussed in our meeting on September 13, 2004, the Division will take into account the conclusions of the report that allow this condition to be dropped from the proposed permit.

Division's response:

The Division does not concur. Specific Monitoring Requirements, 4.g.2 (p. 3) is a monitoring requirement to record the pressure drop across the scrubber at least once per shift. These records are useful to ensure proper operation of an air pollution control device that is used to ensure compliance with the SO2 and PM allowable under 401 KAR 61:015. Compliance with the SO2 allowable can be determined through the SO2 CEM.

It is our understanding that the source's position is that compliance with the PM limit is assured by compliance with the SO2 limit, as there is a common control device. The Division does not concur that this is the case in all circumstances. Compliance with the S02 limit is a function of the control device and concentration of sulfur in the fuel. Monitoring of the pressure drop is part of the compliance

assurance that particulate emissions and opacity are in compliance. This condition only requires some periodic recordkeeping to ensure proper operation of the control device, and is not a direct measure of compliance. In light of the fact opacity can not be monitored consistently at this stack to ensure compliance, the Division believes it is justified in requiring that records be maintained and be made available to the Division to demonstrate good air pollution control operation.

COMMENT No 10

COMB3 (Emission Point 03) Boiler Unit 3

1. Description (p. 8)
   - Revise the Controls description as follows: "Selective Catalytic Reduction, Electrostatic Precipitators with flue gas conditioning as needed, and Dual Contact Flow Flue Gas Desulfurization Scrubber (under construction, *projected start-up late* 2006). *This unit can be operated with the scrubber by-passed, as needed.*"
   - Add to Emission Unit Description - "*Secondary fuels: No. 2 fuel oil in addition to petroleum coke, wood waste, used oil with less than 50 ppm PCBs, nonhazardous solvents, and oil-contaminated materials/rags and paper as submitted on Form DEP7007A in the permit application.*"

Division's response:

The secondary fuel has been added to the description as requested. This approval is only for compliance with standards under the Clean Air Act. It does not relieve the need to obtain other permits or approvals from Division of Waste Management or under TSCA(Toxic Substances Control Act).

COMMENT No 11

2. Applicable Regulations
   - Emission Limitations, 2.b (p. 8)—Revise to read: "Pursuant to 401 KAR 61:015, Section 4 (2), *and 401 KAR 50:055,* emissions shall not exceed twenty (20) percent opacity based on a 6-minute average, *except: (1) a maximum of forty (40) percent opacity shall be permissible for not more than one (1) 6-minute period in any sixty (60) consecutive minutes; and (2) during periods of malfunction, shutdown and startup."* Alternatively, this provision could read: *"Pursuant to 401 KAR 61:015, Section 4(2), and consistent with 401 KAR 50:055, emissions shall not exceed twenty (20) percent opacity based on a 6-minute average."*

Division's response:

The Division acknowledges this comment. 401 KAR 50:055 is a compliance requirement and cannot be used under specific opacity requirements.

COMMENT No 12

- Testing Requirements, 3.a (p. 8) As discussed in our meeting at the Division on September 13, 2002 this condition will be revised to read: "*The opacity trigger level for **COMB03 Boiler Unit 3** shall be 20%, based on a three-hour average.* The permittee shall submit, within six months from the issuance date of the proposed permit, a schedule to conduct at least one performance test for particulate within one year following the

issuance of this permit. ~~Opacity data from the Continuous Opacity Monitor (COM) obtained during the performance test shall be correlated with the particulate emission rate to establish an average opacity level pursuant to Condition 4.f below.~~ *If no additional stack tests are performed pursuant to Condition 4.d, the permittee shall conduct a performance test for particulate emissions within the third year of the term of this permit to demonstrate compliance with the applicable standard."*

This 20% opacity trigger level for Unit 3 is based on stack testing conducted in July 1991 that correlated compliance with the mass standard of 0.11 lbs/MM BTU up to an opacity of 36%. This information was submitted to the Division on July 29, 1991, and is an attachment to these comments. This correlation shows that the proposed action level of 20% (based on a three-hour average) provides sufficient compliance margin with the mass standard.

Division's response:

See response to comment number 14 below.

COMMENT No 13

- Testing Requirements, 3.b (p. 8) — Revise to read: "The permittee shall determine the opacity of emissions from the stack by EPA Reference Method 9 *for determination of compliance with the opacity standard* upon request by the Division."

Consistent with 401 KAR 50:055, compliance with the opacity standard is determined by Method 9 observations. Opacity data derived from the use of COMS provides an indication of good operation of control equipment and is sufficient to meet periodic monitoring requirements for opacity.

Division's response:

The testing requirements will not change.

COMMENT No 14

- Specific Monitoring Requirements, 4.f (p. 9) — As discussed in our meeting at the Division on September 13, 2002, this condition will be revised to read: "Pursuant to material incorporated by reference by 401 KAR 52:020, Section 10, to meet the periodic monitoring requirement for particulate, the permittee shall use a continuous opacity monitor (COM). ~~The average opacity level, determined pursuant to condition 3.a above, plus 5% opacity, will become the opacity trigger level.~~ Excluding the startup, shut down, *malfunction,* and once per hour exemption periods, if the six-minute ~~opacity~~ *opacity readings* (averaged over a period of three hours) exceed the opacity trigger level *set forth in 3.a above* the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs.

If five (5) percent or greater of COM data (excluding startup, shut down, malfunctions and once-per-hour exclusion periods, data averaged over a ~~six minute period~~ *three-hour period*) recorded in a calendar quarter show excursions above the opacity trigger level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by condition Section G (a)(17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been

corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance tests.

Division's response:

The concept of an opacity trigger level and the establishment of the five percent (5%) excursion in any calendar quarter standard was agreed to by the Division and the Utility Information Exchange. It identifies that point at which the facility will be required to take specific actions -- inspection and repair of equipment or conducting a stack test. It is not a regulatory or permit limit; it is a description of the condition of operation that the Division has determined warrants corrective action. Its purpose was to ensure consistency between Regional Offices and individual inspectors so that utilities were not required to take different actions based on the same circumstances. Since it is based on an agreement that has met the purpose for which it was intended satisfactorily, the Division declines to change it in this permit. This trigger level has nothing to do with any opacity limit as specified in the applicable regulations. As it is based on a correlation test between mass emissions and opacity it only identifies the level of opacity at which a presumption is made that the mass emission limit may be exceeded, and therefore a corrective action (i.e., inspection and repair) is appropriate. Until TVA Paradise has a source specific SIP revision approved by U.S. EPA, the opacity limit will remain as specified by the regulations.

COMMENT No 15

- Specific Monitoring Requirements, 4.i.1 (p. 10) — This condition should be deleted. There is no applicable standard requiring that scrubber liquor flow rate be monitored. In addition periodic monitoring for sulfur dioxide will be accomplished by using CEMS.

Division's response:

The Division does not concur. Specific Monitoring Requirements, 4.i.1 (p. 10) is a monitoring requirement to record the pressure drop across the scrubber at least once per shift. These records are useful to ensure proper operation of an air pollution control device that is used to ensure compliance with the SO2 and PM allowable under 401 KAR 61:015. Compliance with the SO2 allowable can be determined through the SO2 CEM. It is our understanding that the source's position is that compliance with the PM limit is assured by compliance with the SO2 limit, as there is a common control device. The Division does not concur that this is the case in all circumstances. Compliance with the S02 limit is a function of the control device and concentration of sulfur in the fuel. Monitoring of the pressure drop is part of the compliance assurance that particulate emissions and opacity are in compliance.

This condition only requires some periodic recordkeeping to ensure proper operation of the control device, and is not a direct measure of compliance. In light of the fact opacity can not be monitored consistently at this stack to ensure compliance, the Division believes it is justified in requiring that records be maintained and be made available to the Division to demonstrate good air pollution control operation.

COMMENT No 16

- Specific Monitoring Requirements, 4.i.2 (p. 10) — This condition should be deleted. There is no applicable standard limiting operating hours. In addition, periodic monitoring for sulfur dioxide will be accomplished using CEMS.

Division's response:

The permit does not contain operating limitation on hours of operation. See response number 15 above.

COMMENT No 17

- Specific Record Keeping Requirements, 5.b (p. 10)—Delete "... on a three-hour rolling average basis," because a 3-hour rolling average is not used to determine compliance for these units. Replace "indicator range" with "*opacity standard.*" This is consistent with Condition 6.b.

Division's response:

The three-hour rolling average is a standard for continuous opacity monitoring and will not be changed as requested. "Opacity standard" has been changed to "trigger level".

COMMENT No 18

- Specific Reporting Requirements, 6.a.1 (p. 10)—Revise the second sentence: "The averaging period used for data reporting should correspond to the emission standard averaging period ~~of twenty-four (24) hour~~." Opacity is not a 24-hour standard and the bases are listed in the emission limitations section.

Division's response:

The averaging period is for the sulfur dioxide limitation and will not change.

COMMENT No 19

- Unit 2 Scrubber By-Pass Capability - On May 28, 2003, TVA submitted an addendum to the Title V permit application for the Unit 3 Flue Gas Desulfurization Scrubber. This submittal included updated permit application forms and dispersion modeling results for different plant operating scenarios. The study indicates that the Unit 3 scrubber will reduce local ambient SO_2 levels and local SO_2 levels will remain below the National Ambient Air Quality Standards. This also demonstrated that the project meets the state and U. S. Environmental Protection Agency designation as an environmentally beneficial project.

As stated in the May 2003 submittal the design of the Unit 3 scrubber and associated ductwork incorporates provisions to by-pass the scrubber through the existing stack, if needed. TVA anticipates infrequent use of this by-pass capability once the scrubber is commission in late 2006. However, because we will have this capability it is important to address the following issues specifically in the proposed permit:

- Unit 3 Scrubber By-Pass Capability - The permit should include language in Description that addresses this capability.

- Unit 3 Emission Points - Once the new scrubber and new stack are commissioned in late 2006, Unit 3 will have two (2) emission points. The emission point represented by the current stack and the emission point represented by the new stack should be assigned separate numbers. These emission point identification numbers should be listed in the Description for this emission unit in the proposed permit.
- Unit 3 Opacity Continuous Monitoring - As discussed with the Division during the scrubber permit application process, when operation of the new scrubber commences, opacity monitoring will occur downstream of the electrostatic precipitators but upstream of the scrubber. The COMS system will be used in both normal and by-pass operation after the scrubber is commissioned in later 2006. The existing COMS system will be decommissioned after the system described above is in place.
- Unit 3 Sulfur Dioxide and Nitrogen Dioxide Emissions Monitoring - As discussed with the Division during the scrubber permit application process, when operation of the new scrubber commences, sulfur dioxide and nitrogen dioxide emissions monitoring will occur downstream of the scrubber at the appropriate point in the new stack. When the scrubber is by-passed sulfur dioxide and nitrogen dioxide emissions monitoring will occur at the current location in the existing stack. TVA will maintain the existing CEMS units in their current location as a contingency for scrubber by-pass events.

Division's response:

The Division does not have the regulatory authority to grant the scrubber by-pass capability at this time. The permittee may submit an application to the Division detailing stack and CEMs data to that effect when the scrubbers come on line in 2006.

COMMENT No 20

GACT4 (Emission Points 16 & 17) Existing Coal Handling Processes

1. Applicable Regulations
   - Specific Control Equipment Operating Conditions, 7.a (p. 16) — Revise to read: "The enclosure shall be maintained and the foam suppression system shall be ~~continuously~~ operated *as needed* to maintain compliance with the permitted emission limitations~~, in accordance with manufacturer's specification and/or good operating practices~~."

Division's response:

The compliance demonstration of these units with respect to emissions can be achieved through the continuous operation of the pollution control device, as such; the permit control equipment language will not change.

COMMENT No 21

GACT6 (Emission Points 15 & 18) Existing Coal Handling Fugitives

1. Applicable Regulations
   - Specific Monitoring Requirements, 4 (p. 17) - Propose that this condition be changed to read: "The amount of coal processed shall be monitored on a monthly basis *and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 22
EQPT15 (Emission Points 19) Two Lime Storage Silos
1. Applicable Regulations
- Specific Monitoring Requirements, 4.a (p. 18) - Propose that this condition be changed to read: "The amount of lime processed shall be monitored on a monthly basis *and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 23
- Specific Control Equipment Operating Conditions, 7.a (p. 18) — Revise the condition as follows: "The ~~bagfilters~~ *air pollution control equipment* shall be ~~continuously~~ operated ~~to maintain compliance with the permitted emission limitations, in accordance with manufacturer's specifications and/or~~ *and maintained in accordance with* good operating practices *to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number 20.

COMMENT No 24
GACT5 (Emission Points 04 through14) Coal Washing Plant
1. Applicable Regulations
- Operating Limitations, (p. 19) - Propose the addition of new condition that reads: "*Coal processed through Emission Unit GACT5 as defined herein shall not exceed 13,000,000 tons in any 12-month period.*"

Division's response:

The changes have been made.

COMMENT No 25
- Specific Monitoring Requirements, 4.a (p. 20) - Propose that this condition be changed to read: "The amount of coal processed shall be monitored on a ~~monthly~~ *daily* basis, *compiled into monthly totals, and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 26
- Specific Monitoring Requirements, 4.b (p. 20) - Propose this condition be deleted. There is no applicable standard limiting operating hours. Compliance assurance with 401 KAR 51:017 can be achieved by record keeping of coal tonnage processed on a daily basis and tabulated into a 12-month rolling total. Compliance demonstration with hourly and daily particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission point.

Division's response:

The only means to determine that the BACT standards are being met is through the monitoring of hours of operations, which is practically enforceable.

COMMENT No 27

- Specific Control Equipment Operating Conditions, 7.a (p. 20) — Revise to read: "The enclosure shall be maintained and the foam suppression system shall be ~~continuously~~ operated *as needed* to maintain compliance with the permitted emission limitations~~, in accordance with manufacturer's specification and/or good operating practices~~."

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 28

GACT7 (EQPT 21, 23, 25) Limestone Handling Process

1. Applicable Regulations

In our correspondence on January 30, 2004, TVA identified an exception in the 2003 compliance certification related to the limestone handling system. The permit application for the process reflects bagfilters on the prep building surge hoppers and the bagfilters were not operable during that compliance period. Emission estimates provided in January 2004 for the compliance period demonstrate that the limestone handling system met the emission standard for the source relying on transfer point & conveyor enclosures to provide sufficient emissions control.

PAF has operated the limestone handling system since 1982 and based on our experience operating this system, TVA has determined that the bagfilters on the system are not needed to control fugitive dust. Therefore, we propose that the bagfilters be removed from the permit application and from the proposed Title V permit.

Division's response:

Permitted requirement are not based on single year emission data, therefore the pollution control device will remain in the permit.

COMMENT No 29

- Emission Limitations, 2.b (p. 21) - Propose that this condition be changed to read: "Compliance *is demonstrated when* ~~will be assumed while bagfilters~~ enclosures are ~~utilized properly~~ *maintained in accordance with good operating practices to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 30

- Specific Control Equipment Operating Conditions, 7.a (p. 21) - Revise the condition as follows: "The ~~bagfilters~~ *enclosures* shall be ~~continuously operated to maintain compliance with the permitted emission limitations, in accordance with manufacturer's specifications and/or~~ *maintained in accordance with* good operating practices *to ensure*

compliance with permitted emission limitations."

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 31

GACT8 (EQPT 16, 18, & 20) Limestone Handling Fugitives

1. Applicable Regulations
   - Specific Monitoring Requirements, 4.a (p. 22) - Propose that this condition be changed to read: "The amount of limestone processed shall be monitored on a ~~monthly~~ *daily basis, compiled into monthly totals, and maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 32

- Specific Monitoring Requirements, 4.b (p. 22) - Propose this condition be deleted. There is no applicable standard limiting operating hours. Compliance demonstration with hourly and annual particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission point.

Division's response:

The Division believes this requirement is a necessary means of facilitating better information gathering for the unit.

COMMENT No 33

EQPT23 (Emission Point 30) Ash Handling System

1. **Description (p. 23) To maintain consistency** with other sections of the permit add individual process weight to each activity as follows:

Ash/Slag Reclaim from Slag Pond	134 tons/hr
Ash/Slag Reclaim from Dewatering Area	200 tons/hr
Ash/Slag Reclaim from Slag Pond	200 tons/hr

Division's response:

The changes have been made.

COMMENT No 34

2. Applicable Regulations
   - Operating Limitations (p. 23) - Propose deletion of operating limitation. There are no hourly or annual throughput restrictions for the Ash Handling System.

Division's response:

The operating limitation has been deleted.

COMMENT No 35

- Specific Monitoring Requirements, 4.a (p. 23) - Propose that this condition be changed to read: "The amount of ash and slag processed shall be monitored on a monthly basis

and annual throughput maintained as a rolling 12-month total."

Division's response:

The changes have been made.

COMMENT No 36

- Specific Monitoring Requirements, 4.b (p. 23) - This condition should be deleted. There is no applicable standard limiting operating hours. Compliance demonstration with particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission point.

Division's response:

See response to comment number 32.

COMMENT No 37

EQPT30 (Emission Point 42) Gypsum Handling

1. Description (p. 24)

- To maintain consistency with other sections of the permit modify description and add individual process weight to each activity as follows:

Sluicing to Gypsum Disposal Pond	108 tons/hr
Gypsum Dewatering/Drying	167 tons/hr
Excavation and Transport of Dewatered Gypsum	167 tons/hr
Soil Cover Transport	358 tons/hr

Division's response:

The changes have been made.

COMMENT No 38

2. Applicable Regulations

- Operating Limitations (p. 24) - Propose deletion of operating limitation. There are no hourly or annual throughput restrictions for Gypsum Handling.

Division's response:

The operating limitation has been deleted.

COMMENT No 39

- Specific Monitoring Requirements, 4.a (p. 24) - Propose that this condition be changed to read: "The amount of gypsum processed shall be monitored on a monthly basis *and annual throughput maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 40

- Specific Monitoring Requirements, 4.b (p. 24) - This condition should be deleted. There is no applicable standard limiting operating hours. Compliance demonstration with particulate matter emission limits will be achieved as defined in the application by throughput limits, emission factors, and the level of control applied to each emission

point.

Division's response:

See response to comment number 32.

COMMENT No 41

GACT10 (Emission Points 75 & 76) Unit 3 Limestone Handling (Under Construction)

1. Applicable Regulations

- Compliance Demonstration Method (p. 26) - Revise the sentence as follows: "Compliance is ~~assumed~~ *demonstrated* when the ~~baghouses and bin vents~~ *enclosures* for this emission unit are ~~operated continuously and~~ maintained ~~in accordance with manufacturer's recommendations~~ *in accordance with* good operating practices *to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 42

- Testing Requirements (p. 26) - Propose that this condition be deleted. Small baghouse dust collectors and bin vents are difficult to test using Method 5 or Method 17. In both cases it is unlikely that Method 1 and Method 2 can establish an appropriate and valid test point locations and discharge gas velocity profile, respectively. This is due to the compact nature of the clean-side plenum and arrangement of the discharge point (stack).

Division's response:

Kentucky does not have the authority to circumvent the requirement of a Federal New Source Performance Standard.

COMMENT No 43

- Specific Monitoring Requirements, 4.b (p. 26) - Propose that this condition be changed to read: "The amount of limestone processed shall be monitored on a monthly basis *and annual throughput maintained as a rolling 12-month total.*"

Division's response:

The changes have been made.

COMMENT No 44

- Specific Control Equipment Operating Conditions, 7.a (p. 27) - Revise the condition as follows: "The ~~baghouses and bin vents~~ *air pollution control equipment* shall be ~~continuously~~ operated ~~to maintain compliance with the permitted emission limitations, in accordance with manufacturer's specifications and/or~~ *and maintained in accordance with* good operating practices *to ensure compliance with permitted emission limitations.*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

COMMENT No 45

GACT11 (Emission Points 73, 74, & 77) Unit 3 Limestone Handling Fugitives (under construction)

1. Applicable Regulations
   - Specific Monitoring Requirements, 4.a (p. 28) - Propose that this condition be changed to read: "The amount of limestone processed shall be monitored on a monthly basis *and maintained as a rolling 12-month total.*"

Division's response:

The change has been made.

COMMENT No 46
SECTION D

- Compliance Demonstration Method, (p. 32) - Revise the condition as follows: "Compliance is ~~assumed~~ *demonstrated* when the ~~bagfilters~~ *air pollution control equipment* is operated ~~continuously~~ and maintained ~~in accordance with manufacturer's recommendations~~ *according to good operating practices pursuant to 401 KAR 50:055, Section 2(5).*"

Division's response:

The permit control equipment language will not change. See response to comment number20.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.

859-986-1299

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

FEB 18 2005

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FEB 18 2005
PERMIT REVIEW BRANCH
DIVISION FOR AIR QUALITY

John S. Lyons, Director
Department for Environmental Protection
Kentucky Natural Resources & Environmental Protection Cabinet
803 Schenkel Lane
Frankfort, Kentucky 40601

Dear Mr. Lyons:

The United States Environmental Protection Agency (EPA) has reviewed the proposed title V operating permit for Tennessee Valley Authority (TVA) - Plant Paradise located in Drakesboro (Muhlenberg County), Kentucky. Based on the review of the proposed permit and the supporting information for this facility, EPA formally objects, under the authority of Section 505(b) of the Clean Air Act (the Act) and 40 CFR § 70.8(c), to the issuance of the title V permit for this facility. The bases for EPA's objection are that the permit does not include all applicable requirements to assure compliance with the Act and that it includes limitations which are not practically enforceable.

Section 505(b)(1) of the Act and 40 CFR § 70.8(c) require EPA to object to the issuance of a proposed permit amendment in writing within 45 days of receipt of the proposed permit (and all necessary supporting information) if EPA determines that the permit is not in compliance with the applicable requirements under the Act or 40 CFR Part 70. Pursuant to 40 CFR § 70.8(c), this letter provides a statement of the reason(s) for EPA's objection and a description of the terms and conditions that the permit must include to respond to the objection.

Specifically, the following items are deficient in the proposed title V permit for TVA - Plant Paradise:

1. 40 CFR § 70.6(a)(1) requires that the title V permit include operational limitations that assure compliance with all applicable requirements. Since non-title V, state operating permits *0-87-012* and *0-86-75* (which contain the maximum heat inputs for boilers COMB1, COMB2, and COMB3) were incorporated into the Kentucky State Implementation Plan (SIP) as source-specific SIP revisions [40 CFR §§ 52.920(d) and 52.939(c)(49) and (54)], they are "applicable requirements." Therefore, pursuant to § 70.6(a)(1), the permit must include the maximum heat inputs or "operational limitations" for boilers COMB1, COMB2, and COMB3 (6,305 mmBTU/hr for COMB1 and COMB2 and 10,390 mmBTU/hr for COMB3, respectively) to assure

EXHIBIT 5

compliance with all applicable requirements, specifically permits *0-87-012* and *0-86-75*. In addition to the respective heat input limitations, the permit needs to include the appropriate periodic monitoring and reporting requirements.

2. 40 CFR § 70.6(a)(3)(B) requires that the title V permit contain appropriate periodic monitoring where the applicable requirement does not require periodic testing or monitoring. However, the two lime storage silos (EQPT15) and the Unit 3 limestone handling system (GACT10) are subject to hourly process rate limitations (5 and 900/600 tons per hour, respectively) without appropriate periodic monitoring. Therefore, pursuant to § 70.6(a)(3)(B), the permit must include the requirement that hours of operation be monitored (and recorded) along with the respective throughput amounts.

40 CFR § 70.8(c)(4) and Section 505(c) of the Act provide that if the permitting authority fails to revise and resubmit a proposed permit amendment within 90 days to satisfy the objection, the authority to issue or deny the permit amendment defaults to EPA, and EPA will act accordingly. Because the objection issues must be fully addressed within 90 days, we suggest that the revised permit be submitted with sufficient advance notice so that any outstanding issues may be resolved prior to the expiration of the 90-day period.

We are committed to working with you to resolve the above issues. Please let us know if we may provide assistance to you and your staff. If you have any questions or wish to discuss this further, please contact Gregg Worley, Chief, Air Permitting Section at (404) 562-9141. Should your staff need further assistance, they may also contact Art Hofmeister, Kentucky title V contact, at (404) 562-9115.

Sincerely,

Beverly H. Banister
Director
Air, Pesticides and Toxics
Management Division

cc: Janet K. Watts, TVA

Law Office of Robert Ukeiley

435R Chestnut Street, Suite 1 ◦ Berea, Kentucky 40403 ◦ tel.859-986-5402 ◦ fax.866-618-1017

Robert Ukeiley
rukeiley@igc.org

July 31, 2007

Mr. James Morse
Division for Air Quality
803 Schenkel Lane
Frankfort, KY 40601;

RE: TVA Paradise Fossil Plant Draft Title V Permit No. V-07-018

Dear Mr. Morse:

On behalf of the Center for Biological Diversity, Hilary Lambert and Preston Forysthe, I am writing to submit comments on the draft Title V permit for the Tennessee Valley Authority's Paradise Fossil Plant ("TVA Paradise"). You have assigned this draft permit No. V-07-018. It has been over a decade since TVA submitted the original application for this permit.

TVA Paradise is one of the largest sources of air pollution in the nation. It sits in Muhlenberg County, Kentucky, which at various times has been designed nonattainment for sulfur dioxide (SO_2) and particulate matter (PM). TVA Paradise was one of the major causes of this nonattainment designation. TVA Paradise also sits near the Green River. TVA Paradise, along with the other power plants in the area, can withdraw up to 40% of the water in the Green River, which obviously has an adverse effect on the river ecology. Economically, the impacts of TVA Paradise far outweigh the economic benefits. TVA Paradise's economic impacts are felt in a variety of ways such as premature mortality and health care costs from its pollution, missed days of work and school caused by adverse health impacts, decreased crop production due to its pollution and decreased recreational dollars, especially at Mammoth Cave National Park, due to TVA Paradise's pollution. It is against this background that we offer these comments.

1) PSD IS AN APPLICABLE REQUIREMENT FOR THE THREE MAIN BOILERS WHICH NEEDS TO BE INCLUDED IN THE PERMIT.

The Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act's New Source Review program, 40 CFR 52.21, is an applicable requirement with regard to nitrogen oxides (NOx) emissions from TVA Paradise Units 1, 2, and 3 because TVA modified those units after 40 CFR 52.21 became effective but before Kentucky had

EXHIBIT 6

an approved PSD program in its SIP. Therefore, the PSD provisions must be include in TVA Paradise's Title V permit.

> Specifically, the modifications that made PSD applicable with regard to NOx are:
>
> The work was essentially the same at all three units. It included the replacement of all cyclone burners attached to each boiler and the replacement of the lower furnace walls, floor and headers. EPA Enforcement Ex. 273; EPA Enforcement Ex. 279, at 40-42 (Hekking's pre-filed testimony); TVA Ex. 4, at 23-26 (Golden's pre-filed testimony).
>
> Through these projects, TVA replaced all fourteen cyclone burners at each of Units 1 and 2 and replaced all twenty-three cyclone burners at Unit 3. In addition, TVA cut out and replaced the waterwall below 465 feet, including the lower headers and floor at Unit 1. TVA performed the same work at Unit 2. At Unit 3, in addition to the twenty-three cyclones, TVA replaced the waterwalls between 418 feet to 501 feet. TVA Ex. 4, at 23-25 (Golden's pre-filed testimony); EPA Enforcement Ex. 279, at 42 (Hekking's pre-filed testimony).
>
> The magnitude of the work at each of these units was significant. Indeed, TVA had to construct monorails at the front and rear walls for lifting and positioning the cyclones at each unit. EPA Enforcement Ex. 279, at 43 (Hekking's pre-filed testimony). TVA installed a trolley system to transport the cyclones in and out of the building, and TVA constructed rigging inside the furnace to assist in attaching the wall panels and floor panels. Id.
>
> After approval from the Board of Directors and after years of planning, the central office's Fossil and Hydro Power Division performed work on these units sequentially. [FN7] TVA implemented the work at Unit 3 first, beginning in the Fall of 1984 and requiring the unit to be shut down for six months. It then worked on Unit 1, shutting it down for approximately 6.5 months beginning in March of 1985. Finally, TVA performed the work on Unit 2 beginning in November of 1985 and lasting 4.5 months. In each case, the units were shut down for periods well beyond the four weeks typical of scheduled maintenance outages.
>
> The work at Unit 1 and 2 required the replacement of approximately 18.5% of the total tubing in the boiler. TVA Ex. 4, at 23, 25 (Golden's pre-filed testimony). TVA replaced approximately 19.4% of the total tubing in Unit 3's boiler. Id. at 26.

In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at Appendix A, p. 108-109. In support of our claim that PSD for NOx is an applicable requirement, we hereby incorporate by reference all of the

evidence, including the transcripts of the live testimony, from In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000).

The fact that the United States Court of Appeals for the Eleventh Circuit subsequently found that the Administrative Compliance Order issued to TVA was **facially** unconstitutional is not relevant to this comment. We are saying that if you review the information that EPA Enforcement presented to the EAB during the course of the proceeding in light of the arguments made by EPA Enforcement and even use the emission test more favorable to TVA (actual to projected actual) and use the PSD regulations that we applicable at the time of the modification, you will independently determine that there was indeed a major modification at all three units at TVA Paradise so that PSD applies to those units for NOx.[1] It is important to remember that the Eleventh Circuit's decision was based on facial analysis of Administrative Compliance Orders which does not describe any particular process for its issuance. However, in the TVA case, TVA was actually given extensive process to try to defend its case. See e.g. In re: Tennessee Valley Authority, 9 E.A.D. 357, 2000 WL 1358649 (EPA ALJ Sept. 15, 2000) at 8. Even after this trial type process, the evidence showed that TVA had indeed performed major modifications at TVA Paradise.

Therefore, the Title V Permit must include BACT limits for Units 1, 2 and 3 for NOx. We suggest that you set a temporary BACT limit of 0.085 lbs/MMBtu NOx for Unit 1, 0.1 lbs/MMBtu NOx for Unit 2 and 0.15 lbs/MMBtu based on a thirty day rolling average. The limits for Units 1 and 2 are based on TVA Paradise's actual emissions during the 2002 ozone season. See Exhibit 1. Obviously, what a particular unit achieves is achievable. Our purposed limit for Unit 3 is based on the NSPS limit. These temporary limits should go into effect immediately and should apply year round. The final BACT limits will be significantly lower but may require construction in order to comply.

The Title V permit should also include a compliance schedule which requires TVA to submit a full PSD application within 3 months of the issuance of the permit. To the extent that pre-construction monitoring is necessary, TVA should be given additional time to complete its pre-construction monitoring. While this is an aggressive schedule, the people of Kentucky should not be forced to endure TVA Paradise's illegal pollution any longer than necessary.

2) THE PERMIT SHOULD INLCUDE A COMPLIANCE SCHEDULE TO REQUIRE THE SCRs TO BE OPERATED YEAR ROUND PURSUANT TO 401 KAR 50:055 SECTION 2(5).

401 KAR 50:055 SECTION 2(5) provides that:

> at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate

[1] We are not saying that the "actual to projected actual" test is legally mandated. We are merely saying that even using this test, which is the most favorable to TVA, you will still find a significant increase in NOx.

> any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

In the case of Sierra Club v. EPPC and TGC, LLC, FILE NO. DAQ-26003-037 FILE NO. DAQ-26048-037, the law firm of Hunton and Williams, a noted utility industry law firm, took the position that 401 KAR 50:055 Section 2(5) and similar regulations in other states would require the year round operation of SCRs once they are installed. DAQ seemed to support Hunton and Williams position on this issue. However, a review of the information on the US EPA Air Markets Division web page, which is hereby incorporated by reference, indicates that TVA does not run the SCRs on Paradise year round. Therefore, the permit should include a compliance schedule that requires TVA to operate the SCRs on Paradise year round.

Section B.7(a) of the draft permit has some language that does not appear in 401 KAR 50:055 Section 2(5). It states that the source shall operate control equipment to maintain compliance with permitted emission limits. As long as it is clear that Section B.7(a) is a separate requirement that has no bearing on requirement to also comply with 401 KAR 50:055 Section 2(5), Section B.7(a) does not present any problems. However, if Section B.7(a) is meant to limit the applicability of 401 KAR 50:055 Section 2(5), then Section B.7(a) must be removed or altered for there is no legal basis to such an interpretation.

3) PSD IS APPLICABLE TO EMISSION UNITS GACT7, GACT8, GACT 10 AND GACT 11.

To begin with the draft permit does not state that the conditions in Section B for Emission Units GACT7 or GACT8 or in Section D(3) is to limit the applicability of PSD. However, the SOB does so state. The permit should be made clear to state that this condition is to limit the applicability of PSD if that is ultimately what this condition requires.

However, it appears that this synthetic minor cap for these units is not currently being met and is impossible to meet. Section B, Condition 2(a) sets a limit for the three units conveying transfer point, silo loading, and surge hopper and weigh hopper of 632 tpy PM (51.4 lbs/hr + 51.4 lbs/hr + 41.6 lbs/hr * 8760 hr/yr / 2000 lbs/ton = 632.472 tpy). However, the synthetic minor cap needs to be at 25 tpy which would equate to approximately 1.9 lbs/hr limit for each of these emission units. Even this limit of 1.9 lbs/hr would not include fugitive emissions from EQPT16 Limestone Receiving, EQPT18 Limestone Stock-out and Storage, and EQPT20 Limestone Silo Unloading which also must be included in the synthetic minor cap. See 401 KAR 51:017 § 8(c). Furthermore, the synthetic minor cap would need to include a limit of both PM at 25 tpy

and PM10 at 15 tpy. See Id. At § 22. See also Exhibit 2 at Page 2, Comment 5 (KY DAQ states "Both Pm and PM10 are regulated in the Kentucky PSD Regulation). Because there is no evidence that GACT7 and GACT8 have or could meet these limits of 25 tpy PM and 15 tpy PM10, these sources constitute a major modification. Therefore, the permit should include a compliance schedule to require TVA to submit a PSD permit application for these sources.[2]

Finally, GACT10 and GACT11 should be also be considered part of the major modification that involved GACT7 and GACT8. Although construction is staggered, all of these units are obviously all part of the same project. Thus, the permit should also contain a compliance schedule that requires GACT10 and GACT11 to be part of the PSD permit application which TVA is required to submit.[3]

4) THERE IS NO MONITORING FOR OPACITY.

The Statement of Basis (SOB) states that Method 9 is of questionable use for TVA Paradise Boilers 1 and 2. However, the SOB also admits that there is no other monitoring in place for the opacity limit. Title V and its implementing regulations require that there be monitoring in place. Thus, the draft permit's lack of monitoring renders the permit deficient. Condition G(a)18 must be removed as it would allow the inclusion of monitoring for opacity without public participation. Rather, this permit needs to include monitoring and reporting for compliance with the opacity limit for Boilers 1 and 2.

40 CFR Part 51, Appendix P requires TVA Paradise to have a continuous opacity monitoring system (COMS) for each of the main boilers. Therefore, the Title V permit must require a COMS and the COMS should be used to monitor compliance with the opacity limit for Units 1 and 2.[4]

Furthermore, for Unit 3, the draft permit requires a Method 9 test to monitor for opacity compliance "as required by the division." This monitoring is not sufficient to assure compliance. To begin with, Method 9 cannot be used at night or when there is cloud cover. Thus, there is no assurance of compliance with the opacity limit for at least a third and probably two-thirds of the time. In addition, there is no specification of the frequency of the Method 9 test. If there is no specification of the frequency, then there is not adequate monitoring to assure compliance. As with Units 1 and 2, there is no logical

[2] This also means that other facilities in Muhlenberg County, such as Peabody's Thoroughbred Generating Station should have to re-submit there PM increment modeling as GACT7 and GACT8 established the minor source baseline date for PM in Muhlenberg County but Peabody's modeled was based on the minor source baseline date being established by Thoroughbred Generating Station.

[3] We will note for the record that all of the emission limits and standards for GACT7, GACT8 and GACT10 and GACT11 including Condition D(3) are not enforceable as a practical matter and do not contain monitoring and reporting to assure compliance. For example, there is no performance testing required and no CEMS or COMS required.

[4] The Permit must also require a CEMS for NOx.

reason to not specify that COMS shall be used to assure compliance with the opacity limit for Unit 3.

As to the CAM requirement for opacity, again, there is no defensible reason to require a Method 9 test if the COMS shows an exceedance. Again, a Method 9 test cannot be done at night or in cloudy weather. In addition, the Method 9 test will be done after the COMS violation so that the Method 9 test will not provide information about whether there was a violation at the time that the COMS reading demonstrated a violation. Rather, CAM should be simply based on COMS.

Furthermore, as to the CAM requirement for PM, PS 11 should be used. An one time stack test and COMS correlation is not sufficient to account for changes at the plant, especially changes in the quality of the coal being burned..

5) THE PM MONITORING IS NOT SUFFICIENT

The permit does not specify a method for the required PM stack tests for the main boilers. The permit must specify a PM test method which will test for filterable and condensable PM. See Exhibit 2 at Page 3, Comment 6. It seems Method 202 would be appropriate. In addition, the Opacity limit should be re-adjusted downward if any opacity reading is lower than 61% during the stack test.

6) THE PARAMETERTIC MONITORING FOR THE FGD DOES NOT APPEAR TO BE SUFFICIENT

Condition B.4(g) for Unit 1 allows the use of pump amperage as a surrogate for flow rate of make-up scrubbing liquor. It would seem that the flow rate could be affected by factors other than the pump amperage such as physical damage to the pump. Monitoring the actual flow rate seems to be the better approach.

7) MANY EMISSION UNITS DO NOT HAVE LIMITS OR STANDARDS THAT ARE ENFORCEABLE AS A PRACTICAL MATTER AND DO NOT HAVE MONITORING AND REPORTING TO ASSURE COMPLIANCE

For emission units Comb4, Comb5, EQPT36, and EQPT22, there needs to be monitoring for the opacity limit. Also, AP-42 should not be the basis of compliance demonstration. Rather, the permit should require periodic stack tests to obtain site specific data.

The PM limit for GACT4 is based on a 99.99998% control. Yet, there is no monitoring to assure compliance with this level of control. A strict monitoring program must be but in place to assure compliance with a 99.99998% control efficiency. Also, there is no monitoring to assure compliance with the opacity limit for GACT4.

For GACT6, Condition 2(a) is not enforceable as a practical matter as it does not specify control measures that must be in place. There is also no monitoring to assure compliance with Condition 2(b). Finally, the narrative should explain why EPQT12 is rated at 3,000 tons per hour while all of the other equipment is rated at 2,000 tons per hour.

8) GACT5 SYNTHETIC MINOR CAP IS NOT SUFFICIENT AND THERE IS NOT SUFFICIENT MONITORING

For GACT5, the SOB and the draft permit do not appear to be consistent. The SOB states that the coal washing unit was build under the old PSD regulations that only required a 100 lb/hr, 1000lb/day, and 50 tn/yr limit on particulate matter emissions. Yet Condition 2(a) states that the PM limits are imposed to prevent the applicability of the current PSD regulations, 401 KAR 51:017. However, if this is the case, the limit would have to be 25 tpy PM **and** 15 tpy PM10. See 401 KAR 51:017 § 22. This confusion is exacerbated by the fact that the description of this unit does not include the year it commenced construction, although for other units, the permit does include the date that construction commenced. This needs to be clarified and corrected to 25 tpy PM **and** 15 tpy PM10 if this is indeed a condition to prevent the applicability of 401 KAR 51:017. See Id. At § 22.

In addition, there is no monitoring to assure compliance with the opacity and PM limits and the PM limit is not enforceable as a practical matter which synthetic minor caps must be. As explained above, there is no authority to allow for the assumption of compliance. Rather, there must be monitoring and reporting to assure compliance. Again, we believe that COMS and a PM CEMS, in compliance with PS 11, are appropriate to assure compliance, especially considering that the synthetic minor cap is set so close to the PSD significant level.

Finally, the manufactures specifications referenced in Condition 7(a) must be specifically identified in the permit and a copy of these specifications must be included in the permit folder. There must be monitoring and reporting to assure compliance with this requirement.

9) THERE MUST BE REPORTING OF ANY MONITORING RESULTS

Condition F.5 must require the submission of all COMS and CEMS data. See 42 U.S.C. § 7661c(a); 40 C.F.R. § 70.6(a)(3)(iii)(A)

10) THE NEW BOILER MACT IS AN APPLICABLE REQUIRMENT

US EPA finalized a MACT standard for Industrial, Commercial, and Institutional Boilers and Process Heaters. See 69 Fed. Reg. 55217 (Sept. 13, 2004). This new MACT is an applicable requirement for COMB4 (26) Unit 1 Building Heat Boiler and Unit 2 Building Heat Boiler, COMB5 (28) Unit 3 Building Heat Boiler, EQPT22 (29a) Eight Dravo Heaters, and EQPT36 (29b) Three Dravo Heaters. Therefore, the new MACT should be included in the permit. The permit should identify which particular requirements in the new MACT apply to each emission unit in order to be practically enforceable.

11) THE STATEMENT OF BASIS DOES NOT PROVIDE A FACTUAL AND LEGAL BASIS FOR THE PERMIT CONDITIONS.

The Statement of Basis (SOB) is inadequate. For example, the SOB does not provide any explanation for the applicability of PSD to Boilers 1, 2, and 3. It makes no mention of the EPA's enforcement action against TVA Paradise and the EAB's decision in that case. The SOB does not explain the legal or factual basis for Condition B.7(a). The SOB does not provide the factual and legal basis for the PM stack testing requirements of the COMS and Method 9 testing. The SOB did not explain the factual and legal basis for allowing pump amperage to be a surrogate for flow rate for the FGDs.

12) THE PERMIT MUST CONTAIN LANGUAGE THAT ALLOWS FOR THE USE OF ANY CREDIBLE EVIDENCE.

The Permit must contain language that allows for the use of any credible evidence. EPA supports the inclusion of credible evidence language in all Title V permits. As explained by the Acting Chief of US EPA's Air Programs branch:

> It is the United States Environmental Protections Agency's position that the general language addressing the use of credible evidence is necessary to make it clear that despite any other language contained in the permit, credible evidence can be used to show compliance or noncompliance with applicable requirements. . . . [A] regulated entity could construe the language to mean that the methods for demonstrating compliance specified in the permit are the only methods admissible to demonstrate violation of the permit terms. It is important that Title V permits not lend themselves to this improper construction.

Letter from Cheryl L. Newton, Acting Chief, Air Programs Branch, EPA, to Robert F. Hodanbosi, Chief, Division of Air Pollution Control, Ohio Environmental Protection Agency, dated October 30, 1998.

While anyone may rely on *all* credible evidence regardless of whether this condition appears in the permit, DAQ should include credible evidence language in the

permits and permit template to make the point clear. Specifically, EPA has recommended that the following language be included in all Title V permits:

> Notwithstanding the conditions of this permit that state specific methods that may be used to assess compliance or noncompliance with applicable requirements, other credible evidence may be used to demonstrate compliance or noncompliance.

Letter from Stephen Rothblatt, Acting Director, Air and Radiation Division, US EPA, to Paul Deubenetzky, Indiana Department of Environmental Management, dated July 28, 1998.

In conclusion, thank you for this opportunity to comment on this draft permit. We look forward to this permit becoming another step in the effort to eventual provide the people of Kentucky with air that is safe to breath.

Sincerely,

Robert Ukeiley
Counsel for the Center for Biological Diversity, the Sierra Club, Hilary Lambert and Preston Forysthe

Cc: Jim Little, EPA Region 4
David Lyodd, EPA Region 4
Edward Messina, EPA HQ

Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

Proposed

AIR QUALITY PERMIT

Issued under 401 KAR 52:020

Permittee Name:	**Tennessee Valley Authority**
Mailing Address:	**1101 Market Street, Chattanooga, TN 37402-2801**
Source Name:	**TVA - Paradise Fossil Plant**
Mailing Address:	**13246 State Route 176, Suite 10 Drakesboro, KY 42337-2345**
Source Location:	**Drakesboro, KY**
Permit ID:	**V-07-018**
Agency Interest:	**3239**
Activity ID:	**APE20070001**
Review Type:	**Title V / Title IV / NOx Budget, Operating**
Source ID:	**21-177-00006**
Regional Office:	**Owensboro Regional Office 3032 Alvey Park Dr. W., Suite 700 Owensboro, KY 42303 (270) 687-7304**
County:	**Muhlenberg**
Application Complete Date:	**June 14, 2007**
Issuance Date:	**August 14, 2007**
Revision Date:	
Expiration Date:	**August 14, 2012**

John S. Lyons, Director
Division for Air Quality

Revised 09/29/06

EXHIBIT 7

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Permit Number	Permit Type	Log or Activity#	Complete Date	Issuance Date	Summary of Action
O-87-012	Operating		12/5/1986	6/29/1987	Renewal Operating
S-99-064	Minor Construction and Operating	G133		8/31/1999	Add Coal Handling and Processing
V-04-024	Initial Issuance	50068	2/7/1997	12/29/2004	Withdrawn
VS-06-003	Initial Issuance	APE20050004	6/14/2006	7/12/2006	Add Construction of New Coal Fines Recovery System
V-07-018	Initial Issuance	APE2007001			Initial Title V

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emission Unit 1 **Boiler Unit 1**
Emission Unit 2 **Boiler Unit 2**

Description:
Two Indirect Heat Exchangers, cyclone-furnace coal-fired boilers
Maximum continuous rating: 6959 MMBtu/hour, each
Primary fuel: Coal
Alternative fuels:
No. 2 fuel oil used for startup.
Coal fines maximum 14% by weight.
Wood waste maximum 5% of boiler's heat input (13% by weight).
Other nonhazardous waste materials such as used oil with less than 50 ppm PCB, boiler cleaning chemicals, solvents, oil-contaminated soil, rags, absorbent materials/rags and papers.
Controls: Selective Catalytic Reduction, Venturi Type Flue Gas Desulfurization Scrubber
Construction commenced: 1963

APPLICABLE REGULATIONS:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit with a capacity of more than 250 MMBtu per hour and commenced before August 17, 1971.
401 KAR 51:160, NO_x requirements for large utility and industrial boilers; incorporating by reference 40 CFR 96
401 KAR 52:060, Acid rain permits, incorporating by reference the Federal Acid Rain provisions as codified in 40 CFR Parts 72 to 78
401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances
40 CFR 52.939(c)(49) and (54), Approval and Promulgation of Implementation Plans, Subpart S - Kentucky

1. **Operating Limitations:**
   a. Pursuant to 401 KAR 63:020, wood treated with arsenic (CCA) or other metals as preservatives shall not be combusted.

   b. Pursuant to 401 KAR 63:020, hazardous matter or toxic substances shall be handled to minimize the potentially harmful effects of emissions. No owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:015, Section 4(1), particulate matter emissions shall not exceed 0.11 lb/MMBtu, each, based on a three-hour average.

   b. Pursuant to 40 CFR 52.939(c)(54) *Opacity Variance for TVA's Paradise Steam Plant*, for Unit 1, visible emissions shall not exceed 61% opacity and for Unit 2, 50% opacity based on a six-minute average, except during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c. Pursuant to 40 CFR 52.939(c)(49) *A revision to the Kentucky SIP for Tennessee Valley Authority Paradise Steam Plant*, sulfur dioxide emissions shall not exceed 1.2 lb/MMBtu, each, based on a twenty-four-hour average.

Compliance Demonstration Method:
To provide assurance that the particulate and the visible emission limitations are being met the permittee shall comply with the **3. Testing Requirements** and **4.f.** below. To provide assurance that sulfur dioxide emission limits are being met the permittee shall comply with the **4. Specific Monitoring Requirements** below.

3. **Testing Requirements:**
The permittee shall perform quarterly stack tests in order to demonstrate compliance with the particulate matter emission limitation. Testing shall be conducted in accordance with 401 KAR 50:045, Performance Tests, and under conditions that are representative of maximum emissions potential during the previous quarter.

4. **Specific Monitoring Requirements:**
a. Pursuant to 401 KAR 61:005, Section 3 and Performance Specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A, and 401 KAR 52:020, Section 26, continuous emission monitoring (CEM) systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. If any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

b. Pursuant to 401 KAR 61:015, Section 6(1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

c. Pursuant to 401 KAR 61:015, Section 6(3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

d. Pursuant to 401 KAR 61:005, Section 3(5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

e. The duration of start ups shall be monitored.

f. See Section G(a)18.

g. The permittee shall monitor and record the following operating parameters at least once per shift:
(i.) Flow rate of recycle scrubbing liquor. Pump amperage for each recycle pump can be used as surrogate for flow rate.
(ii.) Pressure drop across each scrubber module.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. **Specific Recordkeeping Requirements:**
   a. Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 61:015, Section 6, with the exception that the records shall be maintained for a period of five years.

   b. Records of the following shall be maintained:
      (i) data collected either by the continuous monitoring systems or as necessary to convert monitoring data to the units of the applicable standard;
      (ii) the results of all compliance tests;
      (iii) fuel analyses;
      (iv) the rate of fuel burned for each fuel on a daily basis;
      (v) the heating value and ash content on a weekly basis; and,
      (vi) the average electrical output and the minimum and maximum hourly generation rate on a daily basis.

   c. The duration of startups shall be recorded.

6. **Specific Reporting Requirements:**
   a. Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division.

      (i) Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide or those utilizing fuel sampling and analysis for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emission standard averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

      (ii) For gaseous measurements, the summary shall consist of hourly averages in the units of the applicable standard. The hourly averages shall not appear in the written summary, but shall be provided in electronic files only.

      (iii) The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance whenever system repairs or adjustments have been made is required.

      (iv) When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

   b. For exceedances that occur as a result of startup, the permittee shall report:

      (i) The type of start-up (cold, warm, or hot);

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 3 Boiler Unit 3

Description:
Coal Fired Indirect Heat Exchanger, cyclone-furnace coal-fired boiler
Primary fuel: Coal
Alternative fuels:
No. 2 fuel oil used for startup.
Coal fines maximum 14% by weight.
Wood waste maximum 5% of boiler's heat input (13% by weight).
Other nonhazardous waste materials such as used oil with less than 50 ppm PCB, boiler cleaning chemicals, solvents, oil-contaminated soil, rags, absorbent materials/rags and papers.
Maximum continuous rating: 11457 MMBtu/hour
Controls: Electrostatic Precipitator, Selective Catalytic Reduction, Dual contact Flow Flue Gas Desulfurization Scrubber
Construction commenced: 1970

APPLICABLE REGULATIONS:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit with a capacity of more than 250 MMBtu per hour and commenced before August 17, 1971.
401 KAR 51:160, NO_x requirements for large utility and industrial boilers; incorporating by reference 40 CFR 96
401 KAR 52:060, Acid rain permits, incorporating by reference the Federal Acid Rain provisions as codified in 40 CFR Parts 72 to 78
401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances
40 CFR 52.939(c)(49), Approval and Promulgation of Implementation Plans, Subpart S - Kentucky

1. **Operating Limitations:**
   a. Pursuant to 401 KAR 63:020, wood treated with arsenic (CCA) or other metals as preservatives shall not be combusted.

   b. Pursuant to 401 KAR 63:020, hazardous matter or toxic substances shall be handled to minimize the potentially harmful effects of emissions. No owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

   c. Bypass of the scrubber shall be limited to 720 operating hours in any 12-consecutive months.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:015, Section 4(1), particulate matter emissions shall not exceed 0.11 lb/MMBtu based on a three-hour average.

   b. Pursuant to 401 KAR 61:015, Section 4(2), visible emissions shall not exceed 20% opacity.

   c. Sulfur dioxide emissions shall not exceed 1.2 lb/MMBtu when the scrubber is operating and 3.1 lbs/MMBtu when the scrubber is bypassed based on a twenty-four hour average.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:
To provide assurance that the particulate and the visible emission limitations are being met the permittee shall comply with the **3. Testing Requirements** below. To provide assurance that sulfur dioxide emission limits are being met the permittee shall comply with the **4. Specific Monitoring Requirements** below.

3. **Testing Requirements:**
   a. Pursuant to AO-89-41D, the permittee shall conduct a performance test for particulate compliance annually.

   b. Testing shall be conducted in accordance with 401 KAR 50:045, Performance Tests, and under conditions representative of maximum emissions potential under anticipated operating conditions at the pollutant-specific emissions unit.

   c. In accordance with **4.b Specific Monitoring Requirements**, the permittee shall submit a schedule within six months from the date of issuance of this permit to conduct testing within one year following the issuance of this permit to establish the correlation between opacity and particulate emissions. In the alternative, if such testing has already been performed, the permittee shall submit the results of the testing within one month from the date of issuance of this permit for review and approval.

   d. If no Reference Method 9 tests are performed pursuant to **4.a(ii) Specific Monitoring Requirements**, then the permittee shall determine the opacity of emissions from the stack by Reference Method 9 at least once every fourteen (14) boiler operating days, or more frequently if requested by the Division, to demonstrate compliance with the opacity standard. If no Reference Method 9 evaluations are completed during the time period, the reason for not completing a test shall be documented and the permittee may use the COM system for assuring compliance with the visible emission limitation during that period.

4. **Specific Monitoring Requirements:**
   a. Pursuant to 401 KAR 61:005, Section 3, Performance Specification 1 of 40 CFR 60, Appendix B, and 401 KAR 52:020, Section 26, a continuous opacity monitoring (COM) system shall conform to requirements of these sections which include installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity measurement. Excluding exempted time periods, if any three consecutive six-minute average opacity values exceed the opacity standard, the permittee shall, as appropriate:

      (i) Accept the readout from the COM as an indicator of equipment performance and perform an inspection of the COM and/or control equipment and make any repairs or;

      (ii) Within thirty (30) minutes after the third consecutive COM indicated exceedance of the opacity standards, if emissions are visible, initiate a determination of opacity using Reference Method 9. Also within thirty (30) minutes after the third consecutive COM indicated exceedance, inspect the COM and/or the control equipment, and initiate any repairs. If a Reference Method 9 cannot be performed, the reason for not performing the test shall be documented.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. Pursuant to 401 KAR 52:020, Section 26, and 401 KAR 61:005, Section 3(6), to meet the monitoring requirement for particulate matter, the permittee shall use a COM. Opacity shall be used as an indicator of particulate matter emissions. Testing shall be conducted to establish the level of opacity that will be used as an indicator of particulate matter emissions. There may be short-term exceedances during the testing period required to establish the opacity indicator level. These exceedances will not be considered noncompliance periods since the testing is required to establish a permit requirement. The opacity indicator level shall be established at a level that provides reasonable assurance that particulate matter emissions are in compliance when opacity is equal to or less than the indicator level. Excluding exempted time periods:

   (i) If any three (3) hour average of opacity values exceeds the opacity indicator level, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs.

   (ii) If five (5) percent or greater of the COM data (three (3) hour average of opacity values) recorded in a calendar quarter show excursions above the opacity indicator level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by Section G(a)(17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance Tests.

c. The permittee shall monitor the electrostatic precipitator's transformer/rectifier (TR) set primary/secondary currents and voltages at least once per day.

d. Pursuant to 401 KAR 61:005, Section 3 and Performance Specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A, and 401 KAR 52:020, Section 26, continuous emission monitoring (CEM) systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. If any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

e. Pursuant to 401 KAR 61:015, Section 6(1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

f. Pursuant to 401 KAR 61:015, Section 6(3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

g. Pursuant to 401 KAR 61:005, Section 3(5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

h. The duration of startups shall be monitored.

i. The duration of any scrubber by-pass shall be monitored.

5. **Specific Record Keeping Requirements:**
   a. Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 61:015, Section 6, with the exception that the records shall be maintained for a period of five years.

   b. Records of the following shall be maintained:
      (i) data collected either by the continuous monitoring systems or as necessary to convert monitoring data to the units of the applicable standard;
      (ii) the results of all compliance tests;
      (iii) percentage of the COM data (excluding exempted time periods) showing excursions above the opacity standard and the opacity indicator level;
      (iv) fuel analyses;
      (v) the rate of fuel burned for each fuel on a daily basis;
      (vi) the heating value and ash content on a weekly basis; and,
      (vii) the average electrical output and the minimum and maximum hourly generation rate on a daily basis.

   c. Records of the electrostatic precipitator's primary/secondary voltage and current shall be maintained with long-term operational records for five years.

   d. The permittee shall keep visible observation records and Reference Method 9 observations in a designated logbook and/or an electronic format. Records shall be maintained for five years.

   e. The duration of start ups shall be recorded.

   f. The duration of any scrubber by-pass shall be recorded.

6. **Specific Reporting Requirements:**
   a. Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division.

      (i) Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide or those utilizing fuel sampling and analysis for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emission standard averaging period averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

      (ii) Owners or operators of facilities required to install continuous monitoring systems for opacity shall submit for every calendar quarter a written report of excess emission and the nature and cause of emissions. The summary shall consist of the magnitude in actual percent opacity of six (6) minute averages of opacity greater than the opacity standard in the applicable standard for each hour of operation of the facility. Average-values may be obtained by integration over

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous opacity measurements per minute. Any time period exempted shall be considered before determining the excess average of opacity. Opacity data shall be reported in electronic format acceptable to the Division.

(iii) For gaseous measurements, the summary shall consist of hourly averages in the units of the applicable standard. The hourly averages shall not appear in the written summary, but shall be provided in electronic files only.

(iv) The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance whenever system repairs or adjustments have been made is required.

(v) When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

b. The permittee shall report the number of excursions (excluding exempted time periods) above the opacity standard, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions above the opacity standard in each calendar quarter.

c. For exceedances that occur as a result of startup, the permittee shall report:
(i) **The type of start-up (cold, warm, or hot);**

(ii) Whether or not the duration of the start-up exceeded the manufacturer's recommendation or typical, historical durations, and if so, an explanation of why the start-up exceeded recommended or typical durations.

d. The permittee shall include in the semi-annual report required by Section F.5, the duration in hours of any scrubber by-pass based on a 12 month rolling total.

7. **Specific Control Equipment Operating Conditions:**
a. Control equipment shall be operated to maintain compliance with permitted emission limitations, consistent with manufacturer's specifications and/or good operating practices.

b. Records regarding the maintenance of control equipment shall be maintained.

c. See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 4 Unit 1 Building Heat Boiler
Emission Unit 5 Unit 2 Building Heat Boiler
Emission Unit 6 Unit 3 Building Heat Boiler

Description:
Indirect Heat Exchangers
Fuel: #2 fuel oil
Maximum continuous rating: 25.8 MMBtu/hour each
Construction commenced: Units 1 and 2, 1963; Unit 3, 1970

APPLICABLE REGULATIONS:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emissions unit with a capacity of less than 250 MMBtu/hour, which commenced construction before April 9, 1972.

1. **Operating Limitations:**
   None.
2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:015, Section 4(1), particulate matter emissions shall not exceed 0.11 lb/MMBtu based on a three-hour average.
   b. Pursuant to 401 KAR 61:015, Section 4(2), visible emissions shall not exceed 20% opacity except during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations
   c. Pursuant to 401 KAR 61:015, Section 5(1), sulfur dioxide emissions shall not exceed 2.1 lb/MMBtu based on a twenty four-hour average.

   Compliance with PM and SO_2 limits is assured by burning fuel oil containing no more than 0.5% sulfur. If higher sulfur fuel oil is burned, the Division may require a stack test.
3. **Testing Requirements:**
   Opacity shall be determined by Reference Method 9 at least once every 7-boiler operating days. If no Reference Method 9 evaluations are completed during this time period, the reason for not completing the evaluation shall be documented.
4. **Specific Monitoring Requirements:**
   a. Pursuant to 401 KAR 61:015, Section 6, the rate of fuel burned shall be monitored daily.
   b. Pursuant to 401 KAR 61:015, Section 6, the heating value and sulfur content shall be ascertained once per week. The permittee may use fuel supplier certification to meet this requirement.
5. **Specific Recordkeeping Requirements:**
   See Section F.
6. **Specific Reporting Requirements:**
   See Section F.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 7-12 8 Dravo Heaters (Unit 3 Powerhouse)

Description:
Indirect Heat Exchangers
Maximum continuous rating: 2.5 MMBtu/hour each
Construction commenced: 1970
Fuel: #2 fuel oil

APPLICABLE REGULATIONS:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emissions unit with a capacity of less than 250 MMBtu/hour, which commenced construction before April 9, 1972.

1. **Operating Limitations:**
   None.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:015, Section 4(1), particulate matter emissions shall not exceed 0.1 lb/MMBtu based on a three hour-average.

   b. Pursuant to 401 KAR 61:015, Section 4(2), visible emissions shall not exceed 20% opacity except during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations

   c. Pursuant to 401 KAR 61:015, Section 5(1), sulfur dioxide emissions shall not exceed 0.8 lb/MMBtu based on a twenty four-hour average.

   Compliance with PM and SO_2 limits is assured by burning fuel oil containing no more than 0.5% sulfur. If higher sulfur fuel oil is burned, the Division may require a stack test.

3. **Testing Requirements:**
   Opacity shall be determined by Reference Method 9 at least once every 7-boiler operating days. If no Reference Method 9 evaluations are completed during this time period, the reason for not completing the evaluation shall be documented.

4. **Specific Monitoring Requirements:**
   a. The rate of fuel burned shall be monitored daily.

   b. The heating value and sulfur content shall be ascertained once per week. The permittee may use fuel supplier certification to meet this requirement.

5. **Specific Recordkeeping Requirements:**
   See Section F.

6. **Specific Reporting Requirements:**
   See Section F.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 13-15 3 Dravo/Hastings Heaters (Coal Wash Plant)

Description:
Indirect Heat Exchangers
Maximum continuous rating: 2.5 MMBtu/hour each
Construction commenced: 1981
Fuel: #2 fuel oil

APPLICABLE REGULATIONS:
401 KAR 59:015, New indirect heat exchangers applicable to an emissions unit with a capacity of less than 250 MMBtu/hour, which commenced construction on or after April 9, 1972.

1. **Operating Limitations:**
   None.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 59:015, Section 4(1), particulate matter emissions shall not exceed 0.1 lb/MMBtu based on a three hour-average.

   b. Pursuant to 401 KAR 59:015, Section 4(2), visible emissions shall not exceed 20% opacity except during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations

   c. Pursuant to 401 KAR 59:015, Section 5(1), sulfur dioxide emissions shall not exceed 0.8 lb/MMBtu based on a twenty four-hour average.

   Compliance with PM and SO_2 limits is assured by burning fuel oil containing no more than 0.5% sulfur. If higher sulfur fuel oil is burned, the Division may require a stack test.

3. **Testing Requirements:**
   When operating, opacity shall be determined by Reference Method 9 at least every 7 boiler operating days. If no Reference Method 9 evaluations are completed during this time period, the reason for not completing the evaluation shall be documented.

4. **Specific Monitoring Requirements:**
   a. The rate of fuel burned shall be monitored daily.

   b. The heating value and sulfur content shall be ascertained once per week. The permittee may use fuel supplier certification to meet this requirement.

5. **Specific Recordkeeping Requirements:**
   See Section F.

6. **Specific Reporting Requirements:**
   See Section F.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 16-18, 19, 24, 36, 41, 52, 55-58, 71-73, 77 Fugitive Sources

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
16 & 17	Cooling Towers	53040 gallons/minute	Drift Eliminators	1968
18	Cooling Tower	53040 gallons/minute	Drift Eliminators	1969
19	Coal Hauling, Open Storage, Receiving Hopper	3000 tons/hour 17,000,000 tons/year	Wet suppression, enclosure, partial enclosure	1963
24	Coal Open Live Storage Piles #3 and #4	2000 tons/hour 17,000,000 tons/year	Enclosure, partial enclosure	1980
36	Coal Live Storage Silos #1 and #2	2000 tons/hour 17,000,000 tons/year	Enclosure	1963
41	Limestone Receiving	900 tons/hour 919,800 tons/year	Wet Suppression	1982
41A	Alternate Limestone Reclaim	80 tons/hour	None	1996
52	Limestone Stock-out and Storage	900 tons/hour 919,800 tons/year	Partial Enclosure	1982
55	Ash/Slag Reclaim from Slag Pond	134 tons/hour	None	1963
56	Ash/Slag Reclaim from Dewatering Area, Loader Traffic Reclaim from Dewatering Area, Open Storage	200 tons/hour	None	1963
57	Ash/Slag Onsite Hauling	200 tons/hour	Wet suppression	1963
58	Rim ditch formation	108 tons/hour	Wet suppression	1994
	Open drying of gypsum	167 tons/hour	Wet suppression	1994
	Excavation and transport of gypsum	167 tons/hour	Wet suppression	1983
	Soil cover transport	358 tons/hour	Wet suppression	1983
71	Transfer to New Conditioner Building Surge Bin and Crushers	2000 tons/hour	Enclosure, foam suppression	1999
72	Crushers (New Conditioner Building) and 3 Conditioners	1320 tons/hour	Enclosure, foam suppression, residual carryover	1999
73	Unit 3 Limestone Rail/Truck Unloading	900 tons/hour	Wet suppression	2003
77	Unit 3 Contribution to Limestone Storage Pile	900 tons/hour	Telescoping chute	2003

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions is applicable to each affected facility which emits or may emit fugitive emissions and is not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

1. **Operating Limitations**
   a. Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

      (i) Application and maintenance of asphalt, water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(ii) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling;
(iii) Maintenance of paved roadways in a clean condition;
(iv) The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or other earth moving equipment or erosion by water;
(v) Installation and use of compaction or other measures to suppress the dust emissions during handling.

b. Pursuant to 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

c. Pursuant to 401 KAR 63:010, Section 4, no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway.

2. **Emission Limitations:**
None.

3. **Testing Requirements:**
None.

4. **Specific Monitoring Requirements:**
The permittee shall monitor the amount of material received and processed.

5. **Specific Record Keeping Requirements:**
a. Records of material received and processed shall be maintained on a monthly basis and maintained as a rolling 12-month total.

b. Annual records estimating tonnage hauled for plant roadways shall be maintained for emission inventory purposes.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
a. Control equipment shall be operated to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b. Records regarding the maintenance and operation of control equipment shall be maintained.

c. See Section E.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 20, 21, 37, 38 Coal Breakers and Handling

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
20	Breaker Building (Breakers 1-2)	2000 tons/hour 17,000,000 tons/year	Enclosure, Foam Suppression	1963
21	Breaker Building (Breaker 3)	2000 tons/hour 17,000,000 tons/year	Enclosure, Foam Suppression	1970
37	Coal Handling Conditioner Building (Three Coal Breakers and Five Conditioners)	2000 tons/hour 17,000,000 tons/year	Enclosure, Foam Suppression	1963
38	Powerhouse Coal Handling Transfer Stations	2000 tons/hour 17,000,000 tons/year	Enclosure, Residual Carryover	1963

APPLICABLE REGULATIONS:
401 KAR 61:020, Existing process operations applicable to emission units commenced before July 2, 1975.

1. **Operating Limitations:**
   None.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:020, Section 2, particulate matter emissions shall not exceed the following:

Emission Unit	Description	PM Emission Limits
20	Breaker Building (Breakers 1-2)	92.7 lbs/hour; 263 tons/year
21	Breaker Building (Breaker 3)	92.7 lbs/hour; 263 tons/year
37	Coal Handling Conditioner Building	92.7 lbs/hour; 263 tons/year
38	Coal Handling Transfer Stations	86.9 lbs/hour; 369 tons/year

   b. Pursuant to 401 KAR 61:020, Section 2, visible emissions shall not exceed 40% opacity.

   c. Compliance will be assumed while processes are enclosed and foam suppression is utilized properly.

3. **Testing Requirements:**
   None.

4. **Specific Monitoring Requirements:**
   The permittee shall monitor the amount of material received and processed, and hours of operation.

5. **Specific Record Keeping Requirements:**
   a. Records of material received and processed and hours of operation shall be maintained on a monthly basis and maintained as a rolling 12-month total.

   b. Annual records estimating tonnage hauled for plant roadways shall be maintained for emission inventory purposes.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements:**
   See Section F.

7. **Specific Control Equipment Operating Conditions:**
   a. Control equipment shall be operated to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

   b. Records regarding the maintenance and operation of control equipment shall be maintained.

   c. See Section E.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 22, 23, 25-31, 35, 39, 40 Coal Handling and Washing Plant

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
22	Transfer Station A	2000 tons/hour 13,000,000 tons/year	Enclosure, Residual Carryover of Foam Dust Suppression	1963
23	Transfer Station B	2000 tons/hour 6,500,000 tons/year		1970
25	Transfer Station G	2000 tons/hour 13,000,000 tons/year		1981
26	Transfer Station H	2000 tons/hour 13,000,000 tons/year	Enclosure, Foam Suppression	1981
27	Coal Storage Silo 5 & 6	2000 tons/hour, each 6,500,000 tons/year, each	Enclosure, Residual Carryover of Foam Dust Suppression	1981
28	Transfer Station J	2000 tons/hour 13,000,000 tons/year		1981
29	Transfer Station K	2000 tons/hour 13,000,000 tons/year	Enclosure	1981
30	Transfer Station L	1800 tons/hour 13,000,000 tons/year	Enclosure	1981
31	Transfer Station M	1800 tons/hour 13,000,000 tons/year	Enclosure	1981
35	Long Term Storage Pile, Coal Reclaim Hopper	2000 tons/hour 6,500,000 tons/year	Enclosure, Wet and Foam Suppression	1963
39	Magnetite Load in, Coarse Refuse Loadout	3000 tons/hour 17,000,000 tons/year	Enclosure	1981
40	Coarse Refuse Disposal	400 Tons/hour	Wet suppression, partial enclosure	1981

APPLICABLE REGULATIONS:

401 KAR 60:005, Incorporating by reference 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants, applicable to units commenced after October 24, 1974.

401 KAR 61:020, Existing process operations applicable to emission units commenced before July 2, 1975.

1. **Operating Limitations:**

   Coal processed through these Emission Units shall not exceed 13,000,000 tons per any 12 consecutive months.

2. **Emission Limitations:**

   a. Total emissions of particulate matter from the Coal Washing Plant (Emission Units 22, 23, 25-31, and 35) shall not equal or exceed 100 lb/hour, 1000 lbs/day, and 50 tons/year. Compliance with the emission limits in **2.c**. assures compliance with these limitations. [401 KAR 51:050, Section 3, Permit No. O-87-012]

   b. Pursuant to 40 CFR 60, Subpart Y, visible emissions shall not equal or exceed 20% opacity

   c. Pursuant to 401 KAR 61:020, Section 2, particulate matter emissions shall not exceed the following:

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit	Description	PM Emission Limit
22	Transfer Station A	0.45 lbs/hour; 1.48 tons/year
23	Transfer Station B	7.02 lbs/hour; 11.41 tons/year
25	Transfer Station G	0.31 lbs/hour; 1.02 tons/year
26	Transfer Station H	0.31 lbs/hour; 1.02 tons/year.
27	Coal Storage Silo 5	0.45 lbs/hour; 0.74 tons/year
27	Coal Storage Silo 6	0.22 lbs/hour; 0.36 tons/year
28	Transfer Station J	0.27 lbs/hour; 0.88 tons/year
29	Transfer Station K	0.27 lbs/hour; 0.88 tons/year
30	Transfer Station L	1.58 lbs/hour; 5.7 tons/year
31	Transfer Station M	0.24 lbs/hour; 0.88 tons/year
35	Storage Pile/Reclaim Hopper	0.27 lbs/hour; 0.44 tons/year

Compliance will be assumed while processes are enclosed and wet or foam suppression is utilized properly.

3. **Testing Requirements:**
None.

4. **Specific Monitoring Requirements:**

The permittee shall monitor the amount of material received and processed and hours of operation.

5. **Specific Record Keeping Requirements:**

a. Records of material received and processed and hours of operation shall be maintained on a monthly basis and maintained as a rolling 12-month total.

b. Annual records estimating tonnage hauled for plant roadways shall be maintained for emission inventory purposes.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
a. Control equipment shall be operated to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b. Records regarding the maintenance and operation of control equipment shall be maintained.

c. See Section E.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 32-34 Coal Conveying and Bunker Room

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
32	Barge Unloader/Surge Hopper	2000 tons/hour 17,000,000 tons/year	Enclosure, water spray	1985
33	Transfer Station N (Breakers 4-7)	2000 tons/hour 17,000,000 tons/year	Enclosure, foam suppression, residual carryover, partial enclosure	1985
34	Transfer Station P and Storage Bypass	2000 tons/hour 17,000,000 tons/year	Enclosure, foam suppression, residual carryover	1985

APPLICABLE REGULATIONS:
401 KAR 60:005, Incorporating by reference 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants, applicable to units commenced after October 24, 1974.
401 KAR 59:010, New process operations applicable to emission units commenced after July 2, 1975.

1. **Operating Limitations:**
   None.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 59:010, Section 3(2), particulate matter emissions shall not exceed 58.4 lbs/hr, each, and 369 tons/year, each .

   b. Pursuant to 40 CFR 60.252(c) and 401 KAR 59:010, Section 3(1)(a), visible emissions shall not equal or exceed 20% opacity.

   Compliance will be assumed while processes are enclosed and water or foam suppression is utilized properly.

3. **Testing Requirements:**
   Opacity shall be determined using Reference Method 9 and the procedures in 40 CFR 60.11. The duration of the observations shall be a minimum of 1 hour (ten 6-minute averages) in length.

4. **Specific Monitoring Requirements:**
   a. The permittee shall perform visual observations of the emission points on a weekly basis. If visible emissions are seen, the permittee shall determine opacity in accordance with Reference Method 9.

   b. The amount of coal processed and hours of operation shall be monitored on a monthly basis and maintained as a rolling 12-month total.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. **Specific Recordkeeping Requirements:**
   a. The permittee shall keep a log of all weekly visual observations, any Reference Method 9 evaluations performed, and any corrective actions taken.

   b. Records of material received and processed and hours of operation shall be maintained on a monthly basis and maintained as a rolling 12-month total.

   c. See Section F.

6. **Specific Reporting Requirements:**
   See Section F.

7. **Specific Control Equipment Operating Conditions:**
   a. Control equipment shall be maintained to assure compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or good operating practices.

   b. Records regarding the maintenance of control equipment shall be maintained.

   c. See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 41- 52 Limestone Handling

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
41	Limestone Railcar/Truck Unloading System, Discharge from Railcar/Truck to Hopper	900 tons/hour 919,800 tons/year	Wet Suppression	1982
41A	Alternate Limestone Reclaim	80 tons/hour	None	1996
42	Limestone Reclaim/Receiving Hopper	900 tons/hour 919,800 tons/year	Bagfilter (DC-1)	1982
43-44	Limestone Conveying Transfer Point	900 tons/hour 919,800 tons/year	Bagfilters (DC-2A, 2B)	1982
45	Limestone Storage Silo Bin	900 tons/hour 919,800 tons/year	Bagfilter (DC-3)	1982
46-48	Limestone Storage Silo Vibrating Feeder	240 tons/hour 919,800 tons/year	Bagfilters (DC-4A, 4B, 4C)	1982
49-51	Limestone Prep Building Surge Hopper	300 tons/hour 919,800 tons/year	Bagfilters (DC-5A, 5B, 5C)	1982
52	Limestone Handling Bulk Storage Pile, Open Storage, Limestone Reclaim	900 tons/hour 919,800 tons/year	Partial Enclosure	1982

APPLICABLE REGULATIONS:

401 KAR 59:010, New Process Operations applicable to emission units commenced on or after July 2, 1975 (applies to Emission Units 42-51).

401 KAR 63:010, Fugitive emissions is applicable to each affected facility which emits or may emit fugitive emissions and is not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality (applies to Emission Units 41, 41A and 52. See page 14 for requirements).

1. **Operating Limitations**

   To preclude applicability of 401 KAR 51:017, particulate matter emissions from limestone handling, Emission Units 41-52, shall not exceed 25 tons in any 12 consecutive months. [Permit No. O-87-012]

2. **Emission Limitations:**

   a. Pursuant to 401 KAR 59:010, Section 3(1)(a), visible emissions shall not equal or exceed 20% opacity.

   b. Pursuant to 401 KAR 59:010, Section 3(2), particulate matter emissions shall not exceed the following:

Emission Unit	Description	PM Emission Limit
42	Limestone Reclaim/Receiving Hopper	51.4 lbs/hour
43-44	Limestone Conveying Transfer Point	51.4 lbs/hour
45	Limestone Storage Silo Bin	51.4 lbs/hour
46-48	Limestone Storage Silo Vibrating Feeder	41.6 lbs/hour
49-51	Limestone Prep Building Surge Hopper	43.1 lbs/hour

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance will be assumed when the control equipment is operated in accordance with manufacturer's specifications and/or standard operating practices.

3. **Testing Requirements:**
None.

4. **Specific Monitoring Requirements:**

The permittee shall monitor the amount of material received and processed and hours of operation.

5. **Specific Record Keeping Requirements:**

a. Records of material received and processed and hours of operation shall be maintained on a monthly basis and maintained as a rolling 12-month total.

b. Annual records estimating tonnage hauled for plant roadways shall be maintained for emission inventory purposes.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**

a. Control equipment shall be operated to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b. Records regarding the maintenance and operation of control equipment shall be maintained.

c. See Section E.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 53-54 Two Lime Storage Silos

Description:
Storage of pebble quicklime to regulate pH of ash pond and metal-cleaning waste treatment facility.
Controls: bagfilters

APPLICABLE REGULATIONS:
401 KAR 59:010, New Process Operations applicable to emission units commenced on or after July 2, 1975.

Operating Limitations:
Decommissioned and shall not be operated.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 74 -76 Limestone Handling

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
74	Unit 3 Reclaim/Receiving Hopper (Limestone)	900 tons/hour	Wet suppression	2003
75	Unit 3 Limestone Storage Silo	900 tons/hour	Enclosure, Bagfilter	2003
76	Unit 3 Limestone Prep Building	600 tons/hour, each	Enclosure	2003

APPLICABLE REGULATIONS:

401 KAR 60:670, Incorporating by reference 40 CFR 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants.

1. **Operating Limitations:**

Emission Unit 74	Unit 3 Reclaim/Receiving Hopper	900 tons/hour
Emission Unit 75	Unit 3 Limestone Storage Silo	900 tons/hour
Emission Unit 76	Unit 3 Limestone Prep Building	600 tons/hour

2. **Emission Limitations:**
   a. Pursuant to CFR 672(a)(1), particulate matter stack or vent emissions shall not exceed 0.05 g/dscm (0.022 gr/dscf).

   b. Pursuant to 40 CFR 672(a)(2), visible stack or vent emissions shall not equal or exceed 7% opacity.

   c. Pursuant to 40 CFR 672(b), visible fugitive emissions from any transfer point on belt conveyors or from any other affected facility shall not equal or exceed 10% opacity.

3. **Testing Requirements:**
   a. Pursuant to 40 CFR 60.675(b)(1), the permittee shall use Reference Method 5 or 17 to determine initial compliance with the particulate matter concentration emission limit.

   b. Pursuant to 40 CFR 60.675(b)(2), opacity shall be determined by Reference Method 9.

   c. Pursuant to 40 CFR 60.675(c)(1), Reference Method 9 shall be used to determine the opacity of fugitive emissions, with the following additions:
      (i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
      (ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources. the required observer position relative to the sun (Reference Method 9, Section 2.1) must be followed.
      (iii)When a water mist is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 79-84 Coal Fines Recovery Process

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
79	Panscraper Loadout from Coal Fines Pond to Stockpile	400 tons/hour	Wet suppression	2006
80	Coal Fines Stockpile	4.2 acres/day	Wet suppression	2006
81	Front-end Loader from Stockpile to Reclaim Hopper	200 tons/hour	Wet suppression	2006
82	Reclaim Hopper and Transfer Point (to Conveyor 63)	200 tons/hour	Enclosure	2006
83	Screw Conveyor and Transfer Point (to Conveyor 64)	200 tons/hour	Enclosure	2006
84	Belt Conveyor and Transfer Point (to BC-45 at Station A)	200 tons/hour	Enclosure	2006

APPLICABLE REGULATIONS:

401 KAR 60:005, Incorporating by reference 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants.

1. **Operating Limitations:**
   To preclude applicability of 401 KAR 51:017, Prevention of Significant Deterioration of Air Quality, Coal Fines processed through each affected facility described above shall not exceed 750,000 tons per any 12 consecutive months total.

2. **Emission Limitations:**
   Pursuant to 401 KAR 60:005, Incorporating by reference 40 CFR 60, Subpart Y, visible emissions shall not equal or exceed 20% opacity.

3. **Testing Requirements:**
   Opacity shall be determined using Reference Method 9 and the procedures in 40 CFR 60.11. The duration of the Reference Method 9 observations shall be a minimum of 1 hour (ten 6-minute averages) in length.

4. **Specific Monitoring Requirements:**
   a. The permittee shall perform visual observations of the emission points on a weekly basis. If visible emissions are seen, the permittee shall determine opacity in accordance with Reference Method 9.

   b. The amount of coal fines processed shall be monitored and recorded on a monthly basis and maintained as a rolling 12-month total.

5. **Specific Recordkeeping Requirements:**
   a. The permittee shall keep a log of all weekly visual observations, any Reference Method 9 tests performed, and any corrective actions taken.

b. See Section F.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements:**
   See Section F.

7. **Specific Control Equipment Operating Conditions:**
   a. Control equipment shall be maintained to assure compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or good operating practices.

   b. Records regarding the maintenance of the control equipment shall be maintained.

   c. See Section E for further requirements.

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary. Process and emission control equipment at each insignificant activity subject to a general applicable regulation shall be inspected monthly and qualitative visible emission evaluation made. The results of the inspections and observations shall be recorded in a log, noting color, duration, density (heavy or light), cause and any conservative actions taken for any abnormal visible emissions.

	Description	Generally Applicable Regulation
Units 1 and 2 Powerhouse		
1.	Units 1 and 2 coal bunker dust collectors (2 per unit)	401 KAR 63:010
2.	Hydrogen dump vent	
3.	Clean and dirty lubricating (lube) oil tanks - 6 @6,000 gallons each	
4.	Turbogenerator lube oil system tanks (with vapor extractors) - 2 @10,250 gallons each	
5.	Boiler Feedwater Pump Turbine (BFPT) lube oil tanks (with vapor extractors) - 4 @950 gallons each	
6.	Several smaller lube oil tanks for miscellaneous equipment	
Unit 3 Powerhouse		
7.	High pressure (HP) H_2 seal oil unit vent	
8.	Low pressure (LP) H_2 seal oil unit vent	
9.	HP turbine H_2 and CO_2 control station vent	
10.	LP turbine H_2 and CO_2 control station vent	
11.	Titration room fume hood and mercury room exhaust	
12.	Emergency diesel generator sump pump	
13.	Clean and dirty lube oil tanks - 2 @6,000 gallons each	
14.	Turbogenerator lube oil system tanks (with vapor extractors) - 2 @ 8,450 gallons each	
15.	BFPT lube oil tanks (with vapor extractors) - 2 @ 1,000 gallons each	401 KAR 63:010
16.	Forced draft fan turbine lube oil tanks (with vapor extractors) - 3 @ 1,000 gallons each	401 KAR 63:010
17.	Several smaller lube oil tanks for miscellaneous equipment	
18.	Coal bunker dust collector - East Bunker Row	401 KAR 63:020, Sec. 3(a)
19.	Coal bunker dust collector - West Bunker Row	401 KAR 63:020, Sec. 3(a)
Precipitator Area		
20.	Hydroveyor Air Separator Vents	
21.	Induced Draft (ID) fan lube oil tank vent	
Scrubber Area		
22.	Scrubber chemistry lab hood exhaust	
23.	Units 1 and 2 ID fan lube oil tank vent	
24.	Scrubber chemistry lab hood exhaust (Unit 3)	
Coal Handling Process		
25.	Railcar unloader - 1000 tph	401 KAR 63:010
26.	Coal Breakers No. 1 and 2 refuse disposal activity - 100 tph	401 KAR 63:010
27.	Coal Breaker No. 3 refuse disposal activity - 100 tph	401 KAR 63:010
28.	Coal Breakers No. 4-7 refuse disposal activity - 200 tph	401 KAR 63:010
29.	Transfer Station G mechanical dust collector - 11,250 cfm	401 KAR 59:010, Sec. 3(1)
30.	Transfer Station H mechanical dust collector - 11,250 cfm	401 KAR 59:010, Sec. 3(1)
31.	Silo #5 bin-vent mechanical dust collector - 6,000 cfm	401 KAR 59:010, Sec. 3(1)

INSIGNIFICANT ACTIVITIES (CONTINUED)

32.	Silo #6 bin-vent mechanical dust collector - 6,000 cfm	401 KAR 59:010, Sec. 3(1)
33.	Silos #5 and 6 transfer-in mechanical dust collector - 4,500 cfm	401 KAR 59:010, Sec. 3(1)
34.	Silos #5 and 6 transfer-out mechanical dust collector - 4,500 cfm	401 KAR 59:010, Sec. 3(1)
35.	Transfer Station J mechanical dust collector - 8000 cfm	401 KAR 59:010, Sec. 3(1)
36.	BC-46 reclaim mechanical dust collector - 4,500 cfm	401 KAR 59:010, Sec. 3(1)
37.	Transfer Station J mechanical dust collector - 10,200 cfm	401 KAR 59:010, Sec. 3(1)
38.	Transfer Station L mechanical dust collector - 10,400 cfm	401 KAR 59:010, Sec. 3(1)
39.	Transfer Station M mechanical dust collector - 4,500 cfm	401 KAR 59:010, Sec. 3(1)
40.	Barge unloader surge hopper mechanical dust collector - 5,250	401 KAR 59:010, Sec. 3(1)
41.	Transfer Station N mechanical dust collector - 10,500 cfm	401 KAR 59:010, Sec. 3(1)
42.	Transfer Station P mechanical dust collector - 8,000 cfm	401 KAR 59:010, Sec. 3(1)
43.	Coal conveyors - 1,000 to 4,000 tph	401 KAR 63:010
44.	Foam suppression chemical storage tanks - 7 @ 2,000-5,600 gallons each	

Coal Wash Plant

45.	Process fuel oil storage tank - 1 @ 10,000 gallons	
46.	Fuel oil reagent tanks - 4 @ 100 gallons each	
47.	Frother agent (alcohol) storage tank - 1 @ 10,000 gallons	
48.	Alcohol reagent tanks - 4 @ 100 gallons each	
49.	Heating fuel oil tank - 1 @ 30,500 gallons	
50.	Diesel fuel oil tanks - 2 @400 gallons each	
51.	Used oil tank (mobile) - 1 @ 500 gallons	
52.	Lube oil tote tank	

Miscellaneous Sources

53.	Light-off fuel oil tanks - 3 @ 12,530 gallons each	
54.	Diesel fuel oil tank at Utility Building - 1 @ 10,600 gallons	40 CFR 60.116(a)(b)
55.	Utility Building equipment oil tanks - 6 @ 60,500 gallons each	
56.	Utility Building antifreeze tank - 1 @ 270 gallons	
57.	Gasoline underground storage tank at Public Safety - 1 @10,000 gallons	
58.	Dirty insulating oil tanks at Switchyard - 2 @ 18,000 gallons each	
59.	Clean insulating oil tank at Switchyard - 1 @ 37,000 gallons	
60.	Dirty oil circuit breaker oil tank at Switchyard - 1 @5,500 gallons	
61.	Kerosene tank (west of Coal Conditioner Building) - 1 @ 500 gallons	
62.	Diesel fuel oil tank (west of Coal Conditioner Building) - 1 @ 1,500 gallons	
63.	Fire pump diesel oil tank at Intake Structure - 1 @450 gallons	
64.	Emergency diesel-fired water pumps at Intake Structure - 2 @ 300 hp each	401 KAR 61:020, Sec. 3(1)
65.	Solvent degreasing stations (EPA 2000) - 19 stations	
66.	Domestic sewage treatment plant (0.040 x 10^6 gallons/day rated capacity)	
67.	Diesel fuel oil tank at Nextel tower site (Met station) - 1 @ 147 gallons	
68.	Diesel fuel oil tank at fly ash pond for irrigation system - 1 @ 300 gallons	
69.	Oil purification units in various plant locations	

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any 12 consecutive months.

2. Particulate matter, sulfur dioxide, and visible emissions, as measured by methods referenced in 401 KAR 50:015, Section 1, shall not exceed the respective limitations specified herein.

3. Coal processed through Emission Units 22, 23, 25-31, 35, 39, and 40 shall not exceed 13,000,000 tons per any 12 consecutive months.

4. Total emissions of particulate matter from the Coal Washing Plant (Emission Units 22, 23, 25-31, and 35) shall not equal or exceed 100 lb/hour, 1000 lbs/day, and 50 tons/year. [401 KAR 51:050, Section 3, Permit No. O-87-012]

5. To preclude applicability of 401 KAR 51:017, particulate matter emissions from limestone handling, Emission Units 41-52, shall not exceed 25 tons in any 12 consecutive months. [Permit No. O-87-012]

6. Emission Units 53 and 54 are decommissioned and shall not be operated.

7. Emission Units 75 and 76 are limited to 900 tons/hour and 600 tons/hour respectively.

8. To preclude applicability of 401 KAR 51:017, coal fines processed through Emission Units 79-84 shall not exceed 750,000 tons per any 12 consecutive months.

9. Pursuant to 401 KAR 63:020, the source shall not combust wood treated wtih arsenic (CCA) or other metals as preservatives.

10. Bypass of the Emission Unit 3 scrubber shall be limited to 720 operating hours in any 12-consecutive months.

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b (IV)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrument monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements;
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b(IV) 2 and 1a(8) of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

   Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Section 1b (V)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1, the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.

   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within *30 days*. Other deviations from permit requirements shall *be included in the semiannual report required by Section F.6* [Section 1b (V) 3, 4. of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period.
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

   f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

Division for Air Quality
Owensboro Regional Office
3032 Alvey Park Drive W, STE 700
Owensboro, KY 42303

U.S. EPA Region 4
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within 30 days of the date the KYEIS emission survey is mailed to the permittee.

11. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within 45 days or sooner if required by an applicable standard, after the completion of the fieldwork.

SECTION G - GENERAL PROVISIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a, 3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020 Section 26].

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a, 6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a. If additional applicable requirements become applicable to the source and the remaining permit term is 3 years or longer. In this case, the reopening shall be completed no later than 18 months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
   b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
   c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
   d. If any additional applicable requirements of the Acid Rain Program become applicable to the source.

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least 30 days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Section 1a, 7,8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a, 14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a, 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States [Section 1a, 15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a, 10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].

11. This permit does not convey property rights or exclusive privileges [Section 1a, 9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Environmental and Public Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].

14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].

15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of issuance. Compliance with the conditions of a permit shall be considered compliance with:

SECTION G - GENERAL PROVISIONS (CONTINUED)

a. Applicable requirements that are included and specifically identified in the permit and
b. Non-applicable requirements expressly identified in this permit.

17. Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of 60 days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least 30 days prior to the test.

18. Pursuant to Agreed Order AO-89-41D, the permittee shall submit within 90 days of issuance of the initial permit an alternative method of determining compliance with opacity requirements on Units #1 and #2.

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of 5 years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least 6 months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].

2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020 Section 8(2)].

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within 10 days following the transfer.

Construction, Start-Up, and Initial Demonstration Requirements

Not applicable. No construction is authorized by this permit.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(e) Acid Rain Program Requirements

1. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

2. The source shall comply with all requirements and conditions of the Title IV, Acid Rain Permit (A-98-001) issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

(f) Emergency Provisions

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   a. An emergency occurred and the permittee can identify the cause of the emergency;
   b. The permitted facility was at the time being properly operated;
   c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
   e. This requirement does not relieve the source of other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 1515
   Lanham-Seabrook, MD 20703-1515.

2. If requested, submit additional relevant information to the Division or the U.S. EPA.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
   b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
   c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
   d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
   e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
   f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

SECTION H - ALTERNATE OPERATING SCENARIOS

None

SECTION I - COMPLIANCE SCHEDULE

None

SECTION J - ACID RAIN

ACID RAIN PERMIT CONTENTS

1. Statement of Basis
2. SO_2 allowances allocated under this permit and NOx requirements for each affected unit.
3. Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.
4. The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the Phase II Application and the Phase II NO_x Compliance Plan.
5. Summary of Actions

➢ **Statement of Basis:**

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100 and Titles IV and V of the Clean Air Act, the Kentucky Environmental and Public Protection Cabinet, Division for Air Quality issues this permit pursuant to Regulations 401 KAR 52:020, Permits, 401 KAR 52:060, Acid Rain Permit, and Federal Regulation 40 CFR Part 76.

PERMIT (Conditions)

Plant Name: Paradise Plant
Affected Unit: Unit 1

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2007	2008	2009	2010	2011
Tables 2, 3 or 4 of 40 CFR Part 73	10,818*	10,818*	10,818*	10,841*	10,841*

NO_x Requirements	
NO_x Limits	Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves a NO_x standard emissions limitation compliance plan for unit 1. The NO_x compliance plan is effective from January 1, 2007 through December 31, 2011. Under the NO_x compliance plan, annual average NO_x emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.6(a)(2), of 0.86 lb/MMBtu for cyclone boilers. 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 reapply for a NO_x compliance plan and requirements covering excess emissions.

* The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: Paradise Plant
Affected Unit: Unit 2

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2007	2008	2009	2010	2011
Tables 2, 3 or 4 of 40 CFR Part 73	12,300*	12,300*	12,326*	12,326*	12,326*

NO_x Requirements	
NO_x Limits	Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves a NO_x standard emissions limitation compliance plan for unit 2. The NO_x compliance plan is effective from January 1, 2007 through December 31, 2011. Under the NO_x compliance plan, annual average NO_x emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.6(a)(2), of 0.86 lb/MMBtu for cyclone boilers. 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 reapply for a NO_x compliance plan and requirements covering excess emissions.

*The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: Paradise Plant
Affected Unit: Unit 3

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2007	2008	2009	2010	2011
Tables 2, 3 or 4 of 40 CFR Part 73	25,504*	25,504*	25,504*	25,558*	25,558*

NO_x Requirements	
NO_x Limits	Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves a NO_x standard emissions limitation compliance plan for unit 3. The NO_x compliance plan is effective from January 1, 2007 through December 31, 2011. Under the NO_x compliance plan, annual average NO_x emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.6(a)(2), of 0.86 lb/MMBtu for cyclone boilers. 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 reapply for a NO_x compliance plan and requirements covering excess emissions.

*The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

- **Comments, Notes, and Justifications:**

1. Affected units are three (3) coal fired cyclone type boilers.

2. The Phase II permit contained a revised Repowering Extension Plan for Unit 3. However, TVA subsequently decided not to pursue the repowering option and never activated the Repowering Extension Plan. Therefore, the Repowering Extension Plan has been removed from the permit, and the Phase II application has been revised to reflect this change.

- **Permit Application:**

The Phase II Permit Application and the Phase II NO_x Compliance Plan are both part of this permit and the source must comply with the standard requirements and special provisions set forth in the Phase II Application and the Phase II NO_x Compliance Plan.

- **Summary of Actions:**

Previous Actions:

1. Draft Phase II Permit (# AR-96-18) including SO_2 compliance was issued for public comments on October 9, 1996.

2. Final Phase II Permit (# AR-96-18) including SO_2 compliance plan was issued on December 16, 1996.

3. Draft Phase II Permit (# A-98-001) was issued with the 1998 revised SO_2 allowance allocations and NO_x emission standards for public comment on November 19, 1998.

4. Final Phase II Permit (#A-98-001) was issued on February 26, 1999.

5. Draft Title V with Section J Acid Rain Permit was issued for public comment August 18, 2004.

6. Final Title V with Section J Acid Rain Permit was issued December 29, 2004

Present Action:

1. Redrafted.

SECTION K – NOx BUDGET PERMIT

1) Statement of Basis

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100, the Kentucky Environmental and Public Protection Cabinet issues this permit pursuant to 401 KAR 52:020 Title V permits, 401 KAR 51:160, NOx requirements for large utility and industrial boilers, and 40 CFR 97, Subpart C.

2) NO_x Budget Permit Application, Form DEP 7007EE

The NOx Budget Permit application for these electrical generating units was submitted to the Division and received on October 30, 2002. Requirements contained in that application are hereby incorporated into and made part of this NOx Budget Permit. Pursuant to 401 KAR 52:020, Section 3, the source shall operate in compliance with those requirements.

3) Comments, notes, justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

Affected units are three (3) coal boilers. Each unit has a capacity to generate 25 megawatts or more of electricity, which is offered for sale. The units use coal and are used as base load electric generating units.

4) Summary of Actions

The NOx Budget Permit is being issued as part of the initial Title V permit for this source. Public, affected state, and U.S. EPA review will follow procedures specified in 401 KAR 52:100.

Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

Final

AIR QUALITY PERMIT

Issued under 401 KAR 52:020

Permittee Name:	**Tennessee Valley Authority**
Mailing Address:	**1101 Market Street, Chattanooga, TN 37402-2801**
Source Name:	**TVA - Paradise Fossil Plant**
Mailing Address:	**13246 State Route 176, Suite 10 Drakesboro, KY 42337-2345**
Source Location:	**Drakesboro, KY**
Permit ID:	**V-07-018**
Agency Interest:	**3239**
Activity ID:	**APE20070001**
Review Type:	**Title V / Title IV / NOx Budget, Operating**
Source ID:	**21-177-00006**
Regional Office:	**Owensboro Regional Office 3032 Alvey Park Dr. W., Suite 700 Owensboro, KY 42303 (270) 687-7304**
County:	**Muhlenberg**
Application Complete Date:	**June 14, 2007**
Issuance Date:	**November 1, 2007**
Revision Date:	
Expiration Date:	**November 1, 2012**

John S. Lyons, Director
Division for Air Quality

Revised 05/07/07

EXHIBIT 8

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Permit Number	Permit Type	Log or Activity#	Complete Date	Issuance Date	Summary of Action
O-87-012	Operating		12/5/1986	6/29/1987	Renewal Operating
S-99-064	Minor Construction and Operating	G133		8/31/1999	Add Coal Handling and Processing
V-04-024	Initial Issuance	50068	2/7/1997	12/29/2004	Withdrawn
VS-06-003	Initial Issuance	APE20050004	6/14/2006	7/12/2006	Add Construction of New Coal Fines Recovery System
V-07-018	Initial Issuance	APE2007001			Initial Title V

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

Emission Unit 1 **Boiler Unit 1**
Emission Unit 2 **Boiler Unit 2**

Description:
Two Indirect Heat Exchangers, cyclone-furnace coal-fired boilers
Maximum continuous rating: 6959 MMBtu/hour, each
Primary fuel: Coal
Alternative fuels:
No. 2 fuel oil used for startup.
Coal fines maximum 14% by weight.
Wood waste maximum 5% of boiler's heat input (13% by weight).
Other nonhazardous waste materials such as used oil with less than 50 ppm PCB, boiler cleaning chemicals, solvents, oil-contaminated soil, rags, absorbent materials/rags and papers.
Controls: Selective Catalytic Reduction, Venturi Type Flue Gas Desulfurization Scrubber
Construction commenced: 1963

APPLICABLE REGULATIONS:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit with a capacity of more than 250 MMBtu per hour and commenced before August 17, 1971.
401 KAR 51:160, NO_x requirements for large utility and industrial boilers; incorporating by reference 40 CFR 96
401 KAR 52:060, Acid rain permits, incorporating by reference the Federal Acid Rain provisions as codified in 40 CFR Parts 72 to 78
401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances
40 CFR 52.939(c)(49) and (54), Approval and Promulgation of Implementation Plans, Subpart S - Kentucky

1. **Operating Limitations:**
   a. Pursuant to 401 KAR 63:020, wood treated with arsenic (CCA) or other metals as preservatives shall not be combusted.

   b. Pursuant to 401 KAR 63:020, hazardous matter or toxic substances shall be handled to minimize the potentially harmful effects of emissions. No owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:015, Section 4(1), particulate matter emissions shall not exceed 0.11 lb/MMBtu, each, based on a three-hour average.

   b. Pursuant to 40 CFR 52.939(c)(54) *Opacity Variance for TVA's Paradise Steam Plant*, for Unit 1, visible emissions shall not exceed 61% opacity and for Unit 2, 50% opacity based on a six-minute average, except during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

c. Pursuant to 40 CFR 52.939(c)(49) *A revision to the Kentucky SIP for Tennessee Valley Authority Paradise Steam Plant*, sulfur dioxide emissions shall not exceed 1.2 lb/MMBtu, each, based on a twenty-four-hour average.

Compliance Demonstration Method:
To provide assurance that the particulate and the visible emission limitations are being met the permittee shall comply with the **3. Testing Requirements** and **4.f.** below. To provide assurance that sulfur dioxide emission limits are being met the permittee shall comply with the **4. Specific Monitoring Requirements** below.

3. **Testing Requirements:**
The permittee shall perform quarterly stack tests in order to demonstrate compliance with the particulate matter emission limitation. Testing shall be conducted in accordance with 401 KAR 50:045, Performance Tests, and under conditions that are representative of maximum emissions potential during the previous quarter.

4. **Specific Monitoring Requirements:**
   a. Pursuant to 401 KAR 61:005, Section 3 and Performance Specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A, and 401 KAR 52:020, Section 26, continuous emission monitoring (CEM) systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. If any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

   b. Pursuant to 401 KAR 61:015, Section 6(1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

   c. Pursuant to 401 KAR 61:015, Section 6(3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

   d. Pursuant to 401 KAR 61:005, Section 3(5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

   e. The duration of start ups shall be monitored.

   f. See Section G(a)18.

   g. The permittee shall monitor and record the following operating parameters at least once per shift:
      (i.) Flow rate of recycle scrubbing liquor. Pump amperage for each recycle pump can be used as surrogate for flow rate.
      (ii.) Pressure drop across each scrubber module.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. **Specific Recordkeeping Requirements:**
   a. Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 61:015, Section 6, with the exception that the records shall be maintained for a period of five years.

   b. Records of the following shall be maintained:
      (i) data collected either by the continuous monitoring systems or as necessary to convert monitoring data to the units of the applicable standard;
      (ii) the results of all compliance tests;
      (iii) fuel analyses;
      (iv) the rate of fuel burned for each fuel on a daily basis;
      (v) the heating value and ash content on a weekly basis; and,
      (vi) the average electrical output and the minimum and maximum hourly generation rate on a daily basis.

   c. The duration of startups shall be recorded.

6. **Specific Reporting Requirements:**
   a. Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division.

      (i) Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide or those utilizing fuel sampling and analysis for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emission standard averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

      (ii) For gaseous measurements, the summary shall consist of hourly averages in the units of the applicable standard. The hourly averages shall not appear in the written summary, but shall be provided in electronic files only.

      (iii) The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance whenever system repairs or adjustments have been made is required.

      (iv) When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

   b. For exceedances that occur as a result of startup, the permittee shall report:

      (i) The type of start-up (cold, warm, or hot);

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(ii) Whether or not the duration of the start-up exceeded the manufacturer's recommendation or typical, historical durations, and if so, an explanation of why the start-up exceeded recommended or typical durations.

7. **Specific Control Equipment Operating Conditions:**
   a. Control equipment shall be continuously operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or good operating practices.

   b. Records regarding the maintenance of the control equipment shall be maintained.

   c. See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 3 Boiler Unit 3

Description:
Coal Fired Indirect Heat Exchanger, cyclone-furnace coal-fired boiler
Primary fuel: Coal
Alternative fuels:
No. 2 fuel oil used for startup.
Coal fines maximum 14% by weight.
Wood waste maximum 5% of boiler's heat input (13% by weight).
Other nonhazardous waste materials such as used oil with less than 50 ppm PCB, boiler cleaning chemicals, solvents, oil-contaminated soil, rags, absorbent materials/rags and papers.
Maximum continuous rating: 11457 MMBtu/hour
Controls: Electrostatic Precipitator, Selective Catalytic Reduction, Dual contact Flow Flue Gas Desulfurization Scrubber
Construction commenced: 1970

APPLICABLE REGULATIONS:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emission unit with a capacity of more than 250 MMBtu per hour and commenced before August 17, 1971.
401 KAR 51:160, NO_x requirements for large utility and industrial boilers; incorporating by reference 40 CFR 96
401 KAR 52:060, Acid rain permits, incorporating by reference the Federal Acid Rain provisions as codified in 40 CFR Parts 72 to 78
401 KAR 63:020, Potentially Hazardous Matter or Toxic Substances
40 CFR 52.939(c)(49), Approval and Promulgation of Implementation Plans, Subpart S - Kentucky

1. **Operating Limitations:**
   a. Pursuant to 401 KAR 63:020, wood treated with arsenic (CCA) or other metals as preservatives shall not be combusted.

   b. Pursuant to 401 KAR 63:020, hazardous matter or toxic substances shall be handled to minimize the potentially harmful effects of emissions. No owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

   c. Bypass of the scrubber shall be limited to 720 operating hours in any 12-consecutive months.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:015, Section 4(1), particulate matter emissions shall not exceed 0.11 lb/MMBtu based on a three-hour average.

   b. Pursuant to 401 KAR 61:015, Section 4(2), visible emissions shall not exceed 20% opacity.

   c. Sulfur dioxide emissions shall not exceed 1.2 lb/MMBtu when the scrubber is operating and 3.1 lbs/MMBtu when the scrubber is bypassed based on a twenty-four hour average.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:
To provide assurance that the particulate and the visible emission limitations are being met the permittee shall comply with the **3. Testing Requirements** below. To provide assurance that sulfur dioxide emission limits are being met the permittee shall comply with the **4. Specific Monitoring Requirements** below.

3. **Testing Requirements:**
   a. Pursuant to AO-89-41D, the permittee shall conduct a performance test for particulate compliance annually.

   b. Testing shall be conducted in accordance with 401 KAR 50:045, Performance Tests, and under conditions representative of maximum emissions potential under anticipated operating conditions at the pollutant-specific emissions unit.

   c. In accordance with **4.b Specific Monitoring Requirements**, the permittee shall submit a schedule within six months from the date of issuance of this permit to conduct testing within one year following the issuance of this permit to establish the correlation between opacity and particulate emissions. In the alternative, if such testing has already been performed, the permittee shall submit the results of the testing within one month from the date of issuance of this permit for review and approval.

   d. If no Reference Method 9 tests are performed pursuant to **4.a(ii) Specific Monitoring Requirements**, then the permittee shall determine the opacity of emissions from the stack by Reference Method 9 at least once every fourteen (14) boiler operating days, or more frequently if requested by the Division, to demonstrate compliance with the opacity standard. If no Reference Method 9 evaluations are completed during the time period, the reason for not completing a test shall be documented and the permittee may use the COM system for assuring compliance with the visible emission limitation during that period.

4. **Specific Monitoring Requirements:**
   a. Pursuant to 401 KAR 61:005, Section 3, Performance Specification 1 of 40 CFR 60, Appendix B, and 401 KAR 52:020, Section 26, a continuous opacity monitoring (COM) system shall conform to requirements of these sections which include installing, calibrating, operating, and maintaining the continuous monitoring system for accurate opacity measurement. Excluding exempted time periods, if any three consecutive six-minute average opacity values exceed the opacity standard, the permittee shall, as appropriate:

      (i) Accept the readout from the COM as an indicator of equipment performance and perform an inspection of the COM and/or control equipment and make any repairs or;

      (ii) Within thirty (30) minutes after the third consecutive COM indicated exceedance of the opacity standards, if emissions are visible, initiate a determination of opacity using Reference Method 9. Also within thirty (30) minutes after the third consecutive COM indicated exceedance, inspect the COM and/or the control equipment, and initiate any repairs. If a Reference Method 9 cannot be performed, the reason for not performing the test shall be documented.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

b. Pursuant to 401 KAR 52:020, Section 26, and 401 KAR 61:005, Section 3(6), to meet the monitoring requirement for particulate matter, the permittee shall use a COM. Opacity shall be used as an indicator of particulate matter emissions. Testing shall be conducted to establish the level of opacity that will be used as an indicator of particulate matter emissions. There may be short-term exceedances during the testing period required to establish the opacity indicator level. These exceedances will not be considered noncompliance periods since the testing is required to establish a permit requirement. The opacity indicator level shall be established at a level that provides reasonable assurance that particulate matter emissions are in compliance when opacity is equal to or less than the indicator level. Excluding exempted time periods:

(i) If any three (3) hour average of opacity values exceeds the opacity indicator level, the permittee shall, as appropriate, initiate an inspection of the control equipment and/or the COM system and make any necessary repairs.

(ii) If five (5) percent or greater of the COM data (three (3) hour average of opacity values) recorded in a calendar quarter show excursions above the opacity indicator level, the permittee shall perform a stack test in the following calendar quarter to demonstrate compliance with the particulate standard while operating at representative conditions. The permittee shall submit a compliance test protocol as required by Section G(a)(17) of this permit before conducting the test. The Division may waive this testing requirement upon a demonstration that the cause(s) of the excursions have been corrected, or may require stack tests at any time pursuant to 401 KAR 50:045, Performance Tests.

c. The permittee shall monitor the electrostatic precipitator's transformer/rectifier (TR) set primary/secondary currents and voltages at least once per day.

d. Pursuant to 401 KAR 61:005, Section 3 and Performance Specification 2 of Appendix B to 40 CFR 60 or 40 CFR 75, Appendix A, and 401 KAR 52:020, Section 26, continuous emission monitoring (CEM) systems shall be installed, calibrated, maintained, and operated for measuring sulfur dioxide emissions and either oxygen or carbon dioxide emissions. If any 24-hour average sulfur dioxide value exceeds the standard, the permittee shall, as appropriate, initiate an investigation of the cause of the exceedance and/or the CEM system and make any necessary repairs or take corrective actions as soon as practicable.

e. Pursuant to 401 KAR 61:015, Section 6(1), the sulfur content of solid fuels, as burned shall be determined in accordance with methods specified by the Division.

f. Pursuant to 401 KAR 61:015, Section 6(3) the rate of each fuel burned shall be measured daily and recorded. The heating value and ash content of fuels shall be ascertained at least once per week and recorded. The average electrical output, and the minimum and maximum hourly generation rate shall be measured and recorded daily.

g. Pursuant to 401 KAR 61:005, Section 3(5), the Division may provide a temporary exemption from the monitoring and reporting requirements of 401 KAR 61:005, Section 3, for the continuous monitoring system during any period of monitoring system malfunction, provided that the source owner or operator shows, to the Division's satisfaction, that the malfunction was unavoidable and is being repaired as expeditiously as practicable.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

h. The duration of startups shall be monitored.

i. The duration of any scrubber by-pass shall be monitored.

5. **Specific Record Keeping Requirements:**
   a. Records shall be kept in accordance with 401 KAR 61:005, Section 3(16)(f) and 61:015, Section 6, with the exception that the records shall be maintained for a period of five years.

   b. Records of the following shall be maintained:
      (i) data collected either by the continuous monitoring systems or as necessary to convert monitoring data to the units of the applicable standard;
      (ii) the results of all compliance tests;
      (iii) percentage of the COM data (excluding exempted time periods) showing excursions above the opacity standard and the opacity indicator level;
      (iv) fuel analyses;
      (v) the rate of fuel burned for each fuel on a daily basis;
      (vi) the heating value and ash content on a weekly basis; and,
      (vii) the average electrical output and the minimum and maximum hourly generation rate on a daily basis.

   c. Records of the electrostatic precipitator's primary/secondary voltage and current shall be maintained with long-term operational records for five years.

   d. The permittee shall keep visible observation records and Reference Method 9 observations in a designated logbook and/or an electronic format. Records shall be maintained for five years.

   e. The duration of start ups shall be recorded.

   f. The duration of any scrubber by-pass shall be recorded.

6. **Specific Reporting Requirements:**
   a. Pursuant to 401 KAR 61:005, Section 3 (16), minimum data requirements which follow shall be maintained and furnished in the format specified by the Division.

      (i) Owners or operators of facilities required to install continuous monitoring systems for sulfur dioxide or those utilizing fuel sampling and analysis for sulfur dioxide emissions shall submit for every calendar quarter, a written report of excess emissions and the nature and cause of the excess emissions if known. The averaging period used for data reporting should correspond to the emission standard averaging period averaging period which is a twenty-four (24) hour averaging period. All quarterly reports shall be postmarked by the thirtieth (30th) day following the end of each calendar quarter.

      (ii) Owners or operators of facilities required to install continuous monitoring systems for opacity shall submit for every calendar quarter a written report of excess emission and the nature and cause of emissions. The summary shall consist of the magnitude in actual percent opacity of six (6) minute averages of opacity greater than the opacity standard in the applicable standard for each hour of operation of the facility. Average values may be obtained by integration over

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

the averaging period or by arithmetically averaging a minimum of four (4) equally spaced, instantaneous opacity measurements per minute. Any time period exempted shall be considered before determining the excess average of opacity. Opacity data shall be reported in electronic format acceptable to the Division.

(iii) For gaseous measurements, the summary shall consist of hourly averages in the units of the applicable standard. The hourly averages shall not appear in the written summary, but shall be provided in electronic files only.

(iv) The date and time identifying each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of system repairs or adjustments shall be reported. Proof of continuous monitoring system performance whenever system repairs or adjustments have been made is required.

(v) When no excess emissions have occurred and the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be included in the report.

b. The permittee shall report the number of excursions (excluding exempted time periods) above the opacity standard, date and time of excursions, opacity value of the excursions, and percentage of the COM data showing excursions above the opacity standard in each calendar quarter.

c. For exceedances that occur as a result of startup, the permittee shall report:
(i) The type of start-up (cold, warm, or hot);

(ii) Whether or not the duration of the start-up exceeded the manufacturer's recommendation or typical, historical durations, and if so, an explanation of why the start-up exceeded recommended or typical durations.

d. The permittee shall include in the semi-annual report required by Section F.5, the duration in hours of any scrubber by-pass based on a 12 month rolling total.

7. **Specific Control Equipment Operating Conditions:**
a. Control equipment shall be operated to maintain compliance with permitted emission limitations, consistent with manufacturer's specifications and/or good operating practices.

b. Records regarding the maintenance of control equipment shall be maintained.

c. See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 4 Unit 1 Building Heat Boiler
Emission Unit 5 Unit 2 Building Heat Boiler
Emission Unit 6 Unit 3 Building Heat Boiler

Description:
Indirect Heat Exchangers
Fuel: #2 fuel oil
Maximum continuous rating: 25.8 MMBtu/hour each
Construction commenced: Units 1 and 2, 1963; Unit 3, 1970

APPLICABLE REGULATIONS:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emissions unit with a capacity of less than 250 MMBtu/hour, which commenced construction before April 9, 1972.

1. **Operating Limitations:**
   None.
2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:015, Section 4(1), particulate matter emissions shall not exceed 0.11 lb/MMBtu based on a three-hour average.
   b. Pursuant to 401 KAR 61:015, Section 4(2), visible emissions shall not exceed 20% opacity except during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations
   c. Pursuant to 401 KAR 61:015, Section 5(1), sulfur dioxide emissions shall not exceed 2.1 lb/MMBtu based on a twenty four-hour average.

   Compliance with PM and SO_2 limits is assured by burning fuel oil containing no more than 0.5% sulfur. If higher sulfur fuel oil is burned, the Division may require a stack test.
3. **Testing Requirements:**
   Opacity shall be determined by Reference Method 9 at least once every 7-boiler operating days. If no Reference Method 9 evaluations are completed during this time period, the reason for not completing the evaluation shall be documented.
4. **Specific Monitoring Requirements:**
   a. Pursuant to 401 KAR 61:015, Section 6, the rate of fuel burned shall be monitored daily.
   b. Pursuant to 401 KAR 61:015, Section 6, the heating value and sulfur content shall be ascertained once per week. The permittee may use fuel supplier certification to meet this requirement.
5. **Specific Recordkeeping Requirements:**
   See Section F.
6. **Specific Reporting Requirements:**
   See Section F.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 7-12 8 Dravo Heaters (Unit 3 Powerhouse)

Description:
Indirect Heat Exchangers
Maximum continuous rating: 2.5 MMBtu/hour each
Construction commenced: 1970
Fuel: #2 fuel oil

APPLICABLE REGULATIONS:
401 KAR 61:015, Existing indirect heat exchangers applicable to an emissions unit with a capacity of less than 250 MMBtu/hour, which commenced construction before April 9, 1972.

1. **Operating Limitations:**
   None.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:015, Section 4(1), particulate matter emissions shall not exceed 0.1 lb/MMBtu based on a three hour-average.

   b. Pursuant to 401 KAR 61:015, Section 4(2), visible emissions shall not exceed 20% opacity except during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations

   c. Pursuant to 401 KAR 61:015, Section 5(1), sulfur dioxide emissions shall not exceed 0.8 lb/MMBtu based on a twenty four-hour average.

   Compliance with PM and SO_2 limits is assured by burning fuel oil containing no more than 0.5% sulfur. If higher sulfur fuel oil is burned, the Division may require a stack test.

3. **Testing Requirements:**
   Opacity shall be determined by Reference Method 9 at least once every 7-boiler operating days. If no Reference Method 9 evaluations are completed during this time period, the reason for not completing the evaluation shall be documented.

4. **Specific Monitoring Requirements:**
   a. The rate of fuel burned shall be monitored daily.

   b. The heating value and sulfur content shall be ascertained once per week. The permittee may use fuel supplier certification to meet this requirement.

5. **Specific Recordkeeping Requirements:**
   See Section F.

6. **Specific Reporting Requirements:**
   See Section F.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 13-15 3 Dravo/Hastings Heaters (Coal Wash Plant)

Description:
Indirect Heat Exchangers
Maximum continuous rating: 2.5 MMBtu/hour each
Construction commenced: 1981
Fuel: #2 fuel oil

APPLICABLE REGULATIONS:
401 KAR 59:015, New indirect heat exchangers applicable to an emissions unit with a capacity of less than 250 MMBtu/hour, which commenced construction on or after April 9, 1972.

1. **Operating Limitations:**
   None.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 59:015, Section 4(1), particulate matter emissions shall not exceed 0.1 lb/MMBtu based on a three hour-average.

   b. Pursuant to 401 KAR 59:015, Section 4(2), visible emissions shall not exceed 20% opacity except during building a new fire for the period required to bring the boiler up to operating conditions provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations

   c. Pursuant to 401 KAR 59:015, Section 5(1), sulfur dioxide emissions shall not exceed 0.8 lb/MMBtu based on a twenty four-hour average.

   Compliance with PM and SO_2 limits is assured by burning fuel oil containing no more than 0.5% sulfur. If higher sulfur fuel oil is burned, the Division may require a stack test.

3. **Testing Requirements:**
   When operating, opacity shall be determined by Reference Method 9 at least every 7 boiler operating days. If no Reference Method 9 evaluations are completed during this time period, the reason for not completing the evaluation shall be documented.

4. **Specific Monitoring Requirements:**
   a. The rate of fuel burned shall be monitored daily.

   b. The heating value and sulfur content shall be ascertained once per week. The permittee may use fuel supplier certification to meet this requirement.

5. **Specific Recordkeeping Requirements:**
   See Section F.

6. **Specific Reporting Requirements:**
   See Section F.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 16-18, 19, 24, 36, 41, 52, 55-58, 71-73, 77 Fugitive Sources

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
16 & 17	Cooling Towers	53040 gallons/minute	Drift Eliminators	1968
18	Cooling Tower	53040 gallons/minute	Drift Eliminators	1969
19	Coal Hauling, Open Storage, Receiving Hopper	3000 tons/hour 17,000,000 tons/year	Wet suppression, enclosure, partial enclosure	1963
24	Coal Open Live Storage Piles #3 and #4	2000 tons/hour 17,000,000 tons/year	Enclosure, partial enclosure	1980
36	Coal Live Storage Silos #1 and #2	2000 tons/hour 17,000,000 tons/year	Enclosure	1963
41	Limestone Receiving	900 tons/hour 919,800 tons/year	Wet Suppression	1982
41A	Alternate Limestone Reclaim	80 tons/hour	None	1996
52	Limestone Stock-out and Storage	900 tons/hour 919,800 tons/year	Partial Enclosure	1982
55	Ash/Slag Reclaim from Slag Pond	134 tons/hour	None	1963
56	Ash/Slag Reclaim from Dewatering Area, Loader Traffic Reclaim from Dewatering Area, Open Storage	200 tons/hour	None	1963
57	Ash/Slag Onsite Hauling	200 tons/hour	Wet suppression	1963
58	Rim ditch formation	108 tons/hour	Wet suppression	1994
	Open drying of gypsum	167 tons/hour	Wet suppression	1994
	Excavation and transport of gypsum	167 tons/hour	Wet suppression	1983
	Soil cover transport	358 tons/hour	Wet suppression	1983
71	Transfer to New Conditioner Building Surge Bin and Crushers	2000 tons/hour	Enclosure, foam suppression	1999
72	Crushers (New Conditioner Building) and 3 Conditioners	1320 tons/hour	Enclosure, foam suppression, residual carryover	1999
73	Unit 3 Limestone Rail/Truck Unloading	900 tons/hour	Wet suppression	2003
77	Unit 3 Contribution to Limestone Storage Pile	900 tons/hour	Telescoping chute	2003

APPLICABLE REGULATIONS:

401 KAR 63:010, Fugitive emissions is applicable to each affected facility which emits or may emit fugitive emissions and is not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality.

1. **Operating Limitations**
   a. Pursuant to 401 KAR 63:010, Section 3, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, when applicable, but not be limited to the following:

      (i) Application and maintenance of asphalt, water, or suitable chemicals on roads, material stockpiles, and other surfaces which can create airborne dusts;

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

(ii) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials, or the use of water sprays or other measures to suppress the dust emissions during handling;
(iii) Maintenance of paved roadways in a clean condition;
(iv) The prompt removal of earth or other material from a paved street which earth or other material has been transported thereto by trucking or other earth moving equipment or erosion by water;
(v) Installation and use of compaction or other measures to suppress the dust emissions during handling.

b. Pursuant to 401 KAR 63:010, Section 3, discharge of visible fugitive dust emissions beyond the property line is prohibited.

c. Pursuant to 401 KAR 63:010, Section 4, no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway.

2. **Emission Limitations:**
None.

3. **Testing Requirements:**
None.

4. **Specific Monitoring Requirements:**
The permittee shall monitor the amount of material received and processed.

5. **Specific Record Keeping Requirements:**
a. Records of material received and processed shall be maintained on a monthly basis and maintained as a rolling 12-month total.

b. Annual records estimating tonnage hauled for plant roadways shall be maintained for emission inventory purposes.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**
a. Control equipment shall be operated to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b. Records regarding the maintenance and operation of control equipment shall be maintained.

c. See Section E.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 20, 21, 37, 38 Coal Breakers and Handling

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
20	Breaker Building (Breakers 1-2)	2000 tons/hour 17,000,000 tons/year	Enclosure, Foam Suppression	1963
21	Breaker Building (Breaker 3)	2000 tons/hour 17,000,000 tons/year	Enclosure, Foam Suppression	1970
37	Coal Handling Conditioner Building (Three Coal Breakers and Five Conditioners)	2000 tons/hour 17,000,000 tons/year	Enclosure, Foam Suppression	1963
38	Powerhouse Coal Handling Transfer Stations	2000 tons/hour 17,000,000 tons/year	Enclosure, Residual Carryover	1963

APPLICABLE REGULATIONS:
401 KAR 61:020, Existing process operations applicable to emission units commenced before July 2, 1975.

1. **Operating Limitations:**
   None.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 61:020, Section 2, particulate matter emissions shall not exceed the following:

Emission Unit	Description	PM Emission Limits
20	Breaker Building (Breakers 1-2)	92.7 lbs/hour; 263 tons/year
21	Breaker Building (Breaker 3)	92.7 lbs/hour; 263 tons/year
37	Coal Handling Conditioner Building	92.7 lbs/hour; 263 tons/year
38	Coal Handling Transfer Stations	86.9 lbs/hour; 369 tons/year

   b. Pursuant to 401 KAR 61:020, Section 2, visible emissions shall not exceed 40% opacity.

   c. Compliance will be assumed while processes are enclosed and foam suppression is utilized properly.

3. **Testing Requirements:**
   None.

4. **Specific Monitoring Requirements:**
   The permittee shall monitor the amount of material received and processed, and hours of operation.

5. **Specific Record Keeping Requirements:**
   a. Records of material received and processed and hours of operation shall be maintained on a monthly basis and maintained as a rolling 12-month total.

   b. Annual records estimating tonnage hauled for plant roadways shall be maintained for emission inventory purposes.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements:**
   See Section F.

7. **Specific Control Equipment Operating Conditions:**
   a. Control equipment shall be operated to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

   b. Records regarding the maintenance and operation of control equipment shall be maintained.

   c. See Section E.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 22, 23, 25-31, 35, 39, 40 Coal Handling and Washing Plant

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
22	Transfer Station A	2000 tons/hour 13,000,000 tons/year	Enclosure, Residual Carryover of Foam Dust Suppression	1963
23	Transfer Station B	2000 tons/hour 6,500,000 tons/year		1970
25	Transfer Station G	2000 tons/hour 13,000,000 tons/year		1981
26	Transfer Station H	2000 tons/hour 13,000,000 tons/year	Enclosure, Foam Suppression	1981
27	Coal Storage Silo 5 & 6	2000 tons/hour, each 6,500,000 tons/year, each	Enclosure, Residual Carryover of Foam Dust Suppression	1981
28	Transfer Station J	2000 tons/hour 13,000,000 tons/year		1981
29	Transfer Station K	2000 tons/hour 13,000,000 tons/year	Enclosure	1981
30	Transfer Station L	1800 tons/hour 13,000,000 tons/year	Enclosure	1981
31	Transfer Station M	1800 tons/hour 13,000,000 tons/year	Enclosure	1981
35	Long Term Storage Pile, Coal Reclaim Hopper	2000 tons/hour 6,500,000 tons/year	Enclosure, Wet and Foam Suppression	1963
39	Magnetite Load in, Coarse Refuse Loadout	3000 tons/hour 17,000,000 tons/year	Enclosure	1981
40	Coarse Refuse Disposal	400 Tons/hour	Wet suppression, partial enclosure	1981

APPLICABLE REGULATIONS:

401 KAR 60:005, Incorporating by reference 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants, applicable to units commenced after October 24, 1974.

401 KAR 61:020, Existing process operations applicable to emission units commenced before July 2, 1975.

1. **Operating Limitations:**

   Coal processed through these Emission Units shall not exceed 13,000,000 tons per any 12 consecutive months.

2. **Emission Limitations:**

   a. Total emissions of particulate matter from the Coal Washing Plant (Emission Units 22, 23, 25-31, and 35) shall not equal or exceed 100 lb/hour, 1000 lbs/day, and 50 tons/year. Compliance with the emission limits in **2.c**. assures compliance with these limitations. [401 KAR 51:050, Section 3, Permit No. O-87-012]

   b. Pursuant to 40 CFR 60, Subpart Y, visible emissions shall not equal or exceed 20% opacity.

   c. Pursuant to 401 KAR 61:020, Section 2, particulate matter emissions shall not exceed the following:

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit	Description	PM Emission Limit
22	Transfer Station A	0.45 lbs/hour; 1.48 tons/year
23	Transfer Station B	7.02 lbs/hour; 11.41 tons/year
25	Transfer Station G	0.31 lbs/hour; 1.02 tons/year
26	Transfer Station H	0.31 lbs/hour; 1.02 tons/year.
27	Coal Storage Silo 5	0.45 lbs/hour; 0.74 tons/year
27	Coal Storage Silo 6	0.22 lbs/hour; 0.36 tons/year
28	Transfer Station J	0.27 lbs/hour; 0.88 tons/year
29	Transfer Station K	0.27 lbs/hour; 0.88 tons/year
30	Transfer Station L	1.58 lbs/hour; 5.7 tons/year
31	Transfer Station M	0.24 lbs/hour; 0.88 tons/year
35	Storage Pile/Reclaim Hopper	0.27 lbs/hour; 0.44 tons/year

Compliance will be assumed while processes are enclosed and wet or foam suppression is utilized properly.

3. **Testing Requirements:**
None.

4. **Specific Monitoring Requirements:**

The permittee shall monitor the amount of material received and processed and hours of operation.

5. **Specific Record Keeping Requirements:**

a. Records of material received and processed and hours of operation shall be maintained on a monthly basis and maintained as a rolling 12-month total.

b. Annual records estimating tonnage hauled for plant roadways shall be maintained for emission inventory purposes.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**

a. Control equipment shall be operated to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b. Records regarding the maintenance and operation of control equipment shall be maintained.

c. See Section E.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 32-34 Coal Conveying and Bunker Room

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
32	Barge Unloader/Surge Hopper	2000 tons/hour 17,000,000 tons/year	Enclosure, water spray	1985
33	Transfer Station N (Breakers 4-7)	2000 tons/hour 17,000,000 tons/year	Enclosure, foam suppression, residual carryover, partial enclosure	1985
34	Transfer Station P and Storage Bypass	2000 tons/hour 17,000,000 tons/year	Enclosure, foam suppression, residual carryover	1985

APPLICABLE REGULATIONS:
401 KAR 60:005, Incorporating by reference 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants, applicable to units commenced after October 24, 1974.
401 KAR 59:010, New process operations applicable to emission units commenced after July 2, 1975.

1. **Operating Limitations:**
   None.

2. **Emission Limitations:**
   a. Pursuant to 401 KAR 59:010, Section 3(2), particulate matter emissions shall not exceed 58.4 lbs/hr, each, and 369 tons/year, each .

   b. Pursuant to 40 CFR 60.252(c) and 401 KAR 59:010, Section 3(1)(a), visible emissions shall not equal or exceed 20% opacity.

   Compliance will be assumed while processes are enclosed and water or foam suppression is utilized properly.

3. **Testing Requirements:**
   Opacity shall be determined using Reference Method 9 and the procedures in 40 CFR 60.11. The duration of the observations shall be a minimum of 1 hour (ten 6-minute averages) in length.

4. **Specific Monitoring Requirements:**
   a. The permittee shall perform visual observations of the emission points on a weekly basis. If visible emissions are seen, the permittee shall determine opacity in accordance with Reference Method 9.

   b. The amount of coal processed and hours of operation shall be monitored on a monthly basis and maintained as a rolling 12-month total.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. **Specific Recordkeeping Requirements:**
   a. The permittee shall keep a log of all weekly visual observations, any Reference Method 9 evaluations performed, and any corrective actions taken.

   b. Records of material received and processed and hours of operation shall be maintained on a monthly basis and maintained as a rolling 12-month total.

   c. See Section F.

6. **Specific Reporting Requirements:**
   See Section F.

7. **Specific Control Equipment Operating Conditions:**
   a. Control equipment shall be maintained to assure compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or good operating practices.

   b. Records regarding the maintenance of control equipment shall be maintained.

   c. See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 41- 52 Limestone Handling

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
41	Limestone Railcar/Truck Unloading System, Discharge from Railcar/Truck to Hopper	900 tons/hour 919,800 tons/year	Wet Suppression	1982
41A	Alternate Limestone Reclaim	80 tons/hour	None	1996
42	Limestone Reclaim/Receiving Hopper	900 tons/hour 919,800 tons/year	Bagfilter (DC-1)	1982
43-44	Limestone Conveying Transfer Point	900 tons/hour 919,800 tons/year	Bagfilters (DC-2A, 2B)	1982
45	Limestone Storage Silo Bin	900 tons/hour 919,800 tons/year	Bagfilter (DC-3)	1982
46-48	Limestone Storage Silo Vibrating Feeder	240 tons/hour 919,800 tons/year	Bagfilters (DC-4A, 4B, 4C)	1982
49-51	Limestone Prep Building Surge Hopper	300 tons/hour 919,800 tons/year	Bagfilters (DC-5A, 5B, 5C)	1982
52	Limestone Handling Bulk Storage Pile, Open Storage, Limestone Reclaim	900 tons/hour 919,800 tons/year	Partial Enclosure	1982

APPLICABLE REGULATIONS:

401 KAR 59:010, New Process Operations applicable to emission units commenced on or after July 2, 1975 (applies to Emission Units 42-51).

401 KAR 63:010, Fugitive emissions is applicable to each affected facility which emits or may emit fugitive emissions and is not elsewhere subject to an opacity standard within the administrative regulations of the Division for Air Quality (applies to Emission Units 41, 41A and 52. See page 14 for requirements).

1. **Operating Limitations**

   To preclude applicability of 401 KAR 51:017, particulate matter emissions from limestone handling, Emission Units 41-52, shall not exceed 25 tons in any 12 consecutive months. [Permit No. O-87-012]

2. **Emission Limitations:**

   a. Pursuant to 401 KAR 59:010, Section 3(1)(a), visible emissions shall not equal or exceed 20% opacity.

   b. Pursuant to 401 KAR 59:010, Section 3(2), particulate matter emissions shall not exceed the following:

Emission Unit	Description	PM Emission Limit
42	Limestone Reclaim/Receiving Hopper	51.4 lbs/hour
43-44	Limestone Conveying Transfer Point	51.4 lbs/hour
45	Limestone Storage Silo Bin	51.4 lbs/hour
46-48	Limestone Storage Silo Vibrating Feeder	41.6 lbs/hour
49-51	Limestone Prep Building Surge Hopper	43.1 lbs/hour

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance will be assumed when the control equipment is operated in accordance with manufacturer's specifications and/or standard operating practices.

3. **Testing Requirements:**
None.

4. **Specific Monitoring Requirements:**

The permittee shall monitor the amount of material received and processed and hours of operation.

5. **Specific Record Keeping Requirements:**

a. Records of material received and processed and hours of operation shall be maintained on a monthly basis and maintained as a rolling 12-month total.

b. Annual records estimating tonnage hauled for plant roadways shall be maintained for emission inventory purposes.

6. **Specific Reporting Requirements:**
See Section F.

7. **Specific Control Equipment Operating Conditions:**

a. Control equipment shall be operated to maintain compliance with applicable requirements, in accordance with manufacturer's specifications and/or standard operating practices.

b. Records regarding the maintenance and operation of control equipment shall be maintained.

c. See Section E.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 53-54 Two Lime Storage Silos

Description:
Storage of pebble quicklime to regulate pH of ash pond and metal-cleaning waste treatment facility.
Controls: bagfilters

APPLICABLE REGULATIONS:
401 KAR 59:010, New Process Operations applicable to emission units commenced on or after July 2, 1975.

Operating Limitations:
Decommissioned and shall not be operated.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 74 -76 Limestone Handling

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
74	Unit 3 Reclaim/Receiving Hopper (Limestone)	900 tons/hour	Wet suppression	2003
75	Unit 3 Limestone Storage Silo	900 tons/hour	Enclosure, Bagfilter	2003
76	Unit 3 Limestone Prep Building	600 tons/hour, each	Enclosure	2003

APPLICABLE REGULATIONS:

401 KAR 60:670, Incorporating by reference 40 CFR 60, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants.

1. **Operating Limitations:**

Emission Unit 74	Unit 3 Reclaim/Receiving Hopper	900 tons/hour
Emission Unit 75	Unit 3 Limestone Storage Silo	900 tons/hour
Emission Unit 76	Unit 3 Limestone Prep Building	600 tons/hour

2. **Emission Limitations:**
   a. Pursuant to CFR 672(a)(1), particulate matter stack or vent emissions shall not exceed 0.05 g/dscm (0.022 gr/dscf).

   b. Pursuant to 40 CFR 672(a)(2), visible stack or vent emissions shall not equal or exceed 7% opacity.

   c. Pursuant to 40 CFR 672(b), visible fugitive emissions from any transfer point on belt conveyors or from any other affected facility shall not equal or exceed 10% opacity.

3. **Testing Requirements:**
   a. Pursuant to 40 CFR 60.675(b)(1), the permittee shall use Reference Method 5 or 17 to determine initial compliance with the particulate matter concentration emission limit.

   b. Pursuant to 40 CFR 60.675(b)(2), opacity shall be determined by Reference Method 9.

   c. Pursuant to 40 CFR 60.675(c)(1), Reference Method 9 shall be used to determine the opacity of fugitive emissions, with the following additions:
      (i) The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
      (ii) The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources. the required observer position relative to the sun (Reference Method 9, Section 2.1) must be followed.
      (iii)When a water mist is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

d. Pursuant to 40 CFR 60.675(c)(2), in determining compliance with the opacity of stack emissions from any baghouse that controls emissions only from an individual enclosed storage bin using Reference Method 9, the duration of the Reference Method 9 observations shall be 1 hour (ten 6-minute averages).

e. Pursuant to 40 CFR 60.675(c)(3), when determining compliance with the fugitive emissions standard, the duration of the Reference Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:
(i) There are no individual readings greater than 10 percent opacity; and
(ii) There are no more than 3 readings of 10 percent for the 1-hour period.

f. Pursuant to 40 CFR 60.675(d), Reference Method 22 shall be used to determine fugitive emissions from a building enclosing any transfer point or conveyor belt. The performance test for each building shall be at least 75 minutes in duration, with each side of the building and the roof being observed for at least 15 minutes.

4. **Specific Monitoring Requirements:**
   a. The permittee shall perform qualitative visual observations of the opacity of emissions from each emission point on a weekly basis and maintain a log of the observations. If visible emissions are seen, then the permittee shall determine the opacity of emissions by Reference Method 9 and perform an inspection of the control equipment for any necessary repairs.

   b. The amount of limestone processed and hours of operation shall be monitored and recorded on an hourly basis, and annual throughput maintained as a rolling 12-month total.

5. **Specific Recordkeeping Requirements:**
   a. The permittee shall keep a log of all weekly visual observations, any Reference Method 9 tests performed, and any corrective actions taken.

   b. Records of material received and processed and hours of operation shall be maintained. on a monthly basis and annual throughput maintained as a rolling 12-month total.

6. **Specific Reporting Requirements:**
   a. The permittee shall submit the log required under subsection 5, Specific Recordkeeping Requirements semi-annually.

   b. See Section F.

7. **Specific Control Equipment Operating Conditions:**
   a. Control equipment shall be continuously operated to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or good operating practices.

   b. Records regarding the maintenance of control equipment shall be maintained.

   c. See Section E for further requirements.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 79-84 Coal Fines Recovery Process

Emission Unit	Description	Maximum Operating Rate	Control Devices	Construction Commenced
79	Panscraper Loadout from Coal Fines Pond to Stockpile	400 tons/hour	Wet suppression	2006
80	Coal Fines Stockpile	4.2 acres/day	Wet suppression	2006
81	Front-end Loader from Stockpile to Reclaim Hopper	200 tons/hour	Wet suppression	2006
82	Reclaim Hopper and Transfer Point (to Conveyor 63)	200 tons/hour	Enclosure	2006
83	Screw Conveyor and Transfer Point (to Conveyor 64)	200 tons/hour	Enclosure	2006
84	Belt Conveyor and Transfer Point (to BC-45 at Station A)	200 tons/hour	Enclosure	2006

APPLICABLE REGULATIONS:

401 KAR 60:005, Incorporating by reference 40 CFR 60, Subpart Y, Standards of Performance for Coal Preparation Plants.

1. **Operating Limitations:**
   To preclude applicability of 401 KAR 51:017, Prevention of Significant Deterioration of Air Quality, Coal Fines processed through each affected facility described above shall not exceed 750,000 tons per any 12 consecutive months total.

2. **Emission Limitations:**
   Pursuant to 401 KAR 60:005, Incorporating by reference 40 CFR 60, Subpart Y, visible emissions shall not equal or exceed 20% opacity.

3. **Testing Requirements:**
   Opacity shall be determined using Reference Method 9 and the procedures in 40 CFR 60.11. The duration of the Reference Method 9 observations shall be a minimum of 1 hour (ten 6-minute averages) in length.

4. **Specific Monitoring Requirements:**
   a. The permittee shall perform visual observations of the emission points on a weekly basis. If visible emissions are seen, the permittee shall determine opacity in accordance with Reference Method 9.

   b. The amount of coal fines processed shall be monitored and recorded on a monthly basis and maintained as a rolling 12-month total.

5. **Specific Recordkeeping Requirements:**
   a. The permittee shall keep a log of all weekly visual observations, any Reference Method 9 tests performed, and any corrective actions taken.

b. See Section F.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Reporting Requirements:**
   See Section F.

7. **Specific Control Equipment Operating Conditions:**
   a. Control equipment shall be maintained to assure compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or good operating practices.

   b. Records regarding the maintenance of the control equipment shall be maintained.

   c. See Section E for further requirements.

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary. Process and emission control equipment at each insignificant activity subject to a general applicable regulation shall be inspected monthly and qualitative visible emission evaluation made. The results of the inspections and observations shall be recorded in a log, noting color, duration, density (heavy or light), cause and any conservative actions taken for any abnormal visible emissions.

	Description	Generally Applicable Regulation
Units 1 and 2 Powerhouse		
1.	Units 1 and 2 coal bunker dust collectors (2 per unit)	401 KAR 63:010
2.	Hydrogen dump vent	
3.	Clean and dirty lubricating (lube) oil tanks - 6 @6,000 gallons each	
4.	Turbogenerator lube oil system tanks (with vapor extractors) - 2 @10,250 gallons each	
5.	Boiler Feedwater Pump Turbine (BFPT) lube oil tanks (with vapor extractors) - 4 @950 gallons each	
6.	Several smaller lube oil tanks for miscellaneous equipment	
Unit 3 Powerhouse		
7.	High pressure (HP) H_2 seal oil unit vent	
8.	Low pressure (LP) H_2 seal oil unit vent	
9.	HP turbine H_2 and CO_2 control station vent	
10.	LP turbine H_2 and CO_2 control station vent	
11.	Titration room fume hood and mercury room exhaust	
12.	Emergency diesel generator sump pump	
13.	Clean and dirty lube oil tanks - 2 @6,000 gallons each	
14.	Turbogenerator lube oil system tanks (with vapor extractors) - 2 @ 8,450 gallons each	
15.	BFPT lube oil tanks (with vapor extractors) - 2 @ 1,000 gallons each	401 KAR 63:010
16.	Forced draft fan turbine lube oil tanks (with vapor extractors) - 3 @ 1,000 gallons each	401 KAR 63:010
17.	Several smaller lube oil tanks for miscellaneous equipment	
18.	Coal bunker dust collector - East Bunker Row	401 KAR 63:020, Sec. 3(a)
19.	Coal bunker dust collector - West Bunker Row	401 KAR 63:020, Sec. 3(a)
Precipitator Area		
20.	Hydroveyor Air Separator Vents	
21.	Induced Draft (ID) fan lube oil tank vent	
Scrubber Area		
22.	Scrubber chemistry lab hood exhaust	
23.	Units 1 and 2 ID fan lube oil tank vent	
24.	Scrubber chemistry lab hood exhaust (Unit 3)	
Coal Handling Process		
25.	Railcar unloader - 1000 tph	401 KAR 63:010
26.	Coal Breakers No. 1 and 2 refuse disposal activity - 100 tph	**401 KAR 63:010**
27.	Coal Breaker No. 3 refuse disposal activity - 100 tph	401 KAR 63:010
28.	Coal Breakers No. 4-7 refuse disposal activity - 200 tph	401 KAR 63:010
29.	Transfer Station G mechanical dust collector - 11,250 cfm	401 KAR 59:010, Sec. 3(1)
30.	Transfer Station H mechanical dust collector - 11,250 cfm	401 KAR 59:010, Sec. 3(1)
31.	Silo #5 bin-vent mechanical dust collector - 6,000 cfm	401 KAR 59:010, Sec. 3(1)

INSIGNIFICANT ACTIVITIES (CONTINUED)

32.	Silo #6 bin-vent mechanical dust collector - 6,000 cfm	401 KAR 59:010, Sec. 3(1)
33.	Silos #5 and 6 transfer-in mechanical dust collector - 4,500 cfm	401 KAR 59:010, Sec. 3(1)
34.	Silos #5 and 6 transfer-out mechanical dust collector - 4,500 cfm	401 KAR 59:010, Sec. 3(1)
35.	Transfer Station J mechanical dust collector - 8000 cfm	401 KAR 59:010, Sec. 3(1)
36.	BC-46 reclaim mechanical dust collector - 4,500 cfm	401 KAR 59:010, Sec. 3(1)
37.	Transfer Station J mechanical dust collector - 10,200 cfm	401 KAR 59:010, Sec. 3(1)
38.	Transfer Station L mechanical dust collector - 10,400 cfm	401 KAR 59:010, Sec. 3(1)
39.	Transfer Station M mechanical dust collector - 4,500 cfm	401 KAR 59:010, Sec. 3(1)
40.	Barge unloader surge hopper mechanical dust collector - 5,250	401 KAR 59:010, Sec. 3(1)
41.	Transfer Station N mechanical dust collector - 10,500 cfm	401 KAR 59:010, Sec. 3(1)
42.	Transfer Station P mechanical dust collector - 8,000 cfm	401 KAR 59:010, Sec. 3(1)
43.	Coal conveyors - 1,000 to 4,000 tph	401 KAR 63:010
44.	Foam suppression chemical storage tanks - 7 @ 2,000-5,600 gallons each	

Coal Wash Plant

45.	Process fuel oil storage tank - 1 @ 10,000 gallons	
46.	Fuel oil reagent tanks - 4 @ 100 gallons each	
47.	Frother agent (alcohol) storage tank - 1 @ 10,000 gallons	
48.	Alcohol reagent tanks - 4 @ 100 gallons each	
49.	Heating fuel oil tank - 1 @ 30,500 gallons	
50.	Diesel fuel oil tanks - 2 @400 gallons each	
51.	Used oil tank (mobile) - 1 @ 500 gallons	
52.	Lube oil tote tank	

Miscellaneous Sources

53.	Light-off fuel oil tanks - 3 @ 12,530 gallons each	
54.	Diesel fuel oil tank at Utility Building - 1 @ 10,600 gallons	40 CFR 60.116(a)(b)
55.	Utility Building equipment oil tanks - 6 @ 60,500 gallons each	
56.	Utility Building antifreeze tank - 1 @ 270 gallons	
57.	Gasoline underground storage tank at Public Safety - 1 @10,000 gallons	
58.	Dirty insulating oil tanks at Switchyard - 2 @ 18,000 gallons each	
59.	Clean insulating oil tank at Switchyard - 1 @ 37,000 gallons	
60.	Dirty oil circuit breaker oil tank at Switchyard - 1 @5,500 gallons	
61.	Kerosene tank (west of Coal Conditioner Building) - 1 @ 500 gallons	
62.	Diesel fuel oil tank (west of Coal Conditioner Building) - 1 @ 1,500 gallons	
63.	Fire pump diesel oil tank at Intake Structure - 1 @450 gallons	
64.	Emergency diesel-fired water pumps at Intake Structure - 2 @ 300 hp each	401 KAR 61:020, Sec. 3(1)
65.	Solvent degreasing stations (EPA 2000) - 19 stations	
66.	Domestic sewage treatment plant (0.040×10^6 gallons/day rated capacity)	
67.	Diesel fuel oil tank at Nextel tower site (Met station) - 1 @ 147 gallons	
68.	Diesel fuel oil tank at fly ash pond for irrigation system - 1 @ 300 gallons	
69.	Oil purification units in various plant locations	

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any 12 consecutive months.

2. Particulate matter, sulfur dioxide, and visible emissions, as measured by methods referenced in 401 KAR 50:015, Section 1, shall not exceed the respective limitations specified herein.

3. Coal processed through Emission Units 22, 23, 25-31, 35, 39, and 40 shall not exceed 13,000,000 tons per any 12 consecutive months.

4. Total emissions of particulate matter from the Coal Washing Plant (Emission Units 22, 23, 25-31, and 35) shall not equal or exceed 100 lb/hour, 1000 lbs/day, and 50 tons/year. [401 KAR 51:050, Section 3, Permit No. O-87-012]

5. To preclude applicability of 401 KAR 51:017, particulate matter emissions from limestone handling, Emission Units 41-52, shall not exceed 25 tons in any 12 consecutive months. [Permit No. O-87-012]

6. Emission Units 53 and 54 are decommissioned and shall not be operated.

7. Emission Units 75 and 76 are limited to 900 tons/hour and 600 tons/hour respectively.

8. To preclude applicability of 401 KAR 51:017, coal fines processed through Emission Units 79-84 shall not exceed 750,000 tons per any 12 consecutive months.

9. Pursuant to 401 KAR 63:020, the source shall not combust wood treated wtih arsenic (CCA) or other metals as preservatives.

10. Bypass of the Emission Unit 3 scrubber shall be limited to 720 operating hours in any 12-consecutive months.

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b (IV)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrument monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements;
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b(IV) 2 and 1a(8) of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

   Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Section 1b (V)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1, the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.

   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within *30 days*. Other deviations from permit requirements shall *be included in the semiannual report required by Section F.6* [Section 1b (V) 3, 4. of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period.
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

   f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

Division for Air Quality
Owensboro Regional Office
3032 Alvey Park Drive W, STE 700
Owensboro, KY 42303

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

U.S. EPA Region 4
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within 30 days of the date the KYEIS emission survey is mailed to the permittee.

11. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within 45 days or sooner if required by an applicable standard, after the completion of the fieldwork.

SECTION G - GENERAL PROVISIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a, 3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020 Section 26].

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a, 6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a. If additional applicable requirements become applicable to the source and the remaining permit term is 3 years or longer. In this case, the reopening shall be completed no later than 18 months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
   b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
   c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;
   d. If any additional applicable requirements of the Acid Rain Program become applicable to the source.

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least 30 days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Section 1a, 7,8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a, 14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a, 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States [Section 1a, 15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a, 10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].

11. This permit does not convey property rights or exclusive privileges [Section 1a, 9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Environmental and Public Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].

14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].

15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of issuance. Compliance with the conditions of a permit shall be considered compliance with:

SECTION G - GENERAL PROVISIONS (CONTINUED)

a. Applicable requirements that are included and specifically identified in the permit and
b. Non-applicable requirements expressly identified in this permit.

17. Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of 60 days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least 30 days prior to the test.

18. Pursuant to Agreed Order AO-89-41D, the permittee shall submit within 90 days of issuance of the initial permit an alternative method of determining compliance with opacity requirements on Units #1 and #2.

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of 5 years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least 6 months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].

2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020 Section 8(2)].

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within 10 days following the transfer.

Construction, Start-Up, and Initial Demonstration Requirements

Not applicable. No construction is authorized by this permit.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(e) Acid Rain Program Requirements

1. If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

2. The source shall comply with all requirements and conditions of the Title IV, Acid Rain Permit (A-98-001) issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

(f) Emergency Provisions

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   a. An emergency occurred and the permittee can identify the cause of the emergency;
   b. The permitted facility was at the time being properly operated;
   c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
   e. This requirement does not relieve the source of other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 1515
   Lanham-Seabrook, MD 20703-1515.

2. If requested, submit additional relevant information to the Division or the U.S. EPA.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
   b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
   c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
   d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
   e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
   f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

SECTION H - ALTERNATE OPERATING SCENARIOS

None

SECTION I - COMPLIANCE SCHEDULE

None

SECTION J - ACID RAIN

ACID RAIN PERMIT CONTENTS

1. Statement of Basis
2. SO_2 allowances allocated under this permit and NOx requirements for each affected unit.
3. Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.
4. The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the Phase II Application and the Phase II NO_x Compliance Plan.
5. Summary of Actions

➢ **Statement of Basis:**

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100 and Titles IV and V of the Clean Air Act, the Kentucky Environmental and Public Protection Cabinet, Division for Air Quality issues this permit pursuant to Regulations 401 KAR 52:020, Permits, 401 KAR 52:060, Acid Rain Permit, and Federal Regulation 40 CFR Part 76.

PERMIT (Conditions)

Plant Name: Paradise Plant
Affected Unit: Unit 1

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2007	2008	2009	2010	2011
Tables 2, 3 or 4 of 40 CFR Part 73	10,818*	10,818*	10,818*	10,841*	10,841*

NO_x Requirements	
NO_x Limits	Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves a NO_x standard emissions limitation compliance plan for unit 1. The NO_x compliance plan is effective from January 1, 2007 through December 31, 2011. Under the NO_x compliance plan, annual average NO_x emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.6(a)(2), of 0.86 lb/MMBtu for cyclone boilers. 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 reapply for a NO_x compliance plan and requirements covering excess emissions.

* The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: Paradise Plant
Affected Unit: Unit 2

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2007	2008	2009	2010	2011
Tables 2, 3 or 4 of 40 CFR Part 73	12,300*	12,300*	12,326*	12,326*	12,326*

NO_x Requirements	
NO_x Limits	Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves a NO_x standard emissions limitation compliance plan for unit 2. The NO_x compliance plan is effective from January 1, 2007 through December 31, 2011. Under the NO_x compliance plan, annual average NO_x emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.6(a)(2), of 0.86 lb/MMBtu for cyclone boilers. 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 reapply for a NO_x compliance plan and requirements covering excess emissions.

*The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

PERMIT (Conditions)

Plant Name: Paradise Plant
Affected Unit: Unit 3

➢ **SO_2 Allowance Allocations and NO_x Requirements for the affected unit:**

SO_2 Allowances	**Year**				
	2007	2008	2009	2010	2011
Tables 2, 3 or 4 of 40 CFR Part 73	25,504*	25,504*	25,504*	25,558*	25,558*

NO_x Requirements	
NO_x Limits	Pursuant to 40 CFR Part 76, the Kentucky Division for Air Quality approves a NO_x standard emissions limitation compliance plan for unit 3. The NO_x compliance plan is effective from January 1, 2007 through December 31, 2011. Under the NO_x compliance plan, annual average NO_x emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR 76.6(a)(2), of 0.86 lb/MMBtu for cyclone boilers. 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 reapply for a NO_x compliance plan and requirements covering excess emissions.

*The number of allowances allocated to Phase II affected units by the U.S. EPA may change under 40 CFR part 73. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U. S. EPA. Neither of the aforementioned conditions necessitates a revision to the unit SO_2 allowance allocations identified in this permit (See 40 CFR 72.84).

➢ **Comments, Notes, and Justifications:**

1. Affected units are three (3) coal fired cyclone type boilers.

2. The Phase II permit contained a revised Repowering Extension Plan for Unit 3. However, TVA subsequently decided not to pursue the repowering option and never activated the Repowering Extension Plan. Therefore, the Repowering Extension Plan has been removed from the permit, and the Phase II application has been revised to reflect this change.

➢ **Permit Application:**
The Phase II Permit Application and the Phase II NO_x Compliance Plan are both part of this permit and the source must comply with the standard requirements and special provisions set forth in the Phase II Application and the Phase II NO_x Compliance Plan.

➢ **Summary of Actions:**

Previous Actions:

1. Draft Phase II Permit (# AR-96-18) including SO_2 compliance was issued for public comments on October 9, 1996.

2. Final Phase II Permit (# AR-96-18) including SO_2 compliance plan was issued on December 16, 1996.

3. Draft Phase II Permit (# A-98-001) was issued with the 1998 revised SO_2 allowance allocations and NO_x emission standards for public comment on November 19, 1998.

4. Final Phase II Permit (#A-98-001) was issued on February 26, 1999.

5. Draft Title V with Section J Acid Rain Permit was issued for public comment August 18, 2004.

6. Final Title V with Section J Acid Rain Permit was issued December 29, 2004

Present Action:

1. Redrafted.

SECTION K – NOx BUDGET PERMIT

1) Statement of Basis

Statutory and Regulatory Authorities: In accordance with KRS 224.10-100, the Kentucky Environmental and Public Protection Cabinet issues this permit pursuant to 401 KAR 52:020 Title V permits, 401 KAR 51:160, NOx requirements for large utility and industrial boilers, and 40 CFR 97, Subpart C.

2) NO_x Budget Permit Application, Form DEP 7007EE

The NOx Budget Permit application for these electrical generating units was submitted to the Division and received on October 30, 2002. Requirements contained in that application are hereby incorporated into and made part of this NOx Budget Permit. Pursuant to 401 KAR 52:020, Section 3, the source shall operate in compliance with those requirements.

3) Comments, notes, justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions.

Affected units are three (3) coal boilers. Each unit has a capacity to generate 25 megawatts or more of electricity, which is offered for sale. The units use coal and are used as base load electric generating units.

4) Summary of Actions

The NOx Budget Permit is being issued as part of the initial Title V permit for this source. Public, affected state, and U.S. EPA review will follow procedures specified in 401 KAR 52:100.

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