UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

NPDES PERMIT NO.: NH0001473

STATE PERMIT NO.:

NAME AND ADDRESS OF APPLICANT:

Public Service of New Hampshire
Schiller Station
1000 Elm Street
P.O. Box 330
Manchester, NH 03105

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Schiller Station
Gosling Road
P.O. Box 150
Portsmouth, NH 03801

RECEIVING WATER: Piscataqua River

CLASSIFICATION: Class B

I. Proposed Action, Type of Facility, and Discharge Location.

The above named applicant has applied to the U.S. Environmental Protection Agency for reissuance of its NPDES permit to discharge into the designated receiving water. The facility is engaged in electric power generation and distribution. The discharge is from once through cooling water, operational plant wastewater, process water, and coal pile runoff. The location of the discharges are shown on Attachment A.

II. Description of Discharge.

A quantitative description of the discharge in terms of significant effluent parameters based on data presented in the application and/or discharge monitoring reports is shown on Attachment B.

III. Limitations and Conditions.

The effluent limitations of the draft permit, the monitoring requirements, and any implementation schedule (if required) may be found on Attachment D (Part I of Draft Permit).

IV. Permit Basis and Explanation of Effluent Limitations Derivation.

Schiller Station is an electric generating facility with an approximate capacity of 200 megawatts (mw). Unit #3 is a steam driven, 25 mw generator that is fired with No. 6 fuel oil. Units #4, #5, and #6 are steam driven, 50 mw generators that are fired with either No. 6 fuel oil or bituminous coal. The fifth unit is a 24 mw combustion turbine fired with No. 1 fuel oil or natural gas.

Discharge include non-contact cooling water, operational plant wastewater, process water, and runoff, including coal pile runoff. Discharges are to the Piscataqua Estuary, a Class B waterway, with a latitude of 43° 05, 60" and a longitude of 70° 47' 00". Class B waters shall be of the second highest quality and shall have no objectionable physical characteristics, shall be near saturation for dissolved oxygen, and tidal class B waters shall not contain a coliform bacteria count greater than seventy (70) on an MPN basis. Class B waters shall be considered as being acceptable for bathing and other recreational purposes.

The Clean Water Act (CWA) establishes the national objective "to restore and maintain the chemical and biological integrity of the Nation's Waters". The CWA requires the EPA Administrator to establish effluent limitation which set forth the degree of reduction attainable through the application of best practicable control technology currently available (BPT), best conventional pollutant control technology (BCT), and best available technology economically achievable (BAT) (Section 301 and 304) for those industries for which national effluent guidelines have been promulgated. In addition, the effluent limitations must insure compliance with water quality standards as established by state law or regulation.

The effluent limitations presented in the permit are based on the Steam Electric Power Plant Guidelines (40 CFR 423) as promulgated on November 19, 1982 (47 Fed. Reg. 52290) and on the New Hampshire State Water Quality Standards. The limitations for the discharges given in Attachment D are designed to maintain the Piscataqua River as a Class B waterway in accordance with State requirements. The pH and oil and grease limitations have been established based on state certification requirements.

The chlorine effluent limitations presented in the permit are based on the effluent limitation guidelines. The guidelines state that total residual chlorine (total residual oxidants) may not be discharged from any single generating unit for more than two hours per day. Simultaneous multi-unit chlorination is permitted. The quantity of TRC discharged in once through cooling water from each discharge point shall not exceed a maximum concentration of 0.2 mg/l.

The permit compliance system (PCS) is the national data base for the NPDES program. As such, PCS promotes national consistency and uniformity in permit and compliance evaluations. To accomplish this goal, all required data are to be entered into and maintained regularly in PCS. PCS allows up to three (3) alphanumeric characters to designate an Outfall:, that is, four character designations will be truncated after the first three characters. To facilitate the PCS program the following outfalls will be redesignated as follows:

Current Permit Outfall Designation	Draft Permit Outfall Designation
001A	001
001B	015
012A	016 (normal operation)
012A	017 (metal cleaning operation)
012B	018
XXX	019
XXX	020
XXX	021
XXX	022

It should be noted that outfalls 16 and 17 are physically identical. Two designations are used to highlight the different monitoring frequencies between normal operations and operation during the time period when chemical waste from cleaning the boiler tubes enters the process waste treatment plant. Moreover, an additional discharge for each unit (#3, #4, #5, and #6) was recently identified. Each unit has travelling screens on the cooling water inlet to remove river debris. Under worse conditions, each set of screens are sequentially washed for one hour, six times per day. The maximum spray rate is 300 gpm which translates to a total of 108,000 gpd per unit. These outfalls are designated as XXX in the Form 2C application without designation in the current permit. They are designated as Outfalls 19, 20, 21, and 22 in the draft permit.

The following modifications of the current permit have been incorporated into the draft permit:

- Outfall 001: Flow limits have been increased to allow for 24-hours operation. Also chlorine, ferrous sulfate limits and temperature rise limitations have been added to provide for condenser maintenance provisions.

- Outfall 006: This outfall is now used for emergency purposes only. The outfall actually consists of 6 pipes; 2 pipes for each of unit numbers 4,5, and 6. The routine effluent that was previously discharged is now piped to the #7 Pit and ultimately to Water Treatment Plant #2. This discharge consists only of boiler blowdowns during an emergency condition or when a boiler experiences a severe disruption. According to the permittee these emergency conditions represent an unusual event that is generally short-lived. The outfall was not used last year.

- Outfall(s) 007, 008, and 009: These outfalls which are associated with the Dock Boiler House which supplied auxiliary steam have been secured and "mothballed". These outfalls may be reactivated at any time for emergency steam supply to the dock area. For purposes of monthly reporting on the discharge monitoring reports (DMRs), values of zero (0) will be listed for all parameters when the outfalls are not in use.

- Outfall 010: This outfall has been repiped to eliminate direct discharges to the river.

- Outfall 014: This outfall has been repiped to eliminate direct discharges to the river.

EPA has determined that the proposed permit limitations satisfy all the technology requirements of the Clean Water Act, including the 1984 BAT requirements for toxic pollutants and BCT for conventional pollutants. Review of the toxic pollutant portion of the NPDES permit application indicates that no organic pollutants were detected significantly above detection limits.

The permittee's application for permit renewal indicates the presence of several heavy metals (cadmium, nickel, and mercury) not normally associated with power plant discharges. Accordingly, EPA is requiring the permittee to take one grab sample of intake and discharge of Unit #3 within 60 days after the effective date of the permit for comparative heavy metals analyses. The permittee shall determine the source of all heavy metal concentrations reported in the September 11, 1989 permit application.

The monitoring program in the permit specifies routine sampling and analysis which will provide continuous general information on the reliability and effectiveness of the installed pollution abatement equipment.

The effluent monitoring requirements have been established to yield data representative of the discharges under authority of Section 308(a) of the Clean Water Act, according t regulations set forth at 40 C.F.R. 122.41(j), 122.48, 122.41(j)(4)(5), and 122.44(i).

The remaining general and special conditions of the permit are based on the NPDES regulations, 40 CFR Parts 122 through 125, and consist primarily of Management requirements common to all permits.

SECTION 316 A AND B OF THE CWA

Section 316(a) of the Clean Water Act (CWA) addresses the thermal component of any effluent discharge. EPA has not developed best practicable control technology currently available (BPT) for thermal discharges from point sources. However, EPA assumes that if thermal limits satisfying BPT were developed in accordance with Section 301(b)(1)(A) of the CWA, they would be more stringent than what would be proposed by the NPDES Permit applicant. This is based upon the premise that the water quality criteria developed by EPA or by individual water quality standards developed by states would be the limiting factor in the development of the NPDES Permit. It should also be noted that thermal discharges (heat) are not subject to the technology standards required by Best Conventional Pollutant Control Technology Economically Achievable since heat is not considered to be a toxic pollutant or a conventional pollutant as defined by the CWA and outlined in 40 CFR 401.15 or 401.16.

Section 316(a) of the CWA gives the Administrator of the EPA the authority to impose alternative effluent limitations for the control of the thermal component of any discharge. However, the owner or operator of the point source must demonstrate to the satisfaction of the Administrator that existing effluent limitations are more stringent than necessary to assure the protection and propagation of a balanced indigenous community of shellfish, fish and wildlife in and on the receiving water.

Similarly, Section 316(b) of the CWA gives the Administrator of the EPA the authority to determine if the location, design, construction, and capacity of the cooling water intake structures reflect BPT for minimizing adverse environmental impact.

The authority of these two sections of the CWA has been delegated to the Regional Administrators or their designees in accordance with regulatory procedures outlined under 40 CFR 125.

A permit was issued in 1975 reflecting regulations contained in the "Effluent Guidelines and Standards for the Steam Electric Power Generating Industry" which were published on October 8, 1974. According to these regulations, the Schiller Station plant was determined to be an "old unit" since it was put into service before January 1, 1974. These regulations for "old units" did not limit the thermal discharges.

The permittee has certified that there have been no significant changes to the plant discharges, fish impingement, and river ecology during the life of the plant. The Company has also indicated that the facility has operated over 20 years with no evidence of adverse aquatic impacts. Little, if any, any impact from the thermal plume upon the biological community has been detected, and since the station has operated without any obvious environment degradation, a favorable 316(a) determination can be made. This lack of environmental impact by the plumes reflects the low effect of all normal power plant pollutants: maximum temperature, temperature rise, chlorine, organic chemicals, and heavy metals.

In 1975, EPA reviewed fish impingement data for Schiller Station and determined that the circulating water intake structure employs the best technology available for minimizing adverse environmental impact. The present design shall be reviewed for conformity to regulations pursuant to Section 316(b) when such are promulgated.

The Regional Administrator granted the 316(a) variance based upon previous hydrological and biological studies and upon the absence of detectable environmental impact during the operating history of the station.

In the current reapplication for a NPDES Permit, PSNH, Schiller Station has demonstrated to EPA that since the last reissuance of the NPDES Permit:

a. There has been no significant changes to the design or to the operation of the station and, in particular, no changes to the circulating cooling water system.

b. There have been no significant changes in the hydrology or in the biology of Piscataqua Estuary and surrounding waters.

c. There have been no fish kills or any other observable environmental impact on the bay and surrounding waters.

Therefore, the Regional Administrator has determined that a 316(a) variance could be granted and that for the design of the intake structure, 316(b) satisfies the best technology available requirements. Further, the proposed draft permit, effluent limitations and special conditions imposed relative to the thermal component and intake structures, assure satisfaction of the New Hampshire Water Quality Standards for Piscataqua Estuary.

V. State Certification Requirements.

EPA may not issue a permit unless the State Water Pollution Control Agency with jurisdiction over the receiving waters certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. The staff of the New Hampshire Department of Environmental Services has reviewed the draft permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State and expects that the draft permit will be certified.

VI. Comment Period, Hearing Requests, and Procedures for Final Decisions.

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Compliance Branch, JFK Federal Building, Boston, Massachusetts 02203. Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision. Requests for formal hearings must satisfy the requirements of 40 C.F.R. §124.74, 48 Fed. Reg. 14279-14280 (April 1, 1983).

VII. EPA Contact.

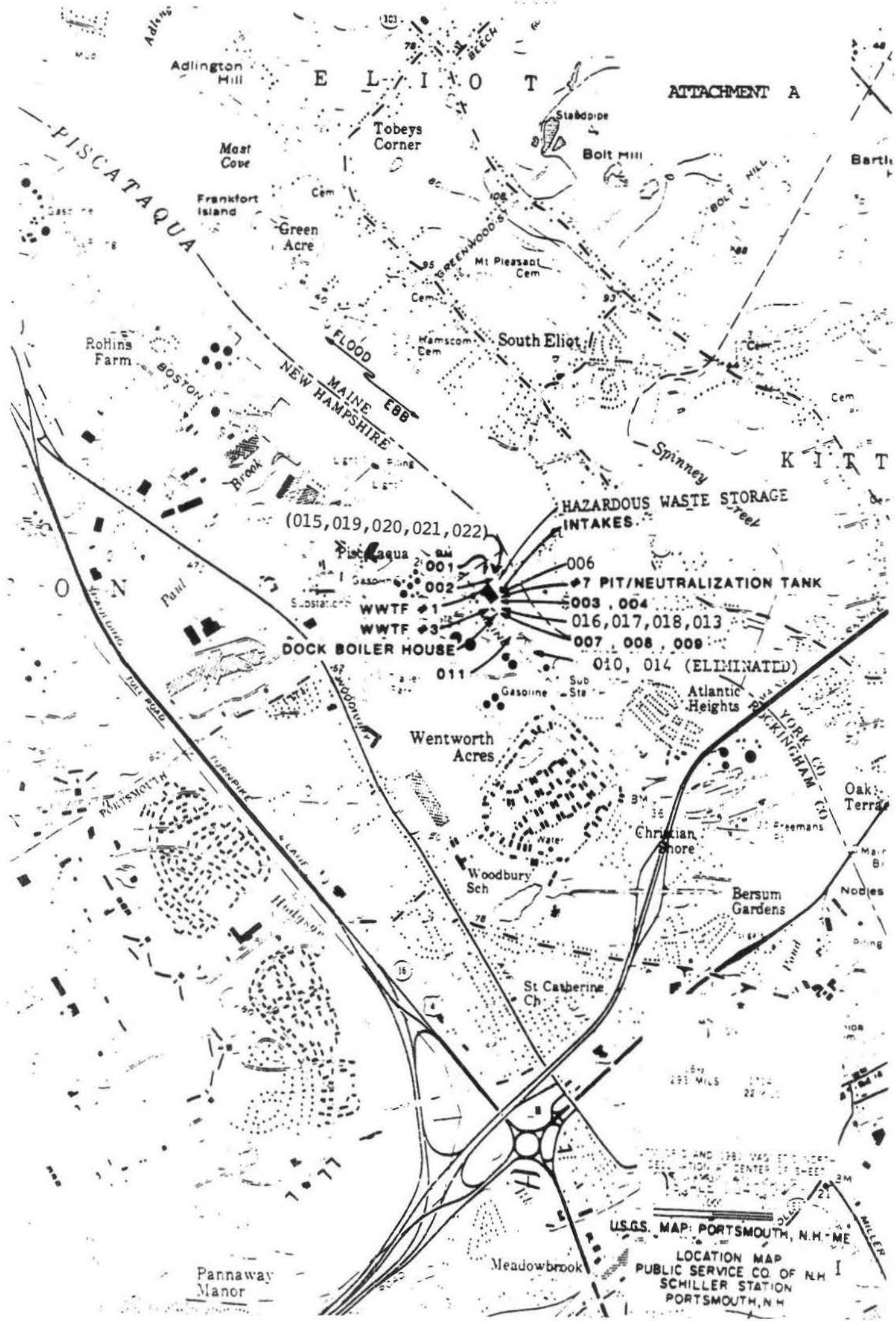
Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

Nicholas Prodany
Wastewater Management Section CT, ME, NH
WMC-2113
John F. Kennedy Federal Building
Boston, Massachusetts 02203
Telephone: (617) 565-3587

6/22/90
Date

David A. Fierra, Director
Water Management Division
Environmental Protection Agency

ATTACHMENT A



ATTACHMENT B

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

The values presented in this Attachment are based on data reported in DMR's for the period of January 31, 1988 to October 31, 1989.

DISCHARGE 001A - Unit #3 Circulating Water Discharge (Non-Contact Cooling Water); #1 and #2 Boiler Drains; Station Steam Heat Drains; Northwest Yard Drain; Oil Separator Non-Contact Cooling Water; Unit #3 Blowdown; dearator drains and overflows, gland seal water.

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (MGD)	3.4	13.8
Oil & Grease (mg/l)*	4.4	4.4
Maximum Temperature, Tmax	---	76°F
Temperature Rise, ▲T	---	24.6°F

*Oil & Grease values reported as <5 mg/l were treated statistically as being equal to 2.5 mg/l.

DISCHARGE 001B - Waste Treatment Plant #1 Effluent

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	1,009	31,005
pH (su)	6.7	7.9

DISCHARGE 002 - Unit #4 Circulating Water System (Non-Contact Cooling Water); Condenser Hotwell Drains.

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (MGD)	34.6	43.5
TRC (mg/l)	---	0.2
Ferrous Sulfate as Fe++ (mg/l)	---	0.422
Maximum Temperature, Tmax	---	80.2°F
Temperature Rise, ▲T		24.3°F

DISCHARGE 003 - Unit #5 Circulating Water System (Non-Contact Cooling Water); Condenser Hotwell Drains.

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (MGD)	31.0	41.4
TRC (mg/l)	---	0.2
Ferrous Sulfate as Fe++(mg/l)	---	0.44
Maximum Temperature, Tmax	---	77.4°F
Temperature Rise, ▲T	---	25.6°F

DISCHARGE 004 - Unit #6 Circulating Water System (Non-Contact Cooling Water); Condenser Hotwell Drains.

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (MGD)	30.8	41.3
TRC (mg/l)	---	0.2
Ferrous Sulfate as Fe++(mg/l)	---	0.46
Maximum Temperature, Tmax	---	79.6°F
Temperature Rise, ▲T	---	24.3°F

DISCHARGE 006 - Start-up Main Boiler Blowdown, Dearator Drains and overflows.

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	608	608

DISCHARGE 007 - Dock Boiler House Blow-Down, Softener Regenerations

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	N.D.	N.D.

N.D. Refers to "no discharge" reported during the time period referenced.

DISCHARGE 008 - Dock Boiler House Floor and Equipment Drains, Heater Drips.

Parameter	Average	Maximum
Flow (GPD)	N.D.	N.D.
Oil & Grease (mg/l)	N.D.	N.D.

DISCHARGE 009 - Dock House Boiler Drains, Dock Boiler House Start-up Blowdown

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	N.D.	N.D.

DISCHARGE 010 - Heat tracing live drain, fuel oil tank heater drains.

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	2443	2443
Oil & Grease (mg/l)*	4.0	4.0

DISCHARGE 011 - Tank form drains from Schiller Station Discharge

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	5192	78,780
pH (su)	7.0	7.0
Oil & Grease* (mg/l)	4.4	4.4

DISCHARGE 012A - Wastewater treatment facility discharge

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	64,992	132,067
pH (su)	6.5	8.0
TSS (mg/l)	7.7	15.1
Oil & Grease (mg/l)	3.9*	9.1
Cu Total (mg/l)	---	0.12
Fe Total (mg/l)	---	0.72

DISCHARGE 012B - Schiller Station Yard Drains
Newington Station Tank Farm Yard Drains.

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	9,223	89,166
pH (su)	7.0	7.0
Oil & Grease (mg/l)	3.7*	3.7*

DISCHARGE 013 - Emergency Spillway Overflow

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	N.D.	N.D.

DISCHARGE 014 - Groundwater and Steam Condensate

AVERAGE EFFLUENT CHARACTERISTICS AT POINT OF DISCHARGE

Parameter	Average	Maximum
Flow (GPD)	147	147
pH (su)	7.4	7.4
Oil & Grease (mg/l)	<5	<5

* Oil and grease values reported as <5 mg/l were treated statistically as being equal to 2.5 mg/l.

N.D. Refers to "no discharge" reported during the time period referenced.

ATTACHMENT D

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PART I

A. Effluent Limitations and Monitoring Requirements

1. Except as specified in Paragraph 1 through 14 herein, the permittee shall not discharge to Piscataqua River, a final effluent to which it has added any pollutants.

a. Chlorine may be used as a biocide. No other biocide shall be used without explicit approval from the Regional Administrator and the Commissioner. The chlorination cycle shall not exceed two hours in any one day for any one unit. Simultaneous chlorination is allowed.

b. The discharges shall not jeopardize any Class B use of the Piscataqua River and shall not violate applicable water quality standards. Pollutants which are not limited by this permit, but which have been specifically disclosed in the permit application, may be discharged at the frequency and level disclosed in the application, provided that such discharge does not violate Section 307 or 311 of the Act or applicable water quality standards.

c. All live fish, shellfish, and other aquatic organisms collected or trapped on the intake screens shall be returned to their natural habitat. All solid materials removed from the screens shall have land disposal.

d. This permit shall be modified, revoked or reissued to comply with any applicable effluent standard or limitation issued or approved under Section 301(b)(2)(C) and (D), 304(b)(2), and 207(a)(2) of the Act, if the effluent standard or limitation so issued or approved:

(1) contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
(2) controls any pollutant not limited by this permit.

If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the Act.

e. The term "Regional Administrator" means the Regional Administrator of Region I of the U. S. Environmental Protection Agency and the term "Commissioner" means the Commissioner of the New Hampshire Department of Environmental Services.

f. It has been determined, based on engineering judgement, that the circulating water intake structure presently employs the best technology available for minimizing adverse environmental impact. Any change in the location, design or capacity of the present structure shall be approved by the Regional Administrator and the Commissioner. The present design shall be reviewed for conformity to regulations pursuant to Section 316(b) of the Act when such are promulgated.

g. The permittee may add a maximum of 2.75 mg/l of ferrous sulfate ($FeSO_4.7H_2O$) for one hour per day for each unit (Units #3, #4, #5 and #6) for 5 days a week to prevent erosion in the condenser tubes. 2.75 mg/l of ferrous sulfate heptahydrate is equivalent to 0.5 mg/l of ferrousion (Fe++) concentration. Any increase in the use of ferrous sulfate must be approved by the Commissioner and Regional Administrator prior to use.

h. The combined thermal plumes for the station shall; (a) not block zone of fish passage, (b) not change the balanced indigenous population of the receiving water, and (c) have minimal contact with the surrounding shorelines.

i. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.

j. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(a) One hundred micrograms per liter (100 ug/l);

(b) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(c) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or

(d) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f) and New Hampshire regulations.

2. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

(a) Five hundred micrograms per liter (500 ug/l);

(b) One milligram per liter (1 mg/l) for antimony;

(c) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or

(d) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f) and New Hampshire regulations.

k. To substantiate the source of several heavy metals (cadmium, nickel, and mercury) not normally associated with power plant discharges, the permittee is required to take concurrent grab samples of intake and discharge from Unit #3 within 60 days after the effective date of the permit for comparative heavy metals analyses. The results shall be reported to EPA and the State 90 days after the effective date of the permit.

2. Coal Conversion

(1) At the discretion of the Regional Administrator and/or the Commissioner during the life of the permit, the permittee may be required to perform any or all of the analyses outlined in Subparagraphs (2), (3), and (4) whenever coal of radically different chemical characteristics (new source) is or will be used at the station.

(2) The permittee shall maintain the previously established test program for evaluating the chemical composition of the following liquid and solid streams:
(a) Coal as received.*
(b) Coal pile runoff during and after a rain storm.
(c) Wastewater treatment system discharge.

(3) The streams (subparagraph (2) above) shall be sampled twice simultaneously by grab samples on two different days when burning coal. The stream analysis shall include the following parameters where applicable but are not to be limited to:
(a) Flow rate (gpd or lbs/day)
(b) Total Suspended Solids
(c) Total Dissolved Solids
(d) pH
(e) BOD
(f) COD
(g) TOC
(h) Antimony (Total)
(i) Arsenic (Total)
(j) Beryllium (Total)
(k) Cadmium (Total)
(l) Chromium (Total)
(m) Copper (Total)
(n) Lead (Total)
(o) Mercury (Total)
(p) Nickel (Total)
(q) Selenium (Total)
(r) Silver (Total)
(s) Thallium (Total)
(t) Zinc (Total)
(u) Iron (Total)
(v) Manganese (Total)
(w) Nitrate
(x) Sulfate
(y) Sulfite (WWTS only)
* Parameters (a) through (g) are not included in analysis of "coal as received".

(4) The metals shall be reported both as stream concentration and the pounds per day in that stream.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 001**: Unit #3 Circulating Water Discharge (Non-Contact Cooling Water); #1 and #2 Boiler Drains; Station Steam Heat Drains; Northwest Yard Drain; Oil Separator Non-Contact Cooling Water; Unit #3 Blowdown; deaerator drains and overflows; gland seal water.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	40.0	40.0	Continuous	Calculate
Oil and Grease (mg/l)	15	20	Monthly	Grab
Maximum Temperature, Tmax	----	95°F	Hourly,When on-line	Grab
Temperature rise, ▲T*	----	25°F	Hourly,When on-line	Calculate
Total Residual Chlorine (mg/l)	----	0.2	Daily, When in use	Grab
Ferrous Sulfate as Fe++ (mg/l)	----	0.5	Monthly,When in use	Calculate

* The temperature rise (▲T) limitation is increased from 25°F to 30°F for a two hour period during condenser maintainance.

** Previously designated as Outfall 001A

b. At no time shall the discharge cause the receiving water to exceed a maximum temperature of 84°F at a distance of 200 feet in any direction from the point of discharge.

c. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units, or shall be as naturally occurs in the receiving water.

d. There shall be no discharge of floating solids or visible foam in other than trace amounts.

e. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to discharge into receiving water.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 015**: Waste Treatment Plant #1 Effluent.*

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (GPD)	61,800	85,300	Daily	Estimate
Oil and Grease	15.0	20.0	Monthly	Grab

* This discharge will only be used during essential maintenance of waste treatment plant #2 (outfalls 016 and 017); i.e. sludge removal from the fireside basin. Only treated plant demineralization reagent wastes, chem lab drains, oil separator wastes, and other routine wastes from day-to-day operation may be discharged. Waste treatment plant #1 is not allowed to treat coal pile runoff, metal cleaning wastes, or any wastestreams not specified in the 1979 NPDES permit for outfall 001.

** Previously designated as Outfall 001B

b. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units and shall be monitored continuously. Report range.

c. There shall be no discharge of floating solids or visible foam in other than trace amounts.

d. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to mixing with discharge 001.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 002: Unit #4 Circulating Water System (Non-Contact Cooling Water); Condenser Hotwell Drains.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	43.5	52.2	Continuous	Calculate
Total Residual Chlorine (mg/l)	----	0.2	Daily, When in use	Grab
Ferrous Sulfate as Fe++ (mg/l)	----	0.5	Monthly, When in use	Calculate
Maximum Temperature, Tmax	----	95°F	Hourly, When On-line	Grab
Temperature rise, ▲T*	----	25°F	Hourly, When On-line	Calculate

* The temperature rise (▲T) limitation is increased from 25°F to 30°F for a two hour period during condenser maintenance.

b. At no time shall the discharge cause the receiving water to exceed a maximum temperature of 84°F at a distance of 200 feet in any direction from the point of discharge.

c. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units, or shall be as naturally occurs in the receiving water.

d. There shall be no discharge of floating solids or visible foam in other than trace amounts.

e. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to discharge into receiving water.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 003: Unit #5 Circulating Water System (Non-Contact Cooling Water); Condenser Hotwell Drains.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	50.2	50.2	Continuous	Calculate
Total Residual Chlorine (mg/l)	----	0.2	Daily, When in use	Grab
Ferrous Sulfate as Fe++ (mg/l)	----	0.5	Monthly, When in use	Calculate
Maximum Temperature, Tmax	----	95°F	Hourly, When On-line	Grab
Temperature rise, ▲T*	----	25°F	Hourly, When On-line	Calculate

* The temperature rise (▲T) limitation is increased from 25°F to 30°F for a two hour period during condenser maintenance.

b. At no time shall the discharge cause the receiving water to exceed a maximum temperature of 84°F at a distance of 200 feet in any direction from the point of discharge.

c. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units, or shall be as naturally occurs in the receiving water.

d. There shall be no discharge of floating solids or visible foam in other than trace amounts.

e. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to discharge into receiving water.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

5. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 004: Unit #6 Circulating Water System (Non-Contact Cooling Water); Condenser Hotwell Drains.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	50.2	50.2	Continuous	Calculate
Total Residual Chlorine (mg/l)	----	0.2	Daily, When in use	Grab
Ferrous Sulfate as Fe++ (mg/l)	----	0.5	Monthly, When in use	Calculate
Maximum Temperature, Tmax	----	95°F	Hourly, When On-line	Grab
Temperature rise, ▲T*	----	25°F	Hourly, When On-line	Calculate

* The temperature rise (▲T) limitation is increased from 25°F to 30°F for a two hour period during condenser maintenance.

b. At no time shall the discharge cause the receiving water to exceed a maximum temperature of 84°F at a distance of 200 feet in any direction from the point of discharge.

c. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units, or shall be as naturally occurs in the receiving water.

d. There shall be no discharge of floating solids or visible foam in other than trace amounts.

e. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to discharge into receiving water.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

6. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 006: Emergency Boiler Blowdowns, Deaerator Overflows. The outfall consists of 6 pipes; 2 for each of Unit #s 4, 5, 6.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow, Gallons	----	Report	When in use	Estimate
Flow Duration, hours	----	Report	When in use	Estimate

b. This discharge consists only of boiler blowdowns during an emergency condition or when a boiler experiences a severe disruption. The duration and the amount of flow shall be estimated when the discharge occurs and shall be reported in the succeeding Discharge Monitoring Report. The flow estimate shall not include the steam portion of the discharge.

c. The discharge shall consist of boiler condensate only. There shall be no discharge of process wastes, cleaning wastes, or sanitary wastes from this discharge point.

d. The pH of the emergency discharge will be measured and reported in the Discharge Monitoring Report each time there is a discharge. The permittee will evaluate pH control methods for the emergency blowdowns. If the State or EPA, after review of the reports, find the frequency of the discharges too high and the pH outside the standard range of 6.5 to 8.0 standard units, the permit may be modified or reissued with more stringent pH discharge limitations.

e. There shall be no discharge of floating solids or visible foam in other than trace amounts.

f. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to discharge into receiving water. The continuous blowdown sampling station shall be a representative point.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

7. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 007: Dock Boiler House Boiler Blow-down, Softener Regenerations.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (GPD)	16,000	24,500	Daily when in use	Estimate

b. The permittee will note zero (0) for all parameters in the Discharge Monitoring Reports when outfall 007 is not in use.

c. The temperature of the discharge shall at no time cause the receiving water to exceed a maximum of 28.9°C (84°F) at any distance of 200 feet from the point of discharge into the receiving water. The maximum temperature at the point of discharge shall at no time exceed 212°F.

d. The thermal plume shall not interfere with the natural reproductive cycles of the indigenous populations within the water body segment.

e. The thermal plume shall not interfere with the natural movements and migratory pathways of the indigenous populations within the water body segment.

f. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units and shall be monitored continuously.

g. There shall be no discharge of floating solids or visible foam in other than trace amounts.

h. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to discharge into the receiving water.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

8. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 008: Dock Boiler House Floor and Equipment Drains, Heater Drips.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (GPD)	3750	7500	Monthly	Estimate
Oil and Grease (mg/l)	15.0	20.0	Monthly	Grab

b. The permittee will note zero (0) for all parameters in the Discharge Monitoring Reports when Outfall 008 is not in use.

c. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units, or shall be as naturally occurs in the receiving water, and shall be monitored monthly by grab sample.

d. There shall be no discharge of floating solids or visible foam in other than trace amounts.

e. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to discharge into the receiving water.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

9. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 009: Dock Boiler House Boiler Drains, Dock Boiler House Start-up Blowdown.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (GPD)	250	4000	Daily when in use	Estimate

b. The permittee will note zero (0) for all parameters in the Discharge Monitoring Reports when Outfall 009 is not in use.

c. There shall be no discharge of floating solids or visible foam in other than trace amounts.

d. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to discharge into the receiving water.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

10. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 011: Schiller Station Tank Farm Drains. The effluent from 3 individual pipes combine to create the culverted outfall. The discharge of snow and ice shall be accounted for in a reasonable manner.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (GPD)	115,000	230,000	Daily	Estimate
Oil and Grease (mg/l)	15.0	20.0	Monthly	Grab

b. The pH shall not be less than 6.5 standard units (s.u.) nor greater than 8.0 s.u., unless due to naturally occurring conditions. The pH shall be within 0.5 s.u. of the rainfall when the pH is outside the above range. Rainfall pH shall be monitored when the discharge is monitored and shall be reported in the discharge monitoring report. The ph shall be monitored monthly by grab sample.

c. There shall be no discharge of floating solids or visible foam in other than trace amounts.

d. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to discharge into the receiving water. The combined discharge of the 3 individual pipes shall be considered a representative sampling point.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

11. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 013, Emergency Spillway Overflow. The discharge of snow and ice shall be accounted for in a reasonable manner.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow Gallons	----	Report	When in use	Estimate
Flow Duration, hours	----	Report	When in use	Estimate

b. This discharge shall consist only of stormwater from the coal pile area during an emergency condition resulting from an actual storm that exceeds the design storm (10 years - 24 hour occurance). The duration and the amount of flow shall be estimated when the spillway is used and shall be reported in the succeeding Discharge Monitoring Report.

c. The discharge shall consist of stormwater runoff only. There shall be no discharge of process wastes, cleaning wastes, or sanitary wastes from this discharge point.

d. There shall be no discharge of floating solids or visible foam in other than trace amounts due to materials added by station operation.

e. The pH of the emergency sluiceway discharge and the pH of the rain will be measured and reported in the Discharge Monitoring Report each time the coal pile runoff collection pond discharges via the emergency sluiceway. The company will evaluate pH control methods for the emergency sluiceway. If the State or EPA after review of the reports find the frequency of the discharge is too high and the pH to low when compared to the rainfall, the permit may be modified or reissued with more stringent pH discharge limitations.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

12. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 016*: Wastewater Treatment Facility Discharge, treated wastewater discharge during normal plant operations, and effluent shall not exceed the following conditions.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (GPD)	216,000	360,000	Continuous	---
Oil and Grease (mg/l)	15.0	20.0	Weekly	Grab
Total Suspended Solids (mg/l)	30.0	100.0	Weekly	24 hr. Composite
Total Iron (mg/l)	----	1.0	Weekly	24 hr. Composite
Total Copper (mg/l)	----	1.0	Weekly	24 hr. Composite

* Previously designated as Outfall 012A.

b. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units, and shall be monitored continuously.

c. There shall be no discharge of floating solids or visible foam in other than trace amounts.

d. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to mixing with discharge 018.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

13. During the period beginning effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 017*: Wastewater Treatment Facility Discharge, treated wastewater discharge during boiler chemical cleaning operations only, and effluent that shall not exceed the following conditions.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement** Frequency	Sample Type
Flow (GPD)	----	360,000	Continuous	---
Oil and Grease (mg/l)	15.0	20.0	Daily	Grab
Total Suspended Solids (mg/l)	30.0	100.0	Daily	24 hr. Composite
Total Iron (mg/l)	----	1.0	Daily	24 hr. Composite
Total Copper (mg/l)	----	1.0	Daily	24 hr. Composite

* Previously designated as Outfall 012A.

** Samples to be taken daily during boiler chemical cleaning operations (approx. frequency is once every 12 to 36 months for each boiler unit).

b. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units, and shall be monitored continuously.

c. There shall be no discharge of floating solids or visible foam in other than trace amounts.

d. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to mixing with discharge 018.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

14. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 018*: Schiller Station Yard Drains, Newington Station Tank Farm Yard Drains. The discharge of snow and ice shall be accounted for in a reasonable manner.

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow (GPD)	300,000	600,000	Daily	Estimate
Oil and Grease (mg/l)	15.0	20.0	Monthly	Grab

* Previously designated as Outfall 012B.

b. The pH shall not be less than 6.5 standard units (s.u.) nor greater than 8.0 s.u., unless due to naturally occurring conditions. The pH shall be within 0.5 s.u. of the rainfall when the pH is outside the above range. Rainfall pH shall be monitored when the discharge is monitored and shall be reported in the discharge monitoring report. The pH shall be monitored monthly by grab sample.

c. There shall be no discharge of floating solids or visible foam in other than trace amounts.

d. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a representative point prior to mixing with discharge 016 and 017.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

15. During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall(s) serial number(s) 019*, 020*, 021*, and 022*, intake screen wash for Units #3, #4, #5 and #6, an effluent subject to the following conditions:

a. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations		Monitoring Requirements	
	Average Monthly	Daily Maximum	Measurement Frequency	Sample Type
Flow GPD per unit	----	108,000	Monthly	Estimate

* Designated as Outfall(s) XXX in Form 2C of Application.

b. The temperature of the discharge shall at no time exceed the temperature of the intake water used for this discharge.

c. All live fish, shellfish and other organisms collected or trapped on the intake screens should be returned to their habitat, sufficiently distant from the intake structures to prevent re-impingement. All solid materials removed from the screens shall have land disposal.

d. The pH shall not be less than 6.5 standard units nor greater than 8.0 standard units, or as naturally occurs.

e. There shall be no discharge of floating solids or visible foam in other than trace amounts.

f. Samples taken in compliance with the monitoring requirements specified above shall be taken at some representative point prior to discharge to the receiving water.