

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Environmental Regulation
Division of Air Quality
Air Quality Permitting Element
P. O. Box 27
Trenton, NJ 08625-0027

ION S. CORZINE
Governor

LISA P. JACKSON
Commissioner

Air Pollution Control Operating Permit Significant Modification and Preconstruction Approval

Permit Activity Number: BOP050003

Program Interest Number: 65500

Mailing Address	Plant Location
WILLIAM LEVIS SR VP & CHIEF NUCLEAR OFFICER PSE&G NUCLEAR LLC PO BOX 236-N21 - ALLOWAY CREEK NECK RD Hancocks Bridge, NJ 08038	PSEG NUCLEAR LLC HOPE CRK & SALEM GEN STA Alloway Creek Nck Rd Lower Alloways Creek Twp Salem County

Initial Operating Permit Approval Date: February 2, 2005
 Significant Modification Approval Date: August 7, 2007
 Operating Permit Expiration Date: February 1, 2010

This significant modification is approved and issued under the authority of Chapter 106, P.L. 1967 (N.J.S.A. 26:2C-9.2). The equipment at the facility must be operated in accordance with the requirements of this permit.

This approval, in response to your application, merges the provisions of the previously approved operating permit and the changes from this significant modification into a single comprehensive permit that replaces the one previously issued. This significant modification is to decrease the allowable annual emissions from 129 tons per year to 69.5 tons per year, and to increase the maximum hourly emission rate of total suspended particulates (TSP) and particulate matter under 10 microns (PM10) emitted by the cooling tower, emission unit U24, of Hope Creek Generating Station, from 29.4 lb/hr to 42.0 pounds per hour, and for variance under N.J.A.C. 7:27-6.5 to allow this increase. The frequency of monitoring the total suspended solids (TDS) in the cooling tower circulating water has been increased to 7 days from the current permit requirement of 14 days.

Equipment at the facility referenced by this significant modification is covered by the permit shield, pursuant to the provisions of N.J.A.C. 7:27-22.17. However, this permit shield does not cover physical changes which were undertaken at the facility after March 3, 2003 and for which the facility did not seek an applicability determination for the Prevention of Significant Deterioration rule, codified at 40 CFR 52.21 (PSD), from the United States Environmental Protection Agency (USEPA). The issuance of this permit should not in any way be construed as a determination by the Department that the PSD rules do not apply. Any questions on applicability of PSD should be directed to USEPA Region II, Air Compliance Branch, 21st Floor, 290 Broadway, New York, NY 10007-1866 (Phone: 212-637-4074). Pursuant to N.J.A.C. 7:27-22.33(e), this significant modification consists of both a preconstruction approval and operating permit approval. This operating permit does not include compliance schedules as part of the approved compliance plan.

The permittee shall submit to the Department and to the EPA on forms provided by the Department, at the addresses given below, a periodic compliance certification, in accordance with N.J.A.C. 7:27-22.19 and the schedule for compliance certifications set forth in the compliance plan in this operating permit. The annual compliance certification reporting period will cover the calendar year ending December 31. The annual compliance certification is due to the Department and the EPA within 60 days after the end of each calendar year during

which this permit was in effect. Forms provided by the Department can be found on the Department's website at: <http://www.nj.gov/dep/enforcement/compliancecertsair.htm>.

The annual compliance certification report may also be considered as your six month deviation report for the period from July 1 through December 31 which is due by January 30 of each year, as required by paragraph 13 in Section F, *General Provisions and Authorities*, of this permit, if the annual compliance certification is submitted by January 30.

New Jersey Department of Environmental Protection
Air & Environmental Quality Compliance & Enforcement
401 East State Street, P. O. Box 422
Trenton, New Jersey 08625-0422

United States Environmental Protection Agency, Region II
Air Compliance Branch
290 Broadway
New York, New York 10007-1866

New Jersey Department of Environmental Protection
Air and Environmental Quality Compliance & Enforcement
Southern Regional Enforcement Office
2 Riverside Drive, One Port Center, Suite 201
Camden, New Jersey, 08102

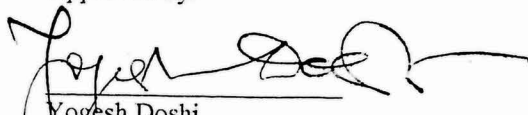
We are including a diskette with an electronic file. This file contains the information included in the paper version of the operating permit. Upon importing this information into your personal computer with RADIUS software, you will have up-to-date information in RADIUS format. RADIUS software, instructions, and help are available at the Department's website at www.state.nj.us/dep/aqpp. We also have an Operating Permit Help Line available from 9:00 AM to 4:00 PM daily, where you may speak to someone about any questions you may have. The Operating Permit Help Line number is 609-633-8248.

If, in your judgment, the Department is imposing any unreasonable condition of approval in this permit modification action, you may contest the Department's decision on the modification and request an adjudicatory hearing pursuant to N.J.S.A. 52:14b-1 et seq. and N.J.A.C. 7:27-22.32(a). All requests for an adjudicatory hearing must be received in writing by the Department within 20 calendar days of the date you receive this letter. The request must contain the information requested in N.J.A.C. 7:27-1.32 and the information on the enclosed Administrative Hearing Request Checklist and Tracking Form.

The permittee is responsible for submitting a timely and administratively complete operating permit renewal application. The application is considered timely if it is received at least 12 months before the expiration date of the operating permit. To be deemed administratively complete, an application for renewal of the operating permit shall include all of the information required by the application form for the renewal and the information required pursuant to N.J.A.C. 7:27-22.30(d). However, consistent with N.J.A.C. 7:27-22.30(c), the permittee is encouraged to submit the renewal application at least 15 months prior to expiration of the operating permit, so that the Department can notify the applicant of any deficiencies in the application. This will allow the permittee to correct any deficiencies, and to better ensure that the application is administratively complete by the renewal deadline. Only applications which are timely and administratively complete will be eligible for coverage by an application shield. The renewal application can be found at our website, <http://www.state.nj.us/dep/aqpp/downloads/forms/OPRenewal.PDF>.

If you have any questions regarding this permit approval, please call your permit writer, Aliya M. Khan, at (609) 292.2169.

Approved by:


Yogesh Doshi
Air Quality Permitting Element

Enclosure

CC: Steve Riva, USEPA Region II (diskette containing modified permit)
R. Wormley - SRO (w/o enclosure)]
Aliya M. Khan (w/o enclosure)



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Facility Name: PSEG NUCLEAR LLC HOPE CRK & SALEM GEN STA

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FACILITY SPECIFIC REQUIREMENTS

**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Emission Unit: U24 Cooling Tower
Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 65.9 tons/yr. [N.J.A.C. 7:27-22.16(a)]	<p>TSP: Monitored by calculations annually rolling one week basis.</p> <p>$TSP (TPY) = 0.0022 \times D \times C \times TDS$; where</p> <p>D = fraction of circulating water lost to drift = 0.00041%</p> <p>C = circulating water rate (gal/min) = 612,000 gal/min (based on maximum capacity of cooling tower)</p> <p>TDS = total dissolved solids concentration in circulating water (mg/l)</p> <p>A sample of the circulating water will be taken a minimum of every 7 days and analyzed for TDS. [N.J.A.C. 7:27-22.16(o)]</p>	<p>TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system each week during operation</p> <p>Records shall be maintained on site for a period of five (5) years after the date of each record and made available to the representatives of the Department upon request. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually beginning on the first day of the fourteenth month following the start of post-EPU (after thermal power uprate) operations. The report shall be submitted to the NJDEP Southern Regional Enforcement Office, NJDEP Bureau of Operating Permits and USEPA Region II for a period of five years from the date of commencement of post-EPU (after thermal uprate) operations of the Hope Creek Generating Station.</p> <p>The report must contain:</p> <ol style="list-style-type: none"> 1. A log of the total dissolved solids concentration of the circulating water flow. 2. The calculated maximum cumulative (12 month) particulate emissions in tons per year. 3. Description of any maintenance procedures applied to the cooling tower. [N.J.A.C. 7:27-22.16(o)]

**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
2	PM-10 (Total) <= 65.9 tons/yr. [N.J.A.C. 7:27-22.16(a)]	<p>PM-10 (Total): Monitored by calculations annually rolling one week basis.</p> <p>PM-10 (TPY) = 0.0022 x D x C x TDS; where</p> <p>D = fraction of circulating water lost to drift = 0.00041%</p> <p>C = circulating water rate (gal/min) = 612,000 gal/min (based on maximum capacity of cooling tower)</p> <p>TDS = total dissolved solids concentration in circulating water (mg/l)</p> <p>A sample of the circulating water will be taken a minimum of every 7 days and analyzed for TDS. [N.J.A.C. 7:27-22.16(o)]</p>	<p>PM-10 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each week during operation</p> <p>Records shall be maintained on site for a period of five (5) years after the date of each record and made available to the representatives of the Department upon request. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually beginning on the first day of the fourteenth month following the start of post-EPU (after thermal power uprate) operations. The report shall be submitted to the NJDEP Southern Regional Enforcement Office, NJDEP Bureau of Operating Permits and USEPA Region II for a period of five years from the date of commencement of post-EPU (after thermal uprate) operations of the Hope Creek Generating Station.</p> <p>The report must contain:</p> <ol style="list-style-type: none"> 1. A log of the total dissolved solids concentration of the circulating water flow. 2. The calculated maximum cumulative (12 month) particulate emissions in tons per year. 3. Description of any maintenance procedures applied to the cooling tower. [N.J.A.C. 7:27-22.16(o)]
3	The facility shall notify the NJDEP Southern Regional Enforcement Office, NJDEP Bureau of Operating Permits, and USEPA Region II of the start date of post-EPU (specifically, post-thermal power uprate) operations of the Hope Creek Generating Station within 30 days after this date occurs. [40 CFR 52.21(b)(21)(v)]	None.	None.	Submit notification 30 days after the Effective Start Date of post-EPU (after thermal power uprate) operations of the Hope Creek Generating Station. [40 CFR 52.21(b)(21)(v)]

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

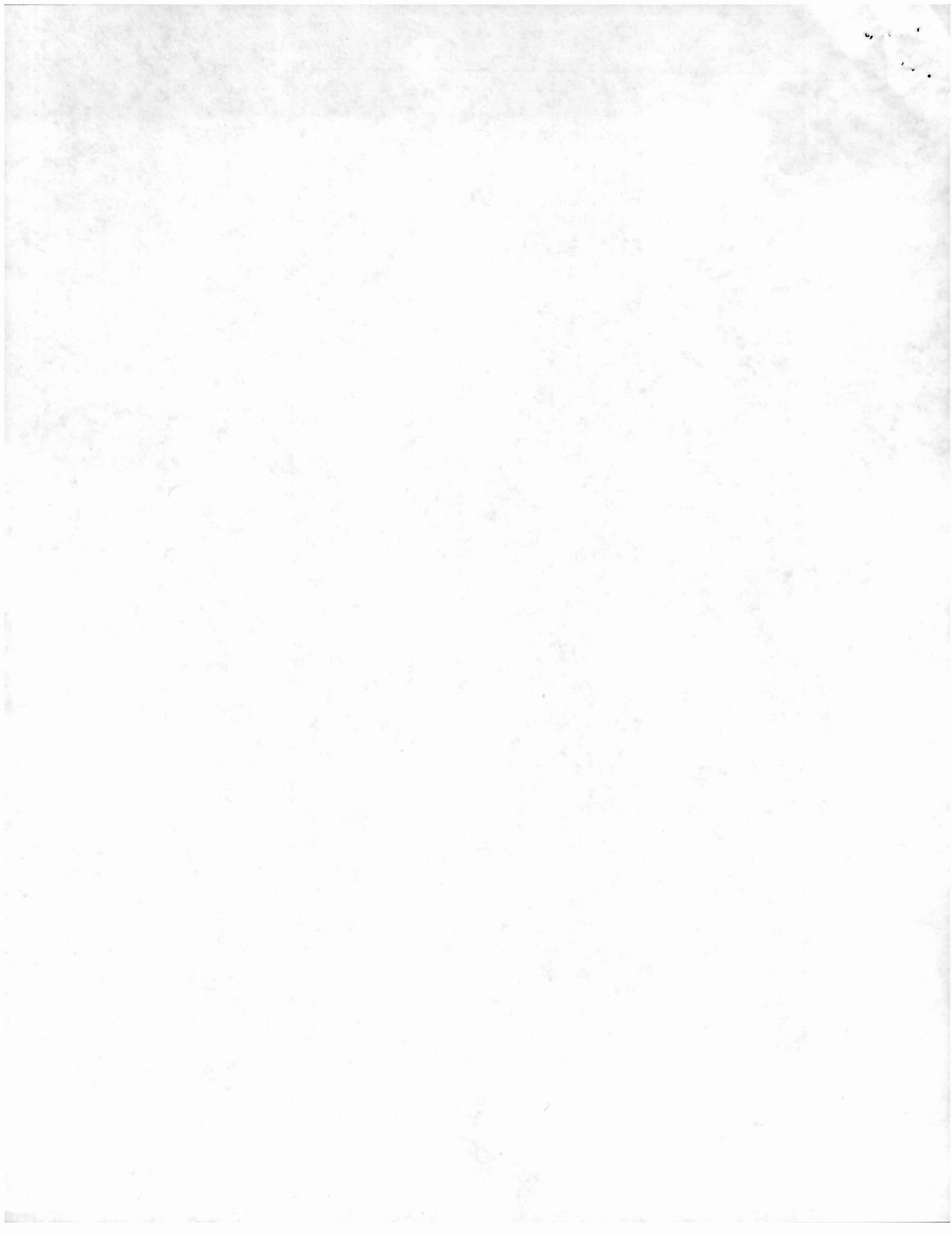
Emission Unit: U24 Cooling Tower
Operating Scenario: OS1 Cooling Tower

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate emissions no greater than 20% opacity, exclusive of visible condensed water vapor, for more than 3 minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-6.2(d)] & [N.J.A.C. 7:27- 6.2(e)]	None.	None.	None.
2	Maintain the following records: 1. A log of the total dissolved solids concentration of the circulating water flow. A sample will be taken and recorded during Cooling Tower operation a minimum of every 7 days in which the Cooling Tower operates; 2. The calculated maximum hourly particulate emissions in pounds per hour; 3. The calculated maximum cumulative particulates emissions in tons per year; and 4. Maintenance procedures applied to the tower. [N.J.A.C. 7:27-22.16(a)]	Other: See Applicable Requirement.[N.J.A.C. 7:27-22.16(e)].	Other: The following shall be recorded in a permanently bound logbook or in a computer data system (See Applicable Requirement): 1. Total dissolved solids concentration of the circulating water flow; 2. The calculated maximum hourly particulate emissions in pounds per hour; 3. The calculated maximum cumulative particulates emissions in tons per year; and 4. Maintenance procedures applied to the tower.[N.J.A.C. 7:27-22.16(o)].	Submit a report: As per the approved schedule. Submit an annual particulate report to the Southern Regional Enforcement Office by January 31 of each year on the preceding calendar year's operation. [N.J.A.C. 7:27-22.16(e)]
3	Total Material Transferred \leq 2,550 tons/yr of chemical additives (357 lb/hr NaOH and 225.3 lb/hr NaOCl). Maximum throughput rate based on operating permit application. [N.J.A.C. 7:27-22.16(a)]	Total Material Transferred: Monitored by material feed/flow monitoring continuously. [N.J.A.C. 7:27-22.16(o)]	Total Material Transferred: Recordkeeping by manual logging of parameter or storing data in a computer data system each week during operation in a permanently bound log book or readily accessible computer memory showing type of raw materials and amount of each chemical added with sum-to-date. [N.J.A.C. 7:27-22.16(o)]	None.

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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	TSP <= 42 lb/hr. [N.J.A.C. 7:27- 6.5]	<p>TSP: Monitored by calculations each week during operation TSP (lb/hr) = 0.000501 x D x C x TDS; where</p> <p>D = fraction of circulating water lost to drift = 0.00041% C = circulating water rate (gal/min) = 612,000 gal/min (based on maximum capacity of cooling tower) TDS = total dissolved solids concentration in circulating water (mg/l)</p> <p>A sample of the circulating water will be taken a minimum of every 7 days and analyzed for TDS. [N.J.A.C. 7:27-22.16(o)]</p>	<p>TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system each week during operation</p> <p>Records shall be maintained on site for a period of five (5) years after the date of each record and made available to the representatives of the Department upon request. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually on January 31 for the preceding calendar year. The report shall be submitted to the NJDEP Southern Regional Enforcement Office.</p> <p>The report must contain:</p> <ol style="list-style-type: none"> 1. A log of the total dissolved solids concentration of the circulating water flow. 2. The calculated maximum hourly particulate emissions in pounds per hour. 3. Description of any maintenance procedures applied to the cooling tower. [N.J.A.C. 7:27-21.16(o)]
5	PM-10 (Total) <= 42 lb/hr. [N.J.A.C. 7:27-6.5]	<p>PM-10 (Total): Monitored by calculations each week during operation PM-10 (lb/hr) = 0.000501 x D x C x TDS; where</p> <p>D = fraction of circulating water lost to drift = 0.00041% C = circulating water rate (gal/min) = 612,000 gal/min (based on maximum capacity of cooling tower) TDS = total dissolved solids concentration in circulating water (mg/l)</p> <p>A sample of the circulating water will be taken a minimum of every 7 days and analyzed for TDS. [N.J.A.C. 7:27-22.16(o)]</p>	<p>PM-10 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each week during operation</p> <p>Records shall be maintained on site for a period of five (5) years after the date of each record and made available to the representatives of the Department upon request. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Submit a report: Annually on January 31 for the preceding calendar year. The report shall be submitted to the NJDEP Southern Regional Enforcement Office.</p> <p>The report must contain:</p> <ol style="list-style-type: none"> 1. A log of the total dissolved solids concentration of the circulating water flow. 2. The calculated maximum hourly particulate emissions in pounds per hour. 3. Description of any maintenance procedures applied to the cooling tower. [N.J.A.C. 7:27-22.16(o)]



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**New Jersey Department of Environmental Protection
Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submission/Action Requirement
6	TSP <= 30 lb/hr. The TSP emission limit of 30 lb/hr will be in effect until the first day after final approval by the USEPA of the single source revision to the NJ State Implementation Plan (SIP) associated with the post-EPU (specifically, post-Extended Thermal Power Uprate) operations of the Hope Creek Generation Station. [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by calculations each week during operation $TSP (lb/hr) = 0.000501 \times D \times C \times TDS$; where D = fraction of circulating water lost to drift = 0.00041 C = circulating water rate (gal/min) = 612,000 gal/min (based on maximum capacity of cooling tower) TDS = total dissolved solids concentration in circulating water (mg/l) A sample of the circulating water will be taken a minimum of every 7 days and analyzed for TDS. [N.J.A.C. 7:27-22.16(o)]	Records shall be maintained on site for a period of five (5) years after the date of each record and made available to the representatives of the Department upon request. TSP: Recordkeeping by manual logging of parameter or storing data in a computer data system each week during operation. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually on January 31 for the preceding calendar year. The report shall be submitted to the NJDEP Southern Regional Enforcement Office. The report must contain: 1. A log of the total dissolved solids concentration of the circulating water flow. 2. The calculated maximum hourly particulate emissions in pounds per hour. 3. Description of any maintenance procedures applied to the cooling tower. [N.J.A.C. 7:27-22.16(o)]
7	PM-10 (Total) <= 30 lb/hr. The PM10 emission limit of 30 lb/hr will be in effect until the first day after final approval by the USEPA of the single source revision to the NJ State Implementation Plan (SIP) associated with the post-EPU (specifically, post-Extended Thermal Power Uprate) operations of the Hope Creek Generation Station. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by calculations each week during operation $PM-10 (lb/hr) = 0.000501 \times D \times C \times TDS$; where D = fraction of circulating water lost to drift = 0.00041 C = circulating water rate (gal/min) = 612,000 gal/min (based on maximum capacity of cooling tower) TDS = total dissolved solids concentration in circulating water (mg/l) A sample of the circulating water will be taken a minimum of every 7 days and analyzed for TDS. [N.J.A.C. 7:27-22.16(o)]	PM-10 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system each week during operation Records shall be maintained on site for a period of five (5) years after the date of each record and made available to the representatives of the Department upon request. [N.J.A.C. 7:27-22.16(o)]	Submit a report: Annually on January 31 for the preceding calendar year. The report shall be submitted to the NJDEP Southern Regional Enforcement Office. The report must contain: 1. A log of the total dissolved solids concentration of the circulating water flow. 2. The calculated maximum hourly particulate emissions in pounds per hour. 3. Description of any maintenance procedures applied to the cooling tower. [N.J.A.C. 7:27-22.16(o)]

