



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

Division of Air Quality
Bureau of Air Permits
401 E. State Street, 2nd floor, P.O. Box 27
Trenton, NJ 08625-0027

Air Pollution Control Operating Permit
Minor Modification and Preconstruction Approval

Permit Activity Number: BOP110001

Program Interest Number: 12202

Table with 2 columns: Mailing Address and Plant Location. Mailing Address: JAMES PFENNIGWERTH, PLANT MGR, PSE&G FOSSIL LLC HUDSON GENERATING STATION, DUFFIELD AVE & VAN KEUREN AVE, Jersey City, NJ 07306. Plant Location: PSEG FOSSIL LLC HUDSON GENERATING STATION, Duffield & Van Keuren Aves, Jersey City, Hudson County.

Initial Operating Permit Approval Date: December 29, 2005
Minor Modification Approval Date: March 8, 2011
Operating Permit Expiration Date: December 28, 2010 (Operating under application shield)

This minor 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 minor modification into a single comprehensive permit that replaces the one previously issued. This minor modification includes changes requested by PSEG Fossil in three minor modification applications as follows:

1. BOP110001- Application dated 1/6/2011 - Add BART Requirements.

In order to satisfy Best Available Retrofit Technology (BART) requirement for Hudson Unit No. 1, PSEG has submitted this minor modification to the Title V Operating Permit to include the following more stringent NOx requirements:

- a. include emission limit of 1.0 lb/MW-hr when burning natural gas with a compliance date of May 1, 2015, to coincide with the revised RACT plus rule requirements at N.J.A.C. 7:27-19.4 Table 3
b. include emission limit of 2.0 lb/MW-hr when burning # 6 oil with a compliance date of May 1, 2015, to coincide with the revised RACT plus rule requirements at N.J.A.C. 7:27-19.4 Table 3
c. burn # 6 oil with a sulfur content of 0.3 % sulfur only when natural gas is curtailed.

These requirements are included in this modification.

2. BOP100001: Application dated 4/15/2010: To Include PM10 limits:

PSEG Fossil submitted this minor modification application to include PM10 emission limits that are based on the data collected during annual stack emissions testing conducted from 2002 - 2008 per the current consent decree on Hudson Unit No. 2, a 6600 MMBtu/hr coal fired boiler with natural gas and oil as backup, as well as data collected during stack emissions testing conducted on Hudson Unit No. 1, a 4558 MMBtu/hr natural gas fired boiler with oil as backup, in 2007 for natural gas firing. Since Hudson unit No. 1 has not burned oil for several years AP-42 emission factors from Table 1.3-1 and 1.3-2 (Sept 1998) have been used to establish emission limit for PM10.

As requested in this modification, PM10 emissions are being added to the following requirements:

- U1, OS Summary, Ref #4, addition of PM10 stack testing requirements.
- U1, OS Summary, Ref #16, addition of PM10 emissions of 995 tons/yr for Unit No. 1
- U1, OS1, Ref #7, addition of PM10 emissions of 100.3 lb/hr for Unit No.1 firing natural gas
- U1, OS2, Ref #9, addition of PM10 emissions of 227.3 lb/hr for Unit No. 1 firing #6 oil
- U2, OS Summary, Ref #79, addition of PM10 emissions of 5,122 tons/yr for Unit No. 2
- U2, OS Summary, Reference # 50, addition of PM10 stack testing requirements.

The applicable requirement at U1, OS Summary, Ref # 4 states that a comprehensive stack test for NOx, CO, VOC and TSP is required to be conducted for fuel oil #6 firing within 180 days of initial use of #6 oil and annually thereafter in any year in which #6 oil is burned. However the monitoring, record keeping and submittal/action requirements inadvertently require annual testing whether # 6 oil is burned or not. The phrase "in any calendar year in which # 6 fuel oil is burned" is added to the monitoring, record keeping and submittal/action requirements of U1, OS Summary, Ref # 4, to make them consistent with the applicable requirement.

3. **BOP080002 – dated 11/17/08 : To add the emissions of Ammonia and other air contaminants**

On the request of PSEG Fossil emission levels for ethane and ammonia for Unit 1, Unit 2, and ethane emissions for Unit 3 (Auxiliary Boilers) and Unit 7 (Fire Pump), are being added to the permit as the total emissions of these two pollutants from the facility are above the 100 tpy major facility threshold as outlined in Table A of the Appendix to N.J.A.C. 7:27-22.

Equipment at the facility referenced by this minor modification is **not covered** by the permit shield, pursuant to the provisions of N.J.A.C. 7:27-22.17. Pursuant to N.J.A.C. 7:27-22.33(e), this minor 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
Northern Regional Enforcement Office
7 Ridgedale Avenue
Cedar Knolls, New Jersey, 07927

Your facility's current approved operating permit and any previous versions (e.g. superseded, expired, or terminated) are now available for download in the PDF format at: <http://www.nj.gov/dep/aqpp/>. After accessing the website, click on "Approved Operating Permits" listed under "Reports" and then type in the Program Interested (PI) Number as instructed on the screen. A RADIUS file for your permit, containing Facility Specific Requirements (Compliance Plan), Inventories, and Compliance Schedules (if needed), can be obtained by contacting your permit writer. 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.

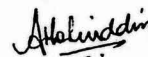
If, in your judgment, the Department is imposing any unreasonable condition of approval in this permit modification action, you may contest the Department's decision on the modification and request an adjudicatory hearing pursuant to N.J.S.A. 52:14b-1 et seq. and N.J.A.C. 7:27-22.32(a). All requests 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 Operating Permit Renewal Application consists of a RADIUS application and the Application Attachment available in Portable Document Format (PDF) and MS Word format at the Department's website <http://www.nj.gov/dep/aqpp/applying.html> (check Attachment to the RADIUS Operating Permit Renewal Application). Both the RADIUS application and the Application Attachment, along with any other supporting documents (saved on a CD) must be submitted with a cover letter (paper copy). 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.

Permittees that are subject to Compliance Assurance Monitoring (CAM), pursuant to 40 CFR 64, shall develop a CAM Plan for modified equipment as well as existing sources. Details of the rule and guidance on how to prepare a plan can be found at EPA's website: www.epa.gov/ttn/emc/cam.html. In addition, CAM Plans must be included as part of the permit renewal application. Permittees that do not submit a CAM Plan may have their modification applications denied, pursuant to N.J.A.C. 7:27-22.3.

If you have any questions regarding this permit approval, please call your permit writer, Aliya M. Khan, at (609) 292-2169.

Approved by:



Aliya M. Khan
Bureau of Air Permits

Enclosure

CC: S. Riva, USEPA Region II
[Chief NRO] (Signature Page Only)

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New Jersey Department of Environmental Protection
 Facility Specific Requirements

Emission Unit: U1 Utility boiler - natural gas or No. 6 fuel oil fired (4,558 MMBTU/hr)
 Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Compliance shall be determined by continuous emission monitoring for SO ₂ , NO _x , CO ₂ , CO and O ₂ as per the requirements specified in 40 CFR 75. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by continuous emission monitoring system continuously. Comply with approved protocols and the requirements of 40 CFR 75. [N.J.A.C. 7:27-22.16(a)].	Other: Recordkeeping by strip chart or round chart and data acquisition (DAS) system / electronic data storage. Continuously. Comply with the approved protocols and the requirements of 40 CFR 75. [N.J.A.C. 7:27-22.16(a)].	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal to the Department for review and approval. [N.J.A.C. 7:27-22.16(o)]
2	Conduct a stack test at emission point P1 within 180 days of operating permit approval to demonstrate compliance with NO _x and CO emission limits when firing natural gas. Testing must be conducted at worst case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition [N.J.A.C. 7:27-22.16(a)]	Monitored by stack emission testing once initially. Where an applicable requirement requires stack testing for compliance demonstration, compliance will be based on any 60-minute period unless otherwise indicated in the applicable requirement. The facility may propose in a stack testing protocol the use of the CEM monitors to determine the CO and NO _x concentrations during stack testing. Any use of the CEMs for stack testing shall only be permitted upon prior approval of the Bureau of Technical Services. [N.J.A.C. 7:27-22.16(e)]	Other: Stack test results. [N.J.A.C. 7:27-22.16(e)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 within 60 days from the date of the approved operating permit. Within 30 days of protocol approval, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to BTS and a certified summary test report, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist. A copy of the certified summary test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit. Test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppmvd @ 7% O ₂ (CO only). [N.J.A.C. 22.18(e)] & [N.J.A.C. 7:27-22.18(h)]

New Jersey Department of Environmental Protection
 Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	<p>Conduct a comprehensive stack test at emission point PT1 by 18 months prior to the expiration date of the approved Operating Permit to demonstrate compliance with the stack emission testing for NOx and CO emission limits. Testing shall be conducted when firing natural gas. When conducting stack emission testing, a minimum of three one-hour test runs shall be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition [N.J.A.C. 7:27-22.16(o)]</p>	<p>Monitored by stack emission testing every 5 years. Where an applicable requirement requires stack testing for compliance demonstration, compliance will be based on any 60-minute period unless otherwise indicated in the applicable requirement. The facility may propose in a stack testing protocol the use of the CEM monitors to determine the CO and NOx concentrations during stack testing. Any use of the CEMs for stack testing shall only be permitted upon prior approval of the Bureau of Technical Services. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results every 5 years. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 within 30 months from the date of the approved operating permit.</p> <p>Within 30 days of protocol approval, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to BTS and a certified summary test report, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>A copy of the certified summary test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit.</p> <p>Test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppmvd @ 7% O2 (CO only). [N.J.A.C. 22.18(e)]&. [N.J.A.C. 7:27-22.18(h)]</p>

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Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
4	<p>Conduct a comprehensive stack test at emission point PT1 to demonstrate compliance with the NO_x, CO, VOC, TSP and PM10 emission limits for fuel oil #6 firing within 180 days of initial use of # 6 fuel oil and annually thereafter in any calendar year in which # 6 fuel oil is burned.</p> <p>When conducting stack emission testing, a minimum of three one-hour test runs shall be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition.</p> <p>In addition, the fuel oil #6 shall be analyzed for sulfur content at the time of the fuel oil #6 stack tests. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by stack emission testing annually , in any calendar year in which # 6 fuel oil is burned.</p> <p>Where an applicable requirement requires stack testing for compliance demonstration, compliance will be based on any 60-minute period unless otherwise indicated in the applicable requirement. The facility may propose in a stack testing protocol the use of the CEM monitors to determine the CO and NO_x concentrations during stack testing.</p> <p>Any use of the CEMs for stack testing shall only be permitted upon prior approval of the Bureau of Technical Services. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results annually and certified lab analysis, in any calendar year in which # 6 fuel oil is burned. See Applicable Requirement. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 within 180 days and annually thereafter, in any calendar year in which # 6 fuel oil is burned, from the date of the approved operating permit.</p> <p>Within 30 days of protocol approval, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to BTS and a certified summary test report, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>A copy of the certified summary test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit.</p> <p>Test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppmvd @ 7% O₂ (for VOC and CO only) and fuel sulfur content shall be reported in weight percent. [N.J.A.C. 7:27-22.16(o)]</p>
5	<p>Particulate emission limit from the combustion of fuel based on rated heat input of source. Particulate Emissions \leq 456 lb/hr. [N.J.A.C. 7:27-4.2(a)]</p>	<p>Other: Stack Emission Testing. (See Applicable Requirement for U1 OS Summary Ref. #4). [N.J.A.C. 7:27-22.16(o)].</p>	<p>Particulate Emissions: Recordkeeping by stack test results at the approved frequency (See Applicable Requirement for U1 OS Summary Ref. #4). [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (See Applicable Requirement for U1 OS Summary Ref. #4). [N.J.A.C. 7:27-22.16(o)]</p>
6	<p>VOC (Total) \leq 50 ppmvd @ 7% O₂. [N.J.A.C. 7:27-16.8(b)]</p>	<p>Other: See stack testing requirements at U1 OS0 Ref #4. Compliance with this requirement will be based on the average of three one-hour tests. [N.J.A.C. 7:27-16.24].</p>	<p>VOC (Total): Recordkeeping by stack test results annually. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Other (provide description): As per the approved schedule (See U1 OS Summary Ref. # 4). [N.J.A.C. 7:27-22.16(o)]</p>

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 Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	Adjust the combustion process in accordance with N.J.A.C.7:27-19.16 by May 1 of each calendar year or within seven days of the period of operation after May 1, if not operated between January 1 and May 1 of that year. Record NOx and CO conc. after each adjustment and the O2 conc. at which NOx and CO were measured. [N.J.A.C. 7:27-19.4(c)] [N.J.A.C. 7:27-16.b(3)]	Other: CEM or portable instrument. Annually.[N.J.A.C. 7:27-16.8(b)3].	Recordkeeping by manual logging of parameter or storing data in a computer data system annually in a permanently bound logbook or readily accessible computer memory containing the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentration in the effluent stream, in ppmvd, before and after each adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured pursuant to the steps 3 a above; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MMBtu); 7. The type and amount of fuel used over the 12 months prior to the annual adjustment; and 8. Any other information which the Department or EPA has required as a condition of approval of any permit or certificate issued for the equipment or source operation. [N.J.A.C. 7:27-16.24]	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
38	The owner or operator shall develop a QA/QC plan for all CEMS/COMS required by this permit. This QA/QC plan shall incorporate at a minimum those procedures outlined in 40 CFR, Part 60, Appendix F and/or 40 CFR, Part 75, Appendix B for CEMS and those procedures outlined in 40 CFR, Part 60, Appendix B, Specification One and 40 CFR, Part 51, Proposed RM 203 for COMS, published Department Technical Manuals or other procedures approved in writing by the Department. The QA/QC plan shall designate a coordinator for the facility who is responsible to ensure that the QA/QC plan is implemented. The Department reserves the right to require the QA/QC plan to be revised at any time based on the results of quarterly EEMPR reviews, inspections, audits or any other information available to the Department. All procedures outlined in the QA/QC plan shall commence upon the completion date of the PST. All redundant CEMS/COMS must undergo the QA/QC procedure. [N.J.A.C. 7:27-22.16(a)]	Other: The QA/QC coordinator shall be responsible for reviewing the QA/QC plan on an annual basis. [N.J.A.C. 7:27-22.16(o)].	Other: Maintain readily accessible records of the QA/QC plan including QA date and quarterly reports. [N.J.A.C. 7:27-22.16(o)].	Submit a report: Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1). All quarterly and annual QA data shall be included in quarterly EEMPR reports and kept on file at the facility. The QA data must be made available to the Department upon request. Any changes to the QA/QC plan shall be submitted in writing to the Supervisor/CEMS Program of the Bureau of Technical Services. [N.J.A.C. 7:27-22.16(o)]
39	For equipment subject to Clean Air Interstate Rule (CAIR) NOx Trading Program, comply with N.J.A.C. 7:27-30. [N.J.A.C. 7:27-30]	Other: See N.J.A.C. 7:27-30. [N.J.A.C. 7:27-30].	Other: See N.J.A.C. 7:27-30. [N.J.A.C. 7:27-30].	Comply with the requirement: Upon occurrence of event. [N.J.A.C. 7:27-30]
40	The permittee shall comply with all of the requirements of Clean Air Interstate Rule (CAIR) permit for the CAIR NOx Annual Trading Program, CAIR NOx Ozone Season Trading Program, and CAIR SO2 Trading Program issued for this affected unit. [40 CFR 97]. [40 CFR 97]	Other: See attached CAIR Permit [40 CFR 97].	Other: See attached CAIR Permit [40 CFR 97].	See attached CAIR Permit Other (provide description): Other. [40 CFR 97]
41	For equipment subject to CO2 Budget Trading Program, comply with N.J.A.C. 7:27C. [N.J.A.C. 7:27C]	Other: See N.J.A.C. 7:27C. [N.J.A.C. 7:27C].	Other: See N.J.A.C. 7:27C. [N.J.A.C. 7:27C].	Comply with the requirement: Upon occurrence of event. [N.J.A.C. 7:27C]

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Utility boiler - natural gas or No. 6 fuel oil fired (4,558 MMBTU/hr)

Operating Scenario: OS1 Utility boiler firing natural gas

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity: No visible emissions greater than 20% opacity, exclusive of condensed water vapor, except for a period of not longer than 3 minutes in any consecutive 30 minute period. [N.J.A.C. 7:27-3.2(a)] & [N.J.A.C. 7:27-3.2(e)]	None.	None.	None.
2	VOC (Total) \leq 123.1 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	NOx (Total) \leq 1,960 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on one calendar day and stack emission test (U1 OS Summary Ref. #1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-22.16(e)]	Other: Recordkeeping by strip chart or round chart and data acquisition (DAS) system / electronic data storage continuously as well as stack test results (U1 OS Summary Ref. #1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-22.16(e)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (U1 OS Summary Ref. #1, 2, 3 & 4 for EEMPR submittal and stack testing requirements). [N.J.A.C. 7:27-22.16(e)]
4	CO \leq 433 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on one calendar day and stack emission test (U1 OS Summary Ref. #1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-22.16(e)]	Other: Recordkeeping by strip chart or round chart and data acquisition (DAS) system / electronic data storage continuously as well as stack test results (U1 OS Summary Ref. #1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-22.16(e)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (U1 OS Summary Ref. #1, 2, 3 & 4 for EEMPR submittal and stack testing requirements). [N.J.A.C. 7:27-22.16(e)]
5	SO2 \leq 7.8 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
6	TSP \leq 456 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
7	PM-10 (Total) \leq 100.3 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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 Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
8	Maximum emission rate from NOx Emissions Averaging Plan. NOx (Total) <= 0.39 lb/MMBTU. [N.J.A.C. 7:27-19.14]	Other: Monitored by continuous emission monitoring system continuously and stack emission testing (For CEM and stack testing requirements, see U1 OS Summary Ref. #1, 2, 3 & 4). PSEG must comply with the requirements of the PSEG's NOx Emissions Averaging Plan as approved and modified by the Department [N.J.A.C. 7:27-19.14].	Other: Recordkeeping by strip chart or round chart and data acquisition (DAS) system / electronic data storage continuously as well as stack test results (See U1 OS Summary Ref.#1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-19.14].	Stack Test— Submit protocol, conduct test and submit results: As per the approved schedule. See U1 OS Summary Ref. ##1, 2, 3 & 4 for EEMPR submittal and stack testing requirements. PSEG must comply with the requirements of the PSEG's NOx Emissions Averaging Plan as approved and modified by the Department. [N.J.A.C. 7:27-19.14]
9	NOx (Total) <= 1 lb/MW-hr when combusting natural gas. This limit will become operative on and after May 1, 2015. [N.J.A.C. 7:27-19.4(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-19.19(a)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. [N.J.A.C. 7:27-22.16(o)]

BOP110001

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U1 Utility boiler - natural gas or No. 6 fuel oil fired (4,558 MMBTU/hr)

Operating Scenario: OS2 Utility boiler firing No. 6 fuel oil

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Opacity: No visible emissions greater than 20% opacity, exclusive of condensed water vapor, except for a period of not longer than 3 minutes in any consecutive 30 minute period. [N.J.A.C. 7:27-3.2(a)] & [N.J.A.C. 7:27-3.2(e)]	Opacity: Monitored by continuous opacity monitoring system continuously using approved protocol. [N.J.A.C. 7:27-22.16(o)]	Opacity: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(o)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. Reports shall be submitted to the Northern Regional Enforcement Office. [N.J.A.C. 7:27-22.16(o)]
2	Sulfur Content in Fuel <= 0.3 % , Maximum allowable sulfur content in fuel by fuel oil type/viscosity and geographical zone. [N.J.A.C. 7:27- 9.2(b)]	Sulfur Content in Fuel: Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(o)]	Sulfur Content in Fuel: Recordkeeping by invoices / bills of lading per delivery or by manual logging in a permanently bound log book or readily accessible computer files per delivery. [N.J.A.C. 7:27-22.16(o)]	None.
3	Sulfur Content in Fuel <= 0.3 % by weight. Maximum allowable sulfur content in fuel by fuel oil type/viscosity and geographical zone. [N.J.A.C. 7:27- 9.2(b)]	Other: Fuel sulfur testing. Annually.[N.J.A.C. 7:27-22.16(o)].	Other: Keep certificate of analysis showing fuel sulfur content, annually.[N.J.A.C. 7:27-22.16(o)].	None.
4	VOC (Total) <= 132 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	Other: See stack testing requirements at U1 OS0 Ref #4.[N.J.A.C. 7:27-22.16(a)].	Other: See stack testing requirements at U1 OS0 Ref #4.[N.J.A.C. 7:27-22.16(a)].	Stack Test – Submit protocol, conduct test and submit results: As per the approved schedule. See stack testing requirements at U1 OS0 Ref #4. [N.J.A.C. 7:27-22.16(a)]
5	NOx (Total) <= 1,960 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on each of three Department validated stack test runs and stack emission test (See U1 OS Summary Ref. #s #1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-22.16(a)]	Other: Recordkeeping by strip chart or round chart and data acquisition (DAS) system / electronic data storage continuously as well as stack test results (See U1 OS Summary Ref. #s #1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-22.16(a)].	Stack Test – Submit protocol, conduct test and submit results: As per the approved schedule. (See U1 OS Summary Ref. #s 1, 2, 3 & 4 for EEMPR submittal and stack testing details). [N.J.A.C. 7:27-22.16(a)]
6	CO <= 456 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitoring system continuously, based on each of three Department validated stack test runs and stack emission test (See U1 OS Summary Ref. #s 1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-22.16(a)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously as well as stack test results (See U1 OS Summary Ref. #s 1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-22.16(a)]	Stack Test – Submit protocol, conduct test and submit results: As per the approved schedule. (See U1 OS Summary Ref. #s 1, 2, 3 & 4 for EEMPR submittal and stack testing requirements). [N.J.A.C. 7:27-22.16(a)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
7	SO2 ≤ 1,459 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	SO2: Monitored by continuous emission monitoring system continuously, based on any 60 minute period (See U1 OS Summary Ref. #1 for CEM requirements). [N.J.A.C. 7:27-22.16(a)]	SO2: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously and stack test results (See U1 OS Summary Ref. #1 for CEM requirements). [N.J.A.C. 7:27-22.16(a)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. (See U1 OS Summary Ref. #1 for EEMPR submittal requirements). [N.J.A.C. 7:27-22.16(a)]
8	TSP ≤ 456 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	Other: Stack Emission Testing. (See U1 OS Summary Ref. #4 for stack testing requirements). [N.J.A.C. 7:27-22.16(a)].	TSP: Recordkeeping by stack test results at the approved frequency (See U1 OS Summary Ref. #4 for stack testing requirements). [N.J.A.C. 7:27-22.16(a)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule (See U1 OS Summary Ref. #4 for stack testing requirements). [N.J.A.C. 7:27-22.16(a)]
9	PM-10 (Total) ≤ 227.2 lb/hr. [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by stack emission testing at the approved frequency, based on the average of three Department validated stack test runs See stack testing requirement at U1 OS Summary Ref #4. [N.J.A.C. 7:27-22.16(a)]	Other: See stack testing requirement at U1 OS Summary Ref #4. [N.J.A.C. 7:27-22.16(a)].	Other (provide description): As per the approved schedule. See stack testing requirement at U1 OS Summary Ref #4. [N.J.A.C. 7:27-22.16(a)]
10	Maximum emission rate from NOx Emissions Averaging Plan. NOx (Total) ≤ 0.4 lb/MMBTU. [N.J.A.C. 7:27-19.14]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on one calendar day. (See U1 OS Summary Ref. # 1 for CEM requirements). PSEG must comply with the requirements of the PSEG's NOx Emissions Averaging Plan as approved and modified by the Department. [N.J.A.C. 7:27-19.14]	Other: Recordkeeping by strip chart or round chart and data acquisition (DAS) system / electronic data storage continuously as well as stack test results (See U1 OS Summary Ref. #s 1, 2, 3 & 4 for CEM and stack testing requirements). [N.J.A.C. 7:27-19.14].	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal. Stack Test-Submit protocol, conduct test and submit results: As per the approved schedule. (See U1 OS Summary Ref. #s 1, 2, 3 & 4 for CEM and stack testing requirements). PSEG must comply with the requirements of the PSEG's NOx Emissions Averaging Plan as approved and modified by the Department. [N.J.A.C. 7:27-19.14]
11	Fuel sample and calculate a 4 quarter weighted average for arsenic, beryllium, cadmium, chromium VI, lead, manganese, mercury, nickel, phosphorous and selenium. The sampling analysis and reporting requirement is required only in calendar quarters in which No. 6 fuel oil is burned. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by fuel sampling (e.g. oil) each month during operation on #6 fuel oil, based on the averaging period as per Department approved test method. Monthly samples shall be composited quarterly and analyzed by a certified lab. [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by certified lab analysis results quarterly: once per quarter; quarters shall begin on January 1, April 1, July 1, and October 1 of each year. [N.J.A.C. 7:27-22.16(e)]	Submit a report: Every quarter (three months) beginning on the first of the month of the first full quarter following the effective date of the approved permit. Quarters shall begin on January 1, April 1, July 1, and October 1 of each year. Submit to the Bureau of Air Quality Evaluation quarterly reports per N.J.A.C. 7:27-22.18 and 22.19. [N.J.A.C. 7:27-22.16(e)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	NOx (Total) <= 2 lb/MW-hr when combusting # 6 fuel oil. This limit will become operative on and after May 1, 2015. [N.J.A.C. 7:27-19.4(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a calendar day (in ozone season) or 30 day rolling (at other times) average. [N.J.A.C. 7:27-19.15(a)1]	NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-19.19(a)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): On or before every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal . [N.J.A.C. 7:27-22.16(o)]
13	No. 6 fuel oil can only be fired during times when natural gas is curtailed. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Emission Unit: U2 Utility boiler - coal, natural gas, or No. 6 fuel oil fired (6,600 MMBTU/hr)

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	<p>Within sixty days of entry of the Amendment to the Consent Decree, PSEG Fossil shall submit an application to NJDEP to modify its existing Title V Permit(s), to include a schedule for all performance, operational, maintenance, and control technology requirements established by this Amendment, including but not limited to Emission Rates and fuel limitations. Within three months after commencement of operation of each pollution control device and implementation of the measures in Section III of this Amendment, PSEG Fossil shall submit an application to modify its Title V Permit(s) to reflect the requirements of the Consent Decree, including but not limited to the new Emission Rates, limits on fuel use, and operation, maintenance, and optimization requirements of the Consent Decree. Reference: Consent Decree paragraph 117. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	<p>Submit documentation of compliance: As per the approved schedule. PSEG Fossil shall submit a proposed modification to its Title V permit(s) and applications to reflect the new Emission Rates pursuant to Section IV (Emission Reduction and Controls) and, to the extent applicable, the surrender of allowances under Section V (Allowances, Credits) of the Consent Decree. Reference: Consent Decree paragraph 117. [N.J.A.C. 7:27-22.16(a)]</p>
2	<p>As required by Paragraph 155 of the Consent Decree, within 180 days after completing construction of each control technology, PSEG Fossil must conduct performance tests and submit performance test reports that demonstrate compliance with all the Emission Rates in the Consent Decree. Performance test reports shall be submitted to both EPA and NJDEP. This requirement shall apply solely to the Hudson Generating Station. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	<p>Submit documentation of compliance: As per the approved schedule. As required by Paragraph 155 of the Consent Decree, within 180 days after completing construction of each control technology, PSEG Fossil must conduct performance tests and submit performance test reports that demonstrate compliance with all the Emission Rates in the Consent Decree. Performance test reports shall be submitted to both EPA and NJDEP. [N.J.A.C. 7:27-22.16(a)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
17	<p>By no later than December 31, 2010, PSEG Fossil shall install and commence operation of an FGD at Hudson Unit 2 in accordance with the approved design parameters approved by EPA and NJDEP unless it has completed Shut Down pursuant to paragraphs 98b - 98c of the Amended Consent Decree.</p> <p>The installation of the FGD shall be completed in accordance with the following FGD milestones: Award major equipment orders: June 4, 2008 Delivery of OEM design package: January 7, 2008 Commencement of Construction: April 7, 2008 Commencement of tie-in outage: September 15, 2010 Commencement of FGD operation: 14 days after Unit is synchronized with any utility electric distribution system following the tie-in outage.</p> <p>Beginning on December 31, 2010, PSEG Fossil shall operate the FGD at Hudson Unit 2 to achieve and maintain SO2 Emission Rates of no greater than 0.150 lb/MMBtu, based on a 30-Day Rolling Average Emission Rate, and 0.250 lb/MMBtu, based on a 24-Hour Emission rate.</p> <p>Reference: Consent Decree Paragraph 53. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.
18	<p>PSEG Fossil may install technology other than the FGD system described above in satisfaction of the obligations of the Consent Decree if the alternative technology achieves the same or better SO2 Emission Rates as required of the FGD systems and is approved in writing by EPA and NJDEP in advance of the installation of the alternative technology.</p> <p>Reference: Consent Decree paragraph 58. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
19	Upon the commencement of operation of an FGD at Hudson Unit 2, PSEG Fossil shall only burn coal that has a monthly average sulfur content of no greater than 2.00% at Hudson Unit 2. The monthly average sulfur content shall be determined in accordance with the New Jersey permit for Hudson Unit 2. Reference: Consent Decree paragraph 59b. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
20	In calculating the 24 Hour NOx Emission Rate at Hudson Unit 2, PSEG Fossil shall exclude: (a) for a Unit that has ceased firing fossil fuel, the period of time, not to exceed eight (8) hours, from the restart of that Unit to the time that the Unit is either fired with coal or synchronized with a utility electric distribution system; and (b) for a Unit that is to be shut down, the period of time in which the Unit is no longer synchronized with any utility electric distribution system, and is no longer fired with coal. Reference: Consent Decree paragraph 65. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
21	At least 9 months prior to the commencement of operation of the Hudson Unit 2 SCR required by the Consent Decree, and in accordance with N.J.A.C. 7:27-22.18, PSEG Fossil shall submit to EPA and NJDEP for review and approval a proposed protocol for determining NOx Emission Rates. Reference: Consent Decree paragraph 66. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
22	<p>By January 1, 2007, PSEG Fossil shall commence year-round operation of an SNCR at Hudson Unit 2 until it either installs and operates a SCR at Hudson Unit 2, or Shuts Down Hudson Unit 2 in accordance with paragraphs 98b of the Consent Decree.</p> <p>By no later than December 31, 2010, PSEG Fossil shall install and commence year-round operation of an SCR at Hudson Unit 2 to achieve and maintain NOx Emission Rates of no greater than 0.100 lb/MMBtu, based on a 30-Day Rolling Average Emission Rate, and 0.150 lb/MMBtu, based on a 24-Hour Emission Rate unless it has completed Shuts Down pursuant to Paragraphs 98b - 98c of the Consent Decree.</p> <p>The installation of the SCR shall be completed in accordance with the following SCR milestones: Award major equipment orders: June 4, 2007 Delivery of OEM design package: January 7, 2008 Commencement of Construction: April 7, 2008 Commencement of tie-in outage: September 15, 2010 Commencement of SCR operation: 14 days after Unit is synchronized with any utility electric distribution system following the tie-in outage. Reference: Consent Decree Paragraph 68</p> <p>SNCR is defined as a selective non-catalytic reduction system for the reduction of emission of NOx. Reference: Amendment to Consent Decree Paragraph 3.g. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
27	<p>On and after May 1, 2007, PSEG Fossil shall operate the Hudson Unit 2 SCR (or approved alternative technology approved pursuant to paragraph 73 of the Consent Decree) at all times that Hudson Unit 2 operates, except that PSEG Fossil need not operate an SCR:</p> <p>(a) for a Unit that has ceased firing fossil fuel, during the period of time, not to exceed eight (8) hours, from the start of that Unit to the time that the Unit is fired with coal; and</p> <p>(b) for a Unit that is to be shut down, during the period of time that the Unit is no longer synchronized with any utility electric distribution system and is no longer fired with coal.</p> <p>Reference: Consent Decree paragraph 63. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.
28	<p>PSEG Fossil may install technology other than SCRs in satisfaction of the NOx control obligations of the Consent Decree if the alternative technology is designed to achieve the same or better Removal Efficiency and achieves the same or better NOx Emission Rates as required of the SCR systems, and is approved in writing by EPA and NJDEP prior to the installation of the alternative NOx control technology.</p> <p>Reference: Consent Decree paragraph 73. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
31	<p>By no later than December 31, 2010, PSEG Fossil shall install and commence operation of a baghouse at Hudson Unit 2, in accordance with the design parameters approved by EPA and NJDEP to achieve and maintain a PM Emission Rate of no more than 0.0150 lb/MMBtu unless it has completed Shut Down pursuant to paragraphs 98b and 98c of the Consent Decree.</p> <p>The installation of the baghouse shall be completed in accordance with the following baghouse milestones: Award major equipment orders: June 4, 2007 Delivery of OEM design package: January 7, 2008 Commencement of construction: April 7, 2008 Commencement of tie-in outage: September 15, 2010 Commencement of baghouse operation : 14 days after the Unit is synchronized with any utility distribution system following the tie-in outage.</p> <p>PSEG Fossil shall operate the Hudson Unit 2 baghouse at all times that the Unit it serves is combusting coal. PSEG Fossil shall operate the existing Hudson Unit 2 ESP and fly ash conditioning system beginning January 1, 2007, and continuing until the Unit is either permanently Shut Down or retrofitted with a baghouse to control PM emissions."</p> <p>Reference: Consent Decree paragraphs 80. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
42	<p>PSEG Fossil shall also determine the mercury content of representative samples of the coal being burned during mercury stack testing each year, and shall correlate the amount of mercury in the coal to the amount being emitted to the air for that year. The coal sampling and analysis conducted during these annual stack tests may also serve as the monthly (or quarterly) mercury sampling and analysis for that month (or quarter) in which the annual test was conducted. Reference: Consent Decree paragraph 153 [N.J.A.C. 7:27-22.16(a)]</p>	<p>None.</p>	<p>None.</p>	<p>Other (provide description): Not Applicable PSEG Fossil shall report the results of its mercury coal analyses to EPA and NJDEP, in the periodic reports to be submitted in accordance with Section IX (Reporting and Recordkeeping) of the Consent Decree. Reference: Consent Decree paragraph 154. [N.J.A.C. 7:27-22.16(a)]</p>
43	<p>Compliance shall be determined by continuous emission monitoring for SO₂, NO_x, CO₂, CO and O₂ as per the requirements specified in 40 CFR 75 or 40 CFR 60, as applicable. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Other: Monitored by continuous emission monitoring system continuously. Comply with approved protocols and the requirements of 40 CFR 75. [N.J.A.C. 7:27-22.16(e)].</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously Comply with the approved protocols and the requirements of 40 CFR 75. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1) electronically through the NJDEP online EEMPR web portal to the Department for review and approval. [N.J.A.C. 7:27-22.16(o)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
44	<p>Conduct a comprehensive stack test at emission point PT2 within 180 days of operating permit to determine emission rates and concentrations for CO, VOC (Total), SO₂, NO_x, H₂SO₄, Polycyclic Organic Matter (POM), Ammonia, Phosphorus, Selenium and 2,3,7,8-TCDD toxic equivalent. When conducting stack emission testing, a minimum of three one-hour test runs shall be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition.</p> <p>The stack tests shall be subject to the following:</p> <ul style="list-style-type: none"> b) three consecutive one hour tests shall be conducted, c) one test run will be conducted during soot blowing operations. The procedure for soot blowing shall be included in the test protocol required in this permit, d) the coal used during compliance tests shall represent, to the extent reasonable, the worst case conditions for emissions. e) The POM emissions of the following 16 constituents shall be speciated and reported: naphthalene, acenaphthene, acenaphthylene, fluorene, phenanthrene, anthracene, pyrene, benzo(ghi)perylene, Benz(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene. <p>[N.J.A.C.7:27-22.16(e)] and [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by stack emission testing once initially. Where an applicable requirement requires stack testing for compliance demonstration, compliance will be based on any 60-minute period unless otherwise indicated in the applicable requirement. The facility may propose in a stack testing protocol the use of the CEM monitors to determine the SO₂, CO and NO_x concentrations during stack testing. Any use of the CEMs for stack testing shall only be permitted upon prior approval of the Bureau of Technical Services. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule Stack Test - Submit a protocol, conduct stack tests, submit results: As per the approved schedule. . Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 within 60 days from the date of the approved initial operating permit and by every fifth anniversary of that date thereafter. Within 30 days of protocol approval, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. The stack test must be conducted within 180 days of operating permit approval.</p> <p>A full stack test report must be submitted to BTS and a certified summary test report, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>A copy of the certified summary test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit.</p> <p>Test results shall report lbs/hour, lbs/MM Btu, and ppmvd at 7% O₂ (for CO and VOC only). [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
45	<p>Conduct a comprehensive stack test at emission point PT2 by 18 months prior to the expiration date of this operating permit to determine emission rates and concentrations for CO, VOC (Total), SO₂, NO_x, H₂SO₄, Polycyclic Organic Matter (POM), Ammonia, Phosphorus, Selenium and 2,3,7,8-TCDD toxic equivalent. When conducting stack emission testing, a minimum of three one-hour test runs shall be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The stack tests shall be subject to the following:</p> <p>a) three consecutive one hour tests shall be conducted,</p> <p>b) one test run will be conducted during soot blowing operations. The procedure for soot blowing shall be included in the test protocol required in this permit,</p> <p>c) the coal used during compliance tests shall represent, to the extent reasonable, the worst case conditions for particulate emissions.</p> <p>d) The POM emissions of the following 16 constituents shall be speciated and reported: naphthalene, acenaphthene, acenaphthylene, fluorene, phenanthrene, anthracene, pyrene, benzo(ghi)perylene, Benz(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene. [N.J.A.C. 7:27-22.16(e)] and [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by stack emission testing every 5 years. Where an applicable requirement requires stack testing for compliance demonstration, compliance will be based on any 60-minute period unless otherwise indicated in the applicable requirement. Stack testing shall be conducted by 18 months prior to the operating permit expiration date. The facility may propose in a stack testing protocol the use of the CEM monitors to determine the CO, SO₂ and NO_x concentrations during stack testing. Any use of the CEMs for stack testing shall only be permitted upon prior approval of the Bureau of Technical Services. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results every 5 years. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 within 30 months from the date of the approved operating permit.</p> <p>Within 30 days of protocol approval, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to BTS and a certified summary test report, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>A copy of the certified summary test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit.</p> <p>Test results shall report lbs/hour, lbs/MM Btu, and ppmvd at 7% O₂ (for CO and VOC only). [N.J.A.C. 7:27-22.18(e)] and [N.J.A.C. 7:27-22.18(h)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
46	<p>Conduct a comprehensive stack test (when firing coal) at emission point PT2 by July 31 each year, to demonstrate compliance with particulate matter (including front and back half condensibles) emission limits. When conducting stack emission testing, a minimum of three one-hour test runs shall be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. The stack tests shall be subject to the following:</p> <ul style="list-style-type: none"> a) The tests for TSP shall use 40 CFR Part 60 Appendix A Method 5. b) The tests for PM-10 shall use 40 CFR Part 51 Appendix M Method 202 and Method 201 or 201A. c) The TSP and PM-10 emission rates shall be calculated in accordance with 40 CFR 60.8(f). d) Three consecutive one hour tests shall be conducted, e) One test run will be conducted during soot blowing operations. The procedure for soot blowing shall be included in the test protocol required in this permit, f) the coal used during compliance tests shall represent, to the extent reasonable, the worst case conditions for TSP and PM-10 emissions. [N.J.A.C. 7:27-22.16(a)] 	<p>Monitored by stack emission testing annually, based on the average of three tests. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results annually. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 and EPA annually. If acceptable to BTS, protocols approved prior to operating permit approval may be used.</p> <p>Within 30 days of protocol approval, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. The stack test must be conducted annually before before July 31. A full stack test report must be submitted to BTS and a certified summary test report, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>A copy of the certified summary test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit.</p> <p>Test results shall report lbs/hour and lbs/MM BTU. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
48	<p>Conduct a comprehensive stack test at emission point PT2 within 180 days from the date of the approved Operating Permit to determine emission rates for NOx and CO and demonstrate compliance with the particulate matter (including front and back half condensibles) emission limits. The test shall be conducted while firing natural gas. When conducting stack emission testing, a minimum of three one-hour test runs shall be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by stack emission testing once initially. Stack test shall be conducted for NOx and CO for the natural gas firing scenarios. (See Applicable Requirement). Where an applicable requirement requires stack testing for compliance demonstration, compliance will be based on any 60-minute period unless otherwise indicated in the applicable requirement. The facility may propose in a stack testing protocol the use of the CEM monitors to determine the CO and NOx concentrations during stack testing. Any use of the CEMs for stack testing shall only be permitted upon prior approval of the Bureau of Technical Services. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results once initially. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 within 60 days from the date of the approved operating permit.</p> <p>Within 30 days of protocol approval, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to BTS and a certified summary test report, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>A copy of the certified summary test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit.</p> <p>Test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppmvd @ 7% O2 (CO only) . [N.J.A.C.7:27-22.16(a)], [N.J.A.C.7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submission/Action Requirement
49	<p>Conduct a comprehensive stack test at emission point PT2 by 18 months prior to the expiration date of the approved Operating Permit to determine emission rates for NOx and CO. Testing shall be conducted when firing natural gas. When conducting stack emission testing, a minimum of three one-hour test runs shall be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by stack emission testing every 5 years, based on any 60 minute period. The facility may propose in a stack testing protocol the use of the CEM monitors to determine the CO and NOx concentrations during stack testing. Any use of the CEMs for stack testing shall only be permitted upon prior approval of the Bureau of Technical Services. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results every 5 years. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 within 30 months from the date of the approved operating permit.</p> <p>Within 30 days of protocol approval, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to BTS and a certified summary test report, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>A copy of the certified summary test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit.</p> <p>Test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppmvd @ 7% O2 (CO only). [N.J.A.C.7:27-22.16(a)], [N.J.A.C.7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
50	<p>Conduct a comprehensive stack test at emission point PT2 to demonstrate compliance with the NO_x CO, VOC, TSP and PM10 emission limits. The stack test must be performed within 180 days of the initial use of #6 fuel oil and annually thereafter. When conducting stack emission testing, a minimum of three one-hour test runs shall be conducted at worst-case permitted operating conditions with regard to meeting the applicable emission standards, but without creating an unsafe condition. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by stack emission testing annually, based on any 60 minute period. Stack test shall be conducted for NO_x, CO, VOC, TSP & PM-10. Compliance will be based on the average of three one-hour tests for TSP. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results annually (after initial use of #6 fuel oil) and certified lab analysis. See Applicable Requirement. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625. For #6 fuel oil, stack test protocol shall be submitted within 60 days of initial use of #6 fuel oil and annually thereafter. The stack test must be performed within 180 days of the initial use of #6 fuel oil and annually thereafter.</p> <p>Within 30 days of protocol approval, the permittee must contact BTS at 609-530-4041 to schedule a mutually acceptable test date. A full stack test report must be submitted to BTS and a certified summary test report, as described in the protocol, must be submitted to the Regional Enforcement Office within 45 days after performing the stack test pursuant to N.J.A.C. 7:27-22.19(d). The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>A copy of the certified summary test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit.</p> <p>Test results shall be reported in lb/hr, lb/MMBTU (HHV) and ppmvd @ 7% O₂ (for VOC and CO only) and fuel sulfur content shall be reported in weight percent. [N.J.A.C.7:27-22.16(a)], [N.J.A.C.7:27-22.18(e)] and [N.J.A.C. 7:27-22.18(h)]</p>
51	<p>The permittee shall maintain records of each shipment of coal received at Hudson Generating Station for burning in Unit No. 2. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Monitored by review of fuel delivery records per delivery. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Recordkeeping by manual logging of parameter once per bulk fuel shipment. The records shall include name and address of supplier, date and quantity received and sulfur content. [N.J.A.C. 7:27-22.16(e)]</p>	<p>None.</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
58	Adjust the combustion process in accordance with N.J.A.C.7:27-19.16 by May 1 of each calendar year or within seven days of the period of operation after May 1, if not operated between January 1 and May 1 of that year. Record NOx and CO conc. after each adjustment and the O2 conc. at which NOx and CO were measured. [N.J.A.C. 7:27-19.4(c)] [N.J.A.C. 7:27-16.8(c)]	Monitored by continuous emission monitoring system continuously, based on an instantaneous determination. [N.J.A.C. 7:27-16.8(c)]	Recordkeeping by manual logging of parameter or storing data in a computer data system annually in a permanently bound logbook or readily accessible computer memory containing the following information for each adjustment: 1. The date of the adjustment and the times at which it began and ended; 2. The name, title and affiliation of the person who made the adjustment; 3. The NOx and CO concentration in the effluent stream, in ppmvd, before and after each adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured pursuant to the steps 3 a above; 5. A description of any corrective action taken; 6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MMBtu); 7. The type and amount of fuel used over the 12 months prior to the annual adjustment; and 8. Any other information which the Department or EPA has required as a condition of approval of any permit or certificate issued for the equipment or source operation. [N.J.A.C. 7:27-19.16]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
59	<p>Start-up Period: The emission unit is exempt from emission limitations pursuant to N.J.A.C. 7:27-22.16 during startup periods. Exemptions from emission limitations during each start-up period, of the boiler or the steam turbine generator, shall not exceed the time required for the unit to reach a steady state load of not less than 200 MWe (net), or 16 hours, whichever occurs first. Start-up, except as it pertains to the operation of the SCR, shall be defined as the period of time that begins with the initial firing of fuel in the boiler, or the start-up of the steam turbine generator, and ends when the unit reaches a steady state load of not less than 200 MWe (net) for at least 30 minutes. Steady state load is achieved when the net electrical power output from the steam electric generating unit does not vary by more than 10% for a period of not less than a 1/2 hour. Startup as it pertains to operation of the SCR is defined in the immediately following Ref #. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. PSE&G shall maintain records of each start-up period beginning and ending times. [N.J.A.C. 7:27-22.16(e)]</p>	<p>None.</p>
60	<p>Start-up Period: Start-up, as it pertains to the operation of the SCR after December 31, 2010, is defined as the period of time, not to exceed eight (8) hours, from the restart of the Unit to the time that the Unit is fired with coal. This provision only pertains to the NOx limitations associated with the Required Periods of Operation of the SCR. Other limitations and operating periods are subject to the start up provisions of the immediately previous Ref #. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Start-up Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Start-up Period: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]</p>	<p>None.</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
61	<p>Fuel Transfer Period: The emission unit is exempt from emission limitations pursuant to N.J.A.C. 7:27-16 during fuel transfer periods. Exemptions from emission limitations during fuel transfer periods shall not exceed 6 hours for each fuel transfer operation. Fuel transfer shall be defined as the period of time from initiation of the fuel transfer process in the boiler until the cessation of the process. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Fuel Transfer Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Fuel Transfer Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. PSE&G shall maintain records of each fuel transfer period beginning and ending times. [N.J.A.C. 7:27-22.16(e)]</p>	<p>None.</p>
62	<p>Shutdown Period: The emission unit is exempt from emission limitations pursuant to N.J.A.C. 7:27-22.16 during shutdown periods. Exemptions from emission limitations during shutdown periods shall not exceed one hour. Shutdown, except as it pertains to the SCR, shall be defined as the period of time that begins when unit output falls below 150 MWe (net) and ends when fuel is no longer being burned in the furnace. Shutdown as it pertains to the SCR is defined in the immediately following Ref #. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Shutdown Period: Monitored by hour/time monitor continuously. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Shutdown Period: Recordkeeping by data acquisition system (DAS) / electronic data storage upon occurrence of event. The permittee shall maintain records of each shut-down period beginning and ending times. [N.J.A.C. 7:27-22.16(e)]</p>	<p>None.</p>
63	<p>Shutdown Period: Shutdown, as it pertains to the operation of the SCR after December 31, 2010, is defined as the period of time that the Unit is no longer synchronized with any electric utility distribution system and is no longer fired with coal. This provision only pertains to the NOx limitations associated with the Required Periods of Operation of the SCR. Other limitations and operating periods are subject to the shutdown provisions in the immediately preceding Ref #. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	<p>None.</p>	<p>None.</p>	<p>None.</p>
64	<p>The permittee shall operate and maintain low NOx (overfire air) burners on the boiler. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	<p>None.</p>	<p>None.</p>	<p>None.</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
65	<p>Prior to the commencement of operation of the baghouse (CD 27), the electrostatic precipitator (ESP) must operate at all times that Hudson Unit 2 is burning coal. The ESP need not be energized when operating with only natural gas or No. 6 fuel oil.</p> <p>Upon commencement of operation of the baghouse (CD 27), the ESP may be operated at the discretion of the permittee. [N.J.A.C. 7:27-22.16(e)]</p>	None.	None.	None.
66	<p>Ammonia: To enhance the collection efficiency of the ESP when burning coal, ammonia shall be injected, when needed, at a rate no more than 12 ppmvd. [N.J.A.C. 7:27-22.16(e)]</p>	None.	None.	None.
67	<p>Sulfur Trioxide: To enhance the collection efficiency of the ESP when burning coal, sulfur trioxide shall be injected, when needed, at a rate of not more than 20 ppmv. [N.J.A.C. 7:27-22.16(e)]</p>	None.	None.	None.
68	<p>CO <= 2,452 tons/yr. Maximum emission rate, based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	<p>CO: Monitored by continuous emission monitoring system annually, based on a 12 calendar month period. Calculations shall be based on the calendar year from January 1st through December 31st. Cumulative annual mass emissions derived from integrated continuous emission monitor and volumetric flow meter values shall be used to demonstrate compliance with this condition. [N.J.A.C. 7:27-22.16(e)]</p>	<p>CO: Recordkeeping by data acquisition system (DAS) / electronic data storage daily. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Submit a report: Annually to the Department which lists the total annual emissions of each pollutant specified in this permit. The report shall be submitted to the Regional Enforcement Officer within thirty (30) calendar days after the end of each calendar year. [N.J.A.C. 7:27-22.16(e)]</p>
69	<p>SO2 <= 56,394 tons/yr. Maximum emission rate, based on the preconstruction permit. This limitation expires on December 31, 2005. [N.J.A.C. 7:27-22.16(e)]</p>	<p>SO2: Monitored by continuous emission monitoring system annually, based on a 12 calendar month period. Calculations shall be based on the calendar year from January 1st through December 31st. Cumulative annual mass emissions derived from integrated continuous emission and volumetric flow meter shall be used to demonstrate compliance with this condition. [N.J.A.C. 7:27-22.16(e)]</p>	<p>SO2: Recordkeeping by data acquisition system (DAS) / electronic data storage daily. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Submit a report: Annually to the Department which lists the total annual emissions of each pollutant specified in this permit. The report shall be submitted to the Regional Enforcement Officer within thirty (30) calendar days after the end of each calendar year. [N.J.A.C. 7:27-22.16(e)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
70	<p>SO₂ <= 29,984 tons/yr in any calendar year shall be calculated for Hudson Unit 2, Mercer Unit 1, and Mercer Unit 2 collectively, after December 31, 2005. This is based on the preconstruction permit.</p> <p>If emissions from Hudson Unit 2, Mercer Unit 1, and Mercer Unit 2, collectively exceed more than 16,444 tons of NO_x in any calendar year after December 31, 2005, or more than 29,948 tons of SO₂ in any calendar year after December 31, 2006, then the covenants not to sue in Paragraphs number 121 and 122 of the Consent Decree shall not apply to any physical change or change in the method of operation at these Units within the five-year period preceding the exceedance. A copy of the Consent Decree between PSEG Fossil, NJDEP and USEPA is attached. [N.J.A.C. 7:27-22.16(e)]</p>	<p>SO₂: Monitored by continuous emission monitoring system continuously, based on one calendar year. See CEM requirements at U2 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>	<p>SO₂: Recordkeeping by data acquisition system (DAS) / electronic data storage annually. See CEM requirements at U2 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Submit notification: As per the approved schedule in the Consent Decree. Also, see CEM requirements at U2 OS Summary Ref # 43.</p> <p>Submit the values in tons/year for SO₂ to the Chief, Bureau of Operating Permits and to Regional Enforcement Officer, NRO of the Department. [N.J.A.C. 7:27-22.16(e)]</p>
71	<p>SO₂: <= 0.250 lb/MMBTU based on a 24-hour block average (no trailing zero implied) that shall be determined by dividing the total pounds of pollutant by the total million Btu of heat input (lb/MMBtu) for a 24-hour operating day. A new 24-hour emission rate shall be calculated for each new operating day.</p> <p>PSEG Fossil shall exclude the pounds of pollutant emissions and million BTU of heat input (lb/mmBTU) pertaining to the period of time in which the Unit is not fired with coal or oil.</p> <p>This emission rate limitation shall take effect on December 31, 2010.</p> <p>This limitation shall not apply during the shakedown period after initial start-up. The shakedown period shall be defined as the 90 operating day period beginning with the initial operation of the FGD. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(a)]</p>	<p>SO₂: Monitored by continuous emission monitoring system continuously, based on one calendar day, excluding periods when Hudson Unit No. 2 is not fired with coal or oil. See CEM requirements at U2 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>	<p>SO₂: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEM requirements at U2 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Other (provide description): As per the approved schedule. See CEM requirements at U2 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>

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72	<p>SO₂: ≤ 0.150 lb/MMBTU based on a 30-day rolling average (no trailing zero implied) that shall be determined by calculating the emission rate for an operating day and then arithmetically averaging that emission rate with the emission rates for the previous twenty-nine (29) operating days. A new 30-day rolling average shall be calculated for each new operating day. The permittee may exclude the period, not to exceed two (2) hours, from the restart of that Unit to the time that the Unit is fired with coal or oil. This emission rate limitation shall take effect on December 31, 2010.</p> <p>This limitation shall not apply during periods when Hudson Unit No. 2 is not fired with coal or oil. This limitation shall also not apply during a shakedown period after initial operation of the FGD. The shakedown period shall be defined as the 90 operating day period beginning with the initial operation of the FGD. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(a)]</p>	<p>SO₂: Monitored by continuous emission monitoring system continuously, based on a 30 day rolling average, excluding periods when Hudson Unit No. 2 is not fired with coal or oil. See CEM requirements at U2 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>	<p>SO₂: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEM requirements at U2 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Other (provide description): As per the approved schedule. See CEM requirements at U2 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>
73	<p>SO₂ ≤ 5,547 tons/yr for calendar year 2007 Reference: Consent Decree paragraph 98a. [N.J.A.C. 7:27-22.16(a)]</p>	None:	None:	None:
74	<p>SO₂ ≤ 5,270 tons/yr for calendar years 2008-2010. Reference: Consent Decree paragraph 98a. [N.J.A.C. 7:27-22.16(a)]</p>	None:	None:	None:
75	<p>VOC (Total) ≤ 985 tons/yr. Maximum emission rate, based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	<p>VOC (Total): Monitored by calculations annually, based on a 12 calendar month period. Annual emissions of total VOC shall be calculated as follows: [tons coal burned x (26.4 MMBTU/ton for traditional coal or 18 MMBTU/ton for Ultra low sulfur coal) x 0.04 lb/MM BTU x 1/2000 lbs/ton] + [MM cu. ft. gas burned x 1030 BTU/cu. ft x 0.0017 lb/MM BTU x 1/2000 lbs/ton] + [MM gals oil burned x 145,238 BTU/gal x 0.007 lb/MM BTU x 1/2000 lbs/ton]. [N.J.A.C. 7:27-22.16(e)]</p>	<p>VOC (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage daily. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Submit a report: Annually to the Department which lists the total annual emissions of each pollutant specified in this permit. The report shall be submitted to the Regional Enforcement Officer within thirty (30) calendar days after the end of each calendar year. [N.J.A.C. 7:27-22.16(e)]</p>

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
76	TSP \leq 2,480 tons/yr. Maximum emission rate, based on the preconstruction permit. This limitation will expire on December 31, 2010. [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by calculations annually, based on a 12-calendar month period. Annual emissions of TSP shall be calculated as follows: [tons coal burned \times (26.4 MMBTU/ton for traditional coal or 18 MMBTU/ton for Ultra low sulfur coal) \times 0.10 lb/MM BTU \times 1/2000 lbs/ton] + [MM cu. ft. gas burned \times 1030 BTU/cu. ft \times 0.005 lb/MM BTU \times 1/2000 lbs/ton] + [MM gals oil burned \times 145,238 BTU/gal \times 0.031 lb/MM BTU \times 1/2000 lbs/ton]. [N.J.A.C. 7:27-22.16(e)]	TSP: Recordkeeping by data acquisition system (DAS) / electronic data storage daily. [N.J.A.C. 7:27-22.16(e)]	Submit a report: Annually to the Department which lists the total annual emissions of each pollutant specified in this permit. The report shall be submitted to the Regional Enforcement Officer within thirty (30) calendar days after the end of each calendar year. [N.J.A.C. 7:27-22.16(e)]
77	Particulate Emissions: \leq 0.0150 lb/MMBtu (no trailing zero implied). This emission rate limitation shall take effect on December 31, 2010. This limitation shall not apply during a shakedown period after initial operation of the baghouse. The shakedown period shall be defined as the 90 operating day period beginning with the initial operation of the baghouse. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(a)]	Other: See stack testing requirements in Ref #s 46 and 50. The reference method for determining PM emission rates shall be Method 5 in 40 C.F.R. Part 60, Appendix A, Method 5. [N.J.A.C. 7:27-22.16(e)].	Other: See stack testing requirements in Ref #s 46 and 50. [N.J.A.C. 7:27-22.16(e)].	Stack Test - Submit protocol, conduct test and submit results: Annually. PSEG Fossil shall report to EPA and NJDEP the results of its stack tests within 60 days of conducting such tests, unless NJDEP provides PSEG Fossil with additional time in which to submit such test results. [N.J.A.C. 7:27-22.16(e)]
78	TSP \leq 372 tons/yr. Annual emission limit based on 30-day rolling average and annual gross heat input. This limitation takes effect on December 31, 2010. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
79	PM 10 (Total) \leq 5,122 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
80	<p>NO_x (Total) ≤ 16,444 tons/yr in any calendar year shall be calculated for Hudson Unit 2, Mercer Unit 1, and Mercer Unit 2 collectively, after December 31, 2005. This is based on the preconstruction permit.</p> <p>If emissions from Hudson Unit 2, Mercer Unit 1, and Mercer Unit 2, collectively exceed more than 16,444 tons of NO_x in any calendar year after December 31, 2005, or more than 29,948 tons of SO₂ in any calendar year after December 31, 2006, then the covenants not to sue in Paragraphs number 121 and 122 of the Consent Decree shall not apply to any physical change or change in the method of operation at these Units within the five-year period preceding the exceedance. A copy of the Consent Decree between PSEG Fossil, NJDEP and USEPA is attached. [N.J.A.C. 7:27-22.16(e)]</p>	<p>NO_x (Total): Monitored by continuous emission monitoring system continuously, based on one calendar year. See CEM requirements at U1 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>	<p>NO_x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage annually. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Submit notification: As per the approved schedule in the Consent Decree.</p> <p>Submit the values in tons/year for NO_x (Total), to the Chief, Bureau of Operating Permits and to Regional Enforcement Officer, NRO of the Department. [N.J.A.C. 7:27-22.16(e)]</p>
81	<p>NO_x (Total): ≤ 0.150 lb/MMBtu based on a 24-hour block average (no trailing zero implied) that shall be determined by dividing the total pounds of pollutant by the total million Btu of heat input (lb/MMBtu) for a 24-hour operating day. A new 24-hour emission rate shall be calculated for each new operating day.</p> <p>This emission rate limitation shall take effect on December 31, 2010.</p> <p>This limitation shall not apply during periods of start up and shutdown as it pertains to the operation of the SCR. This limitation shall also not apply during a shakedown period after initial operation of the SCR. The shakedown period shall be defined as the 90 operating day period beginning with the initial operation of the SCR. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(a)]</p>	<p>NO_x (Total): Monitored by continuous emission monitoring system continuously, based on one calendar day, excluding periods of start-up or shutdown with regard to the SCR. See CEM requirements at U1 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(o)]</p>	<p>NO_x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEM requirements at U1 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>	<p>None.</p>

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Facility Specific Requirements**

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
82	<p>NOx (Total): ≤ 0.100 lb/MMBTU based on a 30-day rolling average (no trailing zero implied) that shall be determined by calculating the emission rate for an operating day and then arithmetically averaging that emission rate with the emission rates for the previous twenty-nine (29) operating days. A new 30-day rolling average shall be calculated for each new operating day.</p> <p>This emission rate limitation shall take effect on December 31, 2010</p> <p>This limitation shall not apply during periods of start up and shutdown as it pertains to the operation of the SCR. This limitation shall also not apply during a shakedown period after initial operation of the SCR. The shakedown period shall be defined as the 90 operating day period beginning with the initial operation of the SCR. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(a)]</p>	<p>NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 30 day rolling average, excluding periods when Hudson Unit No. 2 is not fired with coal or oil. See CEM requirements at U1 OS Summary Ref # 43. [N.J.A.C. 7:27-22.16(e)]</p>	<p>NOx (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. See CEM requirements at U1 OS Summary Ref # 43. [N.J.A.C. 7:27-21.16(e)]</p>	None.
83	<p>NOx (Total) $\leq 3,486$ tons/yr for calendar years 2007-2010. Reference: Consent Decree paragraph 98a. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.
84	<p>Diphenylhydrazine (1,2) ≤ 0.05 tons/yr. Maximum emission rate, based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	None.	None.	None.
85	<p>Ethane ≤ 75 tons/yr. [N.J.A.C. 7:27-22.16(e)]</p>	None.	None.	None.
86	<p>Ammonia ≤ 161 tons/yr. [N.J.A.C. 7:27-22.16(e)]</p>	None.	None.	None.
87	<p>Chloroacetophenone (2) ≤ 0.01 tons/yr. Maximum emission rate, based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	None.	None.	None.
88	<p>7,12-Dimethylbenz(a)anthracene ≤ 0.13 tons/yr. Maximum emission rate, based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]</p>	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
124	<p>Mercury Emissions \leq 3 milligrams per MW-hr. On and after December 15, 2007, the emissions of mercury shall not exceed 3.00 milligram per megawatt of net electricity generation, based on an annual weighted average of all valid stack emission tests performed for four consecutive quarters weighted by megawatt hours produced each quarter. The annual weighted average mercury emissions shall be calculated in accordance with the formula specified in the definition of "annual weighted average" set forth at N.J.A.C. 7:27-27.1.</p> <p>OR</p> <p>In lieu of complying with the above, on and after December 15, 2007, the permittee may comply with the following requirement: The reduction efficiency for control of mercury emissions of the air pollution control apparatus for control of mercury shall be at least 90 percent based on the annual weighted average of all valid stack emission tests performed for four consecutive quarters weighted by megawatt hours produced each quarter. The annual weighted average mercury reduction efficiency shall be calculated in accordance with the formula specified in the definition of "annual weighted average" set forth at N.J.A.C. 7:27-27.1. [N.J.A.C. 7:27-27.7(a)]</p>	<p>Mercury Emissions: Monitored by stack emission testing quarterly: once per quarter; quarters shall begin on January 1, April 1, July 1, and October 1 of each year. On and after December 15, 2007, the permittee shall conduct stack emission testing every quarter to measure mercury in the gas stream in the stack in accordance with a stack test protocol approved by the Department.</p> <p>The stack emission test shall be conducted at the inlet of the air pollution control apparatus and simultaneously at the exit of the air pollution control apparatus to measure the mass emission if the second option of reduction efficiency requirement is adopted. [N.J.A.C. 7:27-27.7(a)1] and [N.J.A.C. 7:27-27.8]</p>	<p>Mercury Emissions: Recordkeeping by stack test results quarterly: once per quarter; quarters shall begin on January 1, April 1, July 1, and October 1 of each year. [N.J.A.C. 7:27-27.9]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Submit a stack test protocol to the Bureau of Technical Services (BTS) at PO Box 437, Trenton, NJ 08625 at least 90 calendar days prior to conducting its first quarter stack testing.</p> <p>There shall be at least three valid stack tests runs per quarter and at least 45 days between the stack test performed for the preceding quarter. The stack test report must be submitted to BTS within 60 calendar days after performing the stack test pursuant to N.J.A.C. 7:27-27.9(a) for that quarter to the regional air and compliance enforcement office and BTS. The test results must be certified by a licensed professional engineer or certified industrial hygienist.</p> <p>A summary of the test results must be submitted with the operating permit renewal application due at least 12 months prior to expiration of the Operating Permit.</p> <p>Test results shall be reported in milligram per megawatt of net electricity generation. [N.J.A.C. 7:27-27.9 and [N.J.A.C. 7:27-22.18]</p>
125	<p>PSEG Fossil shall install and commence operation of a Flue Gas Desulfurization (FGD) system (CD25) on Hudson Unit No. 2 by no later than December 31, 2010. The FGD may be operated prior to December 31, 2010. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Other: Refer to Consent Decree Paragraphs 51, 53 and 155. [N.J.A.C. 7:27-22.16(a)].</p>	<p>Recordkeeping by stack test results upon occurrence of event. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to Consent Decree Paragraphs 51 and 155. [N.J.A.C. 7:27-22.16(e)]</p>

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
126	After December 31, 2010, PSEG Fossil shall operate the FGD (CD25) at all times that Hudson Unit No. 2 operates, except that PSEG Fossil need not operate the FGD when the Unit is not fired with coal or oil. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
127	By January 1, 2007, PSEG Fossil shall commence year-round operation of an SNCR on Hudson Unit 2 until it either installs and operates a SCR on Hudson Unit 2, or Shuts Down Hudson Unit 2 in accordance with applicable requirements of the Consent Decree. By no later than December 31, 2010, PSEG Fossil shall install and commence year-round operation of an SCR at Hudson Unit 2. The SCR may be operated prior to December 31, 2010. [N.J.A.C. 7:27-22.16(a)]	Other: (Consent Decree Paragraphs 155, 68 and 66)[N.J.A.C. 7:27-22.16(a)].	Recordkeeping by stack test results upon occurrence of event. [N.J.A.C. 7:27-22.16(e)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to U2 OS Summary Ref #2 and Ref #22 (Consent Decree Paragraphs 155 and 66). [N.J.A.C. 7:27-22.16(e)]
128	By January 1, 2007, PSEG Fossil shall commence year-round operation of an SNCR on Hudson Unit 2 until it either installs and operates a SCR on Hudson Unit 2, or Shuts Down Hudson Unit 2 in accordance with applicable requirements of the Consent Decree. By no later than December 31, 2010, PSEG Fossil shall install and commence year-round operation of an SCR at Hudson Unit 2, except that PSEG Fossil need not operate the SCR: (a) when the Unit has ceased firing fossil fuel, the period of time, not to exceed eight (8) hours from the restart of the Unit to the time that the Unit is either fired with coal or synchronized with a utility electric distribution system; and (b) when the Unit is to be shutdown, during the period of time that the Unit is no longer synchronized with any utility electric distribution system and is no longer fired with coal. [N.J.A.C. 7:27-22.16(a)]	Other: The permittee shall record the start and end times of occurrences of situations (a) and (b) described in the applicable requirement.[N.J.A.C. 7:27-22.16(a)].	Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(a)]	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
129	For CD26, the permittee shall replace the catalyst bed as necessary to ensure that NO _x emissions do not exceed the maximum permit allowable emission rate. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
130	Ammonia Slip \leq 10 ppmvd @ 7% O ₂ . Also applies when operating the SCR (CD26) or SNCR (CD20). This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(a)]	Other: See stack testing requirements at U2 OS Summary Ref #s 44 and 45. Compliance with the ammonia limit will be based on the average of three one-hour tests. [N.J.A.C. 7:27-22.16(e)].	Other: See stack testing requirements at U2 OS Summary Ref #s 44 and 45. [N.J.A.C. 7:27-22.16(e)].	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to stack testing requirements specified in Ref # 44 and 45. [N.J.A.C. 7:27-22.16(e)]
131	Temperature at Catalyst Bed \geq 500 and Temperature at Catalyst Bed \leq 840 degrees F for CD26. The permittee shall not be considered in violation for any deviation from this requirement if corresponding NO _x emissions are in compliance with applicable emission limits as established in this permit. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	Temperature at Catalyst Bed: Monitored by temperature instrument continuously, based on an instantaneous determination. The permittee shall install, calibrate and maintain the monitor(s) in accordance with the manufacturer's specifications. The monitor(s) shall be ranged such that the allowable value is approximately mid-scale of the full range current/voltage output. [N.J.A.C. 7:27-22.16(e)]	Temperature at Catalyst Bed: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
132	PSEG Fossil shall install and commence operation of a baghouse on Hudson Unit No. 2 by no later than December 31, 2010. The baghouse may be operated prior to December 31, 2010. [N.J.A.C. 7:27-22.16(a)]	Other: Refer to Consent Decree Paragraphs 74, 75, 80 and 155. [N.J.A.C. 7:27-22.16(a)].	None.	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. Refer to Consent Decree Paragraphs 74, 75 and 155. [N.J.A.C. 7:27-22.16(e)]
133	After December 31, 2010, PSEG Fossil shall operate the baghouse at all times that Hudson Unit No. 2 operates, except that PSEG Fossil need not operate the baghouse when the Unit is not fired with coal or oil. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
134	The permittee shall conduct bag cleaning, maintenance, and replacement on a schedule necessary to achieve the required particulate removal efficiency as specified by the manufacturer. This is based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	Monitored by visual determination once every 2 weeks. The permittee shall visually inspect the baghouse according to the manufacturer's recommendations once every two weeks. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by manual logging of parameter upon occurrence of event in a permanently bound logbook or readily available computer files. The permittee shall record each instance of bag cleaning and bag replacement. [N.J.A.C. 7:27-22.16(e)]	None.

New Jersey Department of Environmental Protection
 Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
135	The SCR, FGD and Baghouse (FF) at Hudson Unit 2 must be designed as approved by EPA and NJDEP (see the PSEG's letters to the Department dated November 1, 2004; April 18, 2005, and the Attorney General's letter to PSEG dated February 10, 2005 and July 5, 2005 (See attachment). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
136	Acid Rain: Comply with the requirements contained in the attached Acid Rain Permit. [40 CFR 72]	Other: Comply with the requirements contained in the attached Acid Rain Permit. See Appendix 1. [40 CFR 72].	Other: Comply with the requirements contained in the attached Acid Rain Permit. See Appendix 1. [40 CFR 72].	Other (provide description): As per the approved schedule, comply with the requirements contained in the attached Acid Rain Permit. See Appendix 1. [40 CFR 72]
137	Beginning no later than December 31, 2010, PSEG Fossil shall have installed and shall operate PM CEMS technology at Hudson Unit 2, in accordance with 40 CFR Part 60, App. B, Performance Specification 11, and App. F Procedure 2. The installation and operation of PM CEMS in no way affects the applicability of Consent Decree Paragraphs 74 or 93. Reference: Consent Decree paragraph 154a. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
138	<p>The PM CEMS required by Consent Decree Paragraph 154a shall include a continuous particle mass monitor measuring particulate matter concentration, directly or indirectly, on an hourly average basis and a diluent monitor used to convert the concentration to units of lb/MMBtu. PSEG Fossil shall maintain, in electronic database, the hourly average emission values of all PM CEMS in lb/MMBtu. No later than 180 days prior to the deadline for commencing operation of the PM CEMS required by Consent Decree Paragraph 154a, PSEG Fossil shall submit to EPA and NJDEP for review and approval pursuant to Paragraphs 94-98 of the Consent Decree a proposed Quality Assurance/Quality Control ("QA/QC") protocol that PSEG Fossil will follow in calibrating the PM CEMS. In its protocol, PSEG Fossil shall use 40 CFR Part 60, App. B, Performance Specification 11, and App. F Procedure 2. PSEG Fossil shall include in its QA/QC protocol a description of any periods in which it proposes that the PM CEMS may not be in operation in accordance with Performance Specification 11. Upon approval by EPA and NJDEP, PSEG Fossil shall implement the QA/QC protocol in accordance with the terms set forth therein. PSEG Fossil shall operate each PM CEMS at all times that the Unit it serves is in operation, except as provided for in the QA/QC protocol approved by EPA and NJDEP.</p> <p>Reference: Consent Decree paragraph 154b. [N.J.A.C. 7:27-22.16(a)]</p>	None.	None.	None.
139	<p>Urea: when the SNCR system is operating, daily records of urea usage shall be maintained. Applies to CD20. [N.J.A.C. 7:27-22.16(a)]</p>	<p>Monitored by material feed/flow monitoring continuously. [N.J.A.C. 7:27-22.16(e)]</p>	<p>Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Maintain daily urea usage records per day. [N.J.A.C. 7:27-22.16(e)]</p>	None.

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Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
140	Ammonia: when the SCR system is operating, daily records of ammonia usage shall be maintained Applies to CD26. [N.J.A.C. 7:27-22.16(a)]	Ammonia: Monitored by material feed/flow monitoring continuously. [N.J.A.C. 7:27-22.16(e)]	Ammonia: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. Maintain daily ammonia usage records per day. [N.J.A.C. 7:27-22.16(e)]	None.
141	The owner or operator shall develop a QA/QC plan for all CEMS/COMS required by this permit. This QA/QC plan shall incorporate at a minimum those procedures outlined in 40 CFR, Part 60, Appendix F and/or 40 CFR, Part 75, Appendix B for CEMS and those procedures outlined in 40 CFR, Part 60, Appendix B, Specification One and 40 CFR, Part 51, Proposed RM 203 for COMS, published Department Technical Manuals or other procedures approved in writing by the Department. The QA/QC plan shall designate a coordinator for the facility who is responsible to ensure that the QA/QC plan is implemented. The Department reserves the right to require the QA/QC plan to be revised at any time based on the results of quarterly EEMPR reviews, inspections, audits or any other information available to the Department. All procedures outlined in the QA/QC plan shall commence upon the completion date of the PST. All redundant CEMS/COMS must undergo the QA/QC procedure. [N.J.A.C. 7:27-22.16(a)]	Other: The QA/QC coordinator shall be responsible for reviewing the QA/QC plan on an annual basis. [N.J.A.C. 7:27-22.16(o)].	Other: Maintain readily accessible records of the QA/QC plan including QA date and quarterly reports. [N.J.A.C. 7:27-22.16(o)].	Submit a report: Every April 30, July 30, October 30, and January 30 for the preceding quarter year (the quarter years begin on January 1, April 1, July 1, and October 1). All quarterly and annual QA data shall be included in quarterly EEMPR reports and kept on file at the facility. The QA data must be made available to the Department upon request. Any changes to the QA/QC plan shall be submitted in writing to the Supervisor/CEMS Program of the Bureau of Technical Services. [N.J.A.C. 7:27-22.16(o)]
142	Sodium Carbonate: To enhance the collection efficiency of the ESP when burning Ultra Low Sulfur Coal (ULSC), an aqueous sodium carbonate solution may be injected onto the ULSC when needed, at a rate of no more than 8 gallons per minute. [N.J.A.C. 7:27-22.16(a)]	Monitored by material feed/flow monitoring each month during operation. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by data acquisition system (DAS) / electronic data storage each month during operation. [N.J.A.C. 7:27-22.16(e)]	None.
143	For equipment subject to Clean Air Interstate Rule (CAIR) NOx Trading Program, comply with N.J.A.C. 7:27-30. [N.J.A.C. 7:27-30]	Other: See N.J.A.C. 7:27-30. [N.J.A.C. 7:27-30].	Other: See N.J.A.C. 7:27-30. [N.J.A.C. 7:27-30].	Comply with the requirement: Upon occurrence of event. [N.J.A.C. 7:27-30]

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New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
144	The permittee shall comply with all of the requirements of Clean Air Interstate Rule (CAIR) permit for the CAIR-NOX Annual Trading Program, CAIR-NOX Ozone Season Trading Program, and CAIR-SO2 Trading Program issued for this affected unit. [40 CFR 97]. [40 CFR 97]	Other: See attached CAIR Permit [40 CFR 97].	Other: See attached CAIR Permit [40 CFR 97].	See attached CAIR Permit Other (provide description): Other. [40 CFR 97]
145	For equipment subject to CO2 Budget Trading Program, comply with N.J.A.C. 7:27C. [N.J.A.C. 7:27C].	Other: See N.J.A.C. 7:27C. [N.J.A.C. 7:27C].	Other: See N.J.A.C. 7:27C. [N.J.A.C. 7:27C].	Comply with the requirement: Upon occurrence of event. [N.J.A.C. 7:27C]
146	NOx (Total) \leq 2,482 tons/yr based on 0.100 lb/MMBTU based on a 30-day rolling average. Effective from December 31, 2010. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
147	SO2 \leq 3,722 tons/yr based on 0.100 lb/MMBTU based on a 30-day rolling average. Effective from December 31, 2010. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Emission Unit: U15 Coal Receiving system (1,900 Ton/hr)

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP \leq 5.1 tons/yr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
2	PM-10 (Total) \leq 2.7 tons/yr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	TSP \leq 2.66 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	PM-10 (Total) \leq 1.27 lb/hr. Maximum emission rate, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	Emissions of all other contaminants shall be below the reporting thresholds given in N.J.A.C. 7:27-22, Appedix Tables A and B, based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
6	Material processed in the Coal Receiving System shall be limited to coal. This system includes Barge Unloading, Coal Conveyor, Conveyor Tower, Transfer Tower and Coal Pile. This is based on the certified operating permit application. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by invoices/bills of loading, for each receiving operation, showing material received. [N.J.A.C. 7:27-22.16(o)].	Recordkeeping by manual logging of parameter per change of material. Recordkeeping by invoices/bills of lading per coal delivery, showing the material delivered. [N.J.A.C. 7:27-22.16(o)]	None.
7	Total Material Transferred: Total Material Trasferred \leq 16.644 MM/Tons/year, based on 8760 hours per year of operation. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring by computerized coal tracking system, per bulk shipment. [N.J.A.C. 7:27-22.16(o)].	Total Material Transferred: Recordkeeping by data acquisition system (DAS)/ electronic data storage once per bulk fuel shipment. Record in computerized coal tracking system, the date coal was received, the coal suppliers name and address, the quantity of coal received and the sulfur content of the coal. Record the year-to-date coal received. [N.J.A.C. 7:27-22.16(o)]	None.

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New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U16 Coal Reclaim system (300 Ton/hr)

Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	TSP <= 2.5 tons/yr based on operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
2	PM-10 (Total) <= 1.2 tons/yr based on the operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
3	TSP <= 0.42 lb/hr based on the operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	PM-10 (Total) <= 0.2 lb/hr based on the operating permit application. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	Emissions of all other contaminants shall be below the reporting thresholds given in N.J.A.C. 7:27-22, Appedix Tables A and B, based on the preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	Material processed in the Coal Reclaim System shall be limited to coal. This system includes Coal Conveyors, Breaker House, Feeders, Silos, and Pulverizers. [N.J.A.C. 7:27-22.16(a)]	Other: Monitored by process records, showing material material processed in the system. [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by manual logging of parameter per change of material. Recordkeeping by process records showing the material processed in the system. [N.J.A.C. 7:27-22.16(e)]	None.
7	Total Material Transferred <= 2.628 MMtons/year, based on the operating permit application. [N.J.A.C. 7:27-22.16(a)]	Other: Monitoring by computerized tracking system or process records. [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by data acquisition system (DAS) / electronic data storage once per bulk fuel shipment. Record in computerized coal tracking system, the date and amount of coal along with the year to date usage. [N.J.A.C. 7:27-22.16(e)]	None.

**PSEG FOSSIL LLC HUDSON GENERATING STATION (12202)
BOP100003**

Date: 9/6/2011

**New Jersey Department of Environmental Protection
Emission Unit/Batch Process Inventory**

U 1 Unit No. 1 Utility boiler - natural gas or No. 6 fuel oil fired (4,558 MMBTU/hr)

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS1	Unit #1-NG	Utility boiler firing natural gas	Normal - Steady State	E1	CD1 (P)	PT1	1-02-006-02	0.0	8,760.0	800,000.0	1,400,000.0	200.0	290.0	
OS2	Unit #1-oil	Utility boiler firing No. 6 fuel oil	Normal - Steady State	E1	CD1 (P)	PT1	1-02-006-02	0.0	8,760.0	800,000.0	1,400,000.0	200.0	290.0	
OS3	Unit #1- S/U	Start-up	Startup	E1		PT1	1-02-006-02	0.0	8,760.0					
OS4	Unit #1 -S/D	Shutdown	Shutdown	E1		PT1	1-02-006-02	0.0	8,760.0					
OS5	Unit #1-Main	Maintenance	Maintenance	E1		PT1	1-02-006-02	0.0	8,760.0					

U 2 Unit No. 2 Utility boiler - coal, natural gas, or No. 6 fuel oil fired (6,600 MMBTU/hr)

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS1	Unit #2-coal	Utility boiler firing coal or cofiring coal with natural gas or oil	Normal - Steady State	E2	CD2 (P) CD20 (T) CD25 (P) CD26 (P) CD27 (P) CD28 (P) CD3 (S)	PT2	1-02-006-02	0.0	8,760.0	2,300,000.0	2,530,000.0	250.0	340.0	

PSEG FOSSIL LLC HUDSON GENERATING STATION (12202)
BOP100003

Date: 9/6/2011

New Jersey Department of Environmental Protection
Emission Unit/Batch Process Inventory

U 2 Unit No. 2 Utility boiler - coal, natural gas, or No. 6 fuel oil fired (6,600 MMBTU/hr)

UOS NJID	Facility's Designation	UOS Description	Operation Type	Signif. Equip.	Control Device(s)	Emission Point(s)	SCC(s)	Annual Oper. Hours		VOC Range	Flow (acfm)		Temp. (deg F)	
								Min.	Max.		Min.	Max.	Min.	Max.
OS2	Unit #2-NG	Utility boiler firing natural gas	Normal - Steady State	E2	CD2 (P) CD20 (T) CD25 (P) CD26 (P) CD27 (P) CD28 (P) CD3 (S)	PT2	1-02-006-02	0.0	8,760.0	2,300,000.0	2,530,000.0	250.0	340.0	
OS3	Unit #2-Oil	Utility boiler firing No. 6 fuel oil	Normal - Steady State	E2	CD2 (P) CD20 (T) CD25 (P) CD26 (P) CD27 (P) CD28 (P) CD3 (S)	PT2	1-02-006-02	0.0	8,760.0	2,300,000.0	2,530,000.0	250.0	340.0	
OS4	#2-S/U,coal	Start-up on coal	Startup	E2		PT2	1-02-006-02	0.0	8,760.0					
OS5	Unit #2 -S/U	Start-up	Startup	E2		PT2	1-02-006-02	0.0	8,760.0					
OS6	#2-S/D,coal	Shutdown on coal	Shutdown	E2		PT2	1-02-006-02	0.0	8,760.0					
OS7	Unit #2- S/D	Shutdown	Shutdown	E2		PT2	1-02-006-02	0.0	8,760.0					
OS8	Unit #2-Main	Maintenance	Maintenance	E2		PT2	1-02-006-02	0.0	8,760.0					

