



State of New Jersey

CHRIS CHRISTIE
Governor

DEPARTMENT of ENVIRONMENTAL PROTECTION

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

Division of Air Quality
Bureau of Air Permits
401 E. State Street, 2nd floor, P.O. Box 420, Mail Code 401-02
Trenton, NJ 08625-0420

Air Pollution Control Operating Permit
Significant Modification and Preconstruction Approval

Permit Activity Number: BOP110001

Program Interest Number: 41805

Table with 2 columns: Mailing Address and Plant Location. Mailing Address: DOUG LAFAYETTE, SENIOR ENVIRONMENTAL ENGINEER, CONOCOPHILLIPS CO, 1400 PARK AVE, Linden, NJ 07036. Plant Location: CONOCO PHILLIPS, 1400 Park Ave, Linden City, Union County.

Initial Operating Permit Approval Date: August 14, 2003
Significant Modification Approval Date: September 21, 2011
Operating Permit Expiration Date: August 13, 2008

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

This approval, in response to your application, merges the provisions of the previously approved operating permit and the changes from this significant modification into a single comprehensive permit that replaces the one previously issued. This significant modification, based on EPA Consent Decree H-05-258, is for compliance with NSPS Subpart J which limits H2S content in fuel gas used mostly in process heaters to 0.1 gr/dscf or 162 ppmv. The reduced hydrogen sulfide content will also represent Best Available Retrofit Technology (BART) for the following heaters located at the refinery: E241, E242, E243, E245, E246, E247, E248, E249, E250, E253, and E258. Information regarding the final BART determinations may be found in the Technical Support Document located online at: http://www.state.nj.us/dep/baqp/sip/BART%202011_1.pdf

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

The permittee shall submit to the Department and to the EPA a periodic compliance certification, in accordance with N.J.A.C. 7:27-22.19. The certification shall be submitted electronically through the NJDEP online web portal - Periodic Compliance Certification service, and shall be certified pursuant to N.J.A.C. 7:27-1.39 by the responsible official. Access to DEP Online shall be obtained by following the instructions at: http://www.state.nj.us/dep/online/. The certification should be printed for submission to EPA. 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. If unable to submit electronically, the certification shall be submitted on forms provided by the Department 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, Partha Ganguli, at (609) 777-2821.

Approved by:



Max Friedman
Bureau of Air Permits

Enclosure

CC: S. Riva, USEPA Region II

CONOCO PHILLIPS (41805)

BOP110001

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

Emission Unit: U3 Sulfur Bubble Process Heaters
Operating Scenario: OS Summary

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	No visible emissions except for a period of not longer than three minutes in any consecutive 30-minute period. [N.J.A.C. 7:27-22.16(e)] and [N.J.A.C. 7:27-3.2(e)]	None.	None.	None.
2	VOC (Total) \leq 38.2 tons/yr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
3	NOx (Total) \leq 880 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
4	CO \leq 1,300 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
5	SO2 \leq 241 tons/yr. [N.J.A.C. 7:27-22.16(a)]	SO2: Monitored by calculations each month during operation based on daily fuel sulfur analyses data and amount of fuel consumed. [N.J.A.C. 7:27-22.16(o)]	SO2: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.
6	TSP \leq 104 tons/yr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
7	PM-10 (Total) \leq 113 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
8	PM-2.5 (Total) \leq 113 tons/yr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	NOx (Total) \leq 186 tons/yr. Maximum annual emission limit for combined process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
10	CO \leq 436 tons/yr. Maximum annual emission limit for combined process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	VOC (Total) \leq 9.64 tons/yr. Maximum annual emission limit for combined process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
12	TSP \leq 24.6 tons/yr. Maximum annual emission limit for combined process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	PM-10 (Total) \leq 24.6 tons/yr. Maximum annual emission limit for combined process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
14	PM 2.5 (Total) \leq 24.6 tons/yr. Maximum annual emission limit for combined process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
15	SO ₂ \leq 58.9 tons/yr. Maximum annual emission limit for combined process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(a)]	SO ₂ : Monitored by calculations each month during operation based on daily fuel sulfur analyses data and amount of fuel consumed. [N.J.A.C. 7:27-22.16(o)]	SO ₂ : Recordkeeping by data acquisition system (DAS) / electronic data storage each month during operation. [N.J.A.C. 7:27-22.16(o)]	None.
16	NO _x (Total) \leq 260 tons/yr. Maximum annual emission limit for combined process heaters F-701, F-702 and F-752 (U3, OS14, OS15 & OS16 respectively). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
17	CO \leq 298 tons/yr. Maximum annual emission limit for combined process heaters F-701, F-702 and F-752 (U3, OS14, OS15 & OS16 respectively). [N.J.A.C. 7:27-22.16(a)]	CO: Monitored by continuous emission monitor continuously, based on a consecutive 365 day period (rolling 1 day basis). The CEMS will have data logger and integrator to obtain lb/hr and tons/yr emission rates. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
18	VOC (Total) \leq 10.2 tons/yr. Maximum annual emission limit for combined process heaters F-701, F-702 and F-752 (U3, OS14, OS15, & OS16 respectively). [N.J.A.C. 7:27-22.16(a)]	VOC (Total): Monitored by calculations annually based on average emission rate from stack test data and hours of operation. [N.J.A.C. 7:27-22.16(e)]	VOC (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage annually. [N.J.A.C. 7:27-22.16(e)]	None.
19	TSP \leq 33.9 tons/yr. Maximum annual emission limit for combined process heaters F-701, F-702 and F-752 (U3, OS14, OS15 & OS16 respectively). [N.J.A.C. 7:27-22.16(a)]	TSP: Monitored by calculations annually based on average emission rate from stack test data and hours of operation. [N.J.A.C. 7:27-22.16(e)]	TSP: Recordkeeping by stack test results annually. [N.J.A.C. 7:27-22.16(e)]	None.

CONOCO PHILLIPS (41805)

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
20	PM-10 (Total) \leq 42.9 tons/yr. Maximum annual emission limit for combined process heaters F-701, F-702 and F-752 (U3, OS14, OS15 & OS16 respectively). [N.J.A.C. 7:27-22.16(a)]	PM-10 (Total): Monitored by calculations annually based on average emission rate from stack test data and hours of operation. [N.J.A.C. 7:27-22.16(e)]	PM-10 (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage annually. [N.J.A.C. 7:27-22.16(e)]	None.
21	PM-2.5 (Total) \leq 42.9 tons/yr. Maximum annual emission limit for combined process heaters F-701, F-702 and F-752 (U3, OS14, OS15 & OS16 respectively). [N.J.A.C. 7:27-22.16(a)]	PM-2.5 (Total): Monitored by calculations annually. [N.J.A.C. 7:27-22.16(e)]	PM-2.5 (Total): Recordkeeping by manual logging of parameter or storing data in a computer data system annually. [N.J.A.C. 7:27-22.16(e)]	None.
22	SO ₂ \leq 70.7 tons/yr. Maximum annual emission limit for combined process heaters F-701, F-702 and F-752 (U3, OS14, OS15 & OS16 respectively). [N.J.A.C. 7:27-22.16(a)]	SO ₂ : Monitored by calculations each month during operation based on daily fuel sulfur analyses data and amount of fuel consumed. [N.J.A.C. 7:27-22.16(e)]	SO ₂ : Recordkeeping by data acquisition system (DAS) / electronic data storage each month during operation. [N.J.A.C. 7:27-22.16(e)]	None.
23	SO ₃ and H ₂ SO ₄ , as converted and expressed as H ₂ SO ₄ \leq 16.5 tons/yr. Maximum annual emission limit for combined process heaters F-701, F-702 and F-752 (U3, OS14, OS15, & OS16 respectively). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
24	Ammonia Slip \leq 8.76 tons/yr from CD65 (PT1). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
25	<p>Conduct a comprehensive stack test at emission point PT10 at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the NOx and CO emission limits while firing refinery fuel gas in the heater E241.</p> <p>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)]</p>	<p>Monitored by stack emission testing prior to permit renewal. Unless otherwise approved in the stack test protocol or by the Department, each test run shall be 60 minutes in sampling duration. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results upon occurrence of event. [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 at least 30 months prior to the expiration 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. [N.J.A.C. 7:27-22.18(e)] and [N.J.A.C. 7:27-22.18(h)]</p>

CONOCO PHILLIPS (41805)
BOP110001

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
26	<p>Conduct a comprehensive stack test at emission point PT11 at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the NOx and CO emission limits while firing refinery fuel gas in the heaters E243, E245, E246, and E247.</p> <p>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)]</p>	<p>Monitored by stack emission testing prior to permit renewal. Unless otherwise approved in the stack test protocol or by the Department, each test run shall be 60 minutes in sampling duration. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results upon occurrence of event. [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 at least 30 months prior to the expiration 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. [N.J.A.C. 7:27-22.18(e)] and [N.J.A.C. 7:27-22.18(h)]</p>

New Jersey Department of Environmental Protection
 Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
27	<p>Conduct a comprehensive stack test at emission point PT12 at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the NOx and CO emission limits while firing refinery fuel gas in the heater E248.</p> <p>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)]</p>	<p>Monitored by stack emission testing prior to permit renewal. Unless otherwise approved in the stack test protocol or by the Department, each test run shall be 60 minutes in sampling duration. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results upon occurrence of event. [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 at least 30 months prior to the expiration 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. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]</p>

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

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
28	<p>Conduct a comprehensive stack test at emission point PT14 at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the NO_x and CO emission limits while firing refinery fuel gas in the heater E250.</p> <p>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(o)]</p>	<p>Monitored by stack emission testing prior to permit renewal. Unless otherwise approved in the stack test protocol or by the Department, each test run shall be 60 minutes in sampling duration. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results upon occurrence of event. [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 at least 30 months prior to the expiration 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. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]</p>

New Jersey Department of Environmental Protection
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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
30	<p>Conduct a comprehensive stack test at the outlet of the heater E242 before it combines with other flows prior to exhausting from the emission point PT8 at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the NOx and CO emission limits for heater E242 (OS11) while firing refinery fuel gas.</p> <p>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)]</p>	<p>Monitored by stack emission testing prior to permit renewal. Unless otherwise approved in the stack test protocol or by the Department, each test run shall be 60 minutes in sampling duration. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results upon occurrence of event. [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 at least 30 months prior to the expiration 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. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]</p>

New Jersey Department of Environmental Protection
 Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
31	<p>Conduct a comprehensive stack test at emission point PT17 at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the NOx and CO emission limits while firing refinery fuel gas in the heater E253.</p> <p>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)]</p>	<p>Monitored by stack emission testing prior to permit renewal. Unless otherwise approved in the stack test protocol or by the Department, each test run shall be 60 minutes in sampling duration. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results upon occurrence of event. [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 at least 30 months prior to the expiration 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. [N.J.A.C. 7:27-22.18(e)] and. [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
32	<p>Conduct a stack test at emission point PT1** at least 18 months prior to the expiration of the approved operating permit to demonstrate compliance with the PM-10 emission limits while firing refinery fuel gas.</p> <p>**PT1 --- Tests are conducted at the exhaust of the SCR for F-701/F-752 and another test at the exhaust of F-702 (E258), and the results are added together.</p> <p>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)]</p>	<p>Monitored by stack emission testing prior to permit renewal. Unless otherwise approved in the stack test protocol or by the Department, each test run shall be 60 minutes in sampling duration. [N.J.A.C. 7:27-22.16(o)]</p>	<p>Recordkeeping by stack test results upon occurrence of event. [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 at least 30 months prior to the expiration 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. [N.J.A.C. 7:27-22.18(e)] and. [N.J.A.C. 7:27-22.18(h)]</p>
33	<p>Combustion of fuel oil is not allowed in these furnaces. [N.J.A.C. 7:27-22.16(a)]</p>	<p>None.</p>	<p>None.</p>	<p>None.</p>
34	<p>Refer to GR1 for common NSPS Subpart A permit requirements. [40 CFR 60]</p>	<p>None.</p>	<p>None.</p>	<p>None.</p>

New Jersey Department of Environmental Protection
 Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
35	H2S in Fuel <= 162 ppmv (0.10 gr/dscf) in any 3-hour rolling period. [40 CFR 60.104(a)(1)]	<p>H2S in Fuel: Monitored by fuel sampling (e.g. gas) continuously, based on a 3 hour rolling average based on a 1 hour block average. Install, calibrate, maintain, and operated an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in fuel gases before being burned in any fuel gas combustion device.</p> <p>(i) The span value for this instrument is 425 mg/dscm H2S.</p> <p>(ii) Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned.</p> <p>(iii) The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11 shall be used for conducting the relative accuracy evaluations in accordance with 40 CFR 60.106(e). The monitor and recorder shall be located in a manner which allows easy access and visibility. [40 CFR 60.105(a)(4)]</p>	H2S in Fuel: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [40 CFR 60.104(a)(4)]	Submit an Excess Emissions and Monitoring Systems Performance Report (EEMPR): As per the approved schedule. The report shall be postmarked by the 30th day following the end of each calendar half. The report shall be submitted and be in a format as specified at 40 CFR 60.7(c) and 40 CFR 60.7(d) (see attachment #1). [40 CFR 60.107(f)]

**New Jersey Department of Environmental Protection
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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
36	<p>The permittee shall annually adjust the combustion process in the heater in the same quarter of each calendar year. The permittee shall:</p> <ol style="list-style-type: none"> 1. Inspect the burner, and clean or replace any components of the burner as necessary; 2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern consistent with the manufacturer's specifications; 3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly; and 4. Minimize total emissions of NOx and CO consistent with the manufacturer's specifications. <p>[N.J.A.C. 7:27-19.16(a)] and [N.J.A.C. 7:27-19.7(g)]</p>	<p>Monitored by periodic emission monitoring annually. The permittee shall:</p> <ol style="list-style-type: none"> 1. Measure the concentrations in the effluent stream of NOx, CO and O2 in ppmvd, before and after the adjustment is made; and 2. Convert the emission values of the NOx, CO and O2 concentrations measured pursuant to (1) above to pounds per million BTU (lb/MM BTU) according to the following formula: □□ $\text{lb/MM BTU} = \text{ppmvd} \times \text{MW} \times \text{F dry factor} \times \text{O2 correction factor} / 387,000,000$ Where: ppmvd is the concentration in parts per million by volume, dry basis, of NOx or CO MW is the Molecular Weight for: NOx = 46 lb/lb-mole; CO = 28 lb/lb-mole F dry factor for: Natural gas = 8,710 dscf/MM BTU and Residual or fuel oil = 9,190 dscf/MM BTU O2 correction factor: (20.9%) / (20.9% - O2 measured) O2 measured is percent oxygen on a dry basis. [N.J.A.C. 7:27-19.16(a)] 	<p>Recordkeeping by manual logging of parameter or storing data in a computer data system annually Records shall contain the following information for each adjustment:</p> <ol style="list-style-type: none"> 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 concentrations in the effluent stream, in ppmvd, before and after each actual adjustment was made; 4. The concentration of O2 (in percent dry basis) at which the CO and NOx concentrations were measured; 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/MM BTU); and 7. The type and amount of fuel used over the 12 months prior to the annual adjustment. [N.J.A.C. 7:27-19.16(b)] 	<p>Submit a report: Annually within 45 days of the adjustment. Reports shall be submitted electronically in the format the department specifies at its website. The report shall contain the following:</p> <ol style="list-style-type: none"> 1. The concentrations of NOx and CO in the effluent stream in ppmvd, and O2 in percent dry basis, measured before and after the adjustment of the combustion process 2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process; 3. A description of any corrective actions taken as a part of the combustion adjustment; and 4. The type and amount of fuel used over the 12 months prior to the annual adjustment. <p>N.J.A.C. 7:27-19.16(c) and □. [N.J.A.C. 7:27-19.16(d)]</p>
37	<p>The owner or operator shall develop a QA/QC plan for all CEMS/COMS required by this permit prepared in accordance with the NJDEP Technical Manual 1005 posted on the AQPP webpage at http://www.state.nj.us/dep/aqpp. [N.J.A.C. 7:27-22.16(a)]</p>	<p>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)].</p>	<p>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)].</p>	<p>None.</p>

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

Emission Unit: U3 Sulfur Bubble Process Heaters
Operating Scenario: OS1 E241 - Process Heater 2 PFBW Hydrofiner F101, 74 MM Btu/hr, RFG, PT10

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 13.4 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	SO ₂ \leq 170 lb/hr. Maximum allowable emission rate in any 60-minute period. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(r)]	None.	None.	None.
3	SO ₂ \leq 340 lb/hr. Maximum allowable emission rate for any instant. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(r)]	None.	None.	None.
4	NO _x (Total) \leq 0.2 lb/MMBTU. Maximum allowable emission rate from the NO _x RACT rule. [N.J.A.C. 7:27-19.7(h)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on the average of three Department validated stack test runs as allowed by N.J.A.C. 7:27-19. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
5	VOC (Total) \leq 0.6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	NO _x (Total) \leq 7 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	CO \leq 8 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	SO ₂ \leq 2.21 lb/hr in any 3-hour rolling period. [40 CFR 51.308(e)] and [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	TSP \leq 1.5 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
10	PM-10 (Total) \leq 1.5 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

New Jersey Department of Environmental Protection
 Facility Specific Requirements

Emission Unit: U3 Sulfur Bubble Process Heaters

Operating Scenario: OS2 E243 - Process Heater 2 PFBW Reheat F102, 167 MM Btu/hr, RFG, PT11

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 44.8 lb/hr from stack PT11. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	SO ₂ \leq 380 lb/hr. Maximum allowable emission rate in any 60-minute period from PT11. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
3	SO ₂ \leq 760 lb/hr. Maximum allowable emission rate for any instant from PT11. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
4	SO ₂ \leq 2,000 ppmv at standard conditions. Maximum allowable concentration of SO ₂ in the gases being discharged into the atmosphere from stack, PT11. [N.J.A.C. 7:27-7.2(b)(1)]	None.	None.	None.
5	VOC (Total) \leq 2.2 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	NO _x (Total) \leq 42.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule: See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	NO _x (Total) \leq 0.2 lb/MMBTU. Maximum allowable emission rate for F-102, F-103, F-104 and F-105 combined. Applies to OS2, OS3, OS4 and OS5. [N.J.A.C. 7:27-19.7(h)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on the average of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	CO \leq 99.5 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	SO ₂ ≤ 13.4 lb/hr in any 3-hour rolling period. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [40 CFR 51.308(e)] and. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	TSP ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	PM-10 (Total) ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	PM 2.5 (Total) ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	Maximum Gross Heat Input ≤ 448 MMBTU/hr (HHV). Maximum combined heat input for process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)]	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
14	Annual Gross Heat Input ≤ 3,924,480 MM Btu per any period of 365 consecutive days. Maximum annual combined heat input for process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by manual logging of parameter or storing data in a computer data system once per calendar day during operation. [N.J.A.C. 7:27-22.16(e)]	None.

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Emission Unit: U3 Sulfur Bubble Process Heaters

Operating Scenario: OS3 E245 - Process Heater 2 PFBW Reheat F103, 90 MM Btu/hr, RFG, PT11

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 44.8 lb/hr from stack PT11. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	SO ₂ \leq 380 lb/hr. Maximum allowable emission rate in any 60-minute period from PT11. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
3	SO ₂ \leq 760 lb/hr. Maximum allowable emission rate for any instant from PT11. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
4	SO ₂ \leq 2,000 ppmv at standard conditions. Maximum allowable concentration of SO ₂ in the gases being discharged into the atmosphere from stack, PT11. [N.J.A.C. 7:27-7.2(b)1]	None.	None.	None.
5	VOC (Total) \leq 2.2 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	NO _x (Total) \leq 42.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule: See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	NO _x (Total) \leq 0.2 lb/MMBTU. Maximum allowable emission rate for NO _x rule for F-102, F-103, F-104 and F-105 combined. Applies to OS2, OS3, OS4 and OS5. [N.J.A.C. 7:27-19.7(h)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on the average of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	CO \leq 99.5 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule: See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	SO ₂ ≤ 13.4 lb/hr in any 3-hour rolling period. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [40 CFR 51.308(e)] and. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	TSP ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	PM-10 (Total) ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	PM 2.5 (Total) ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	Maximum Gross Heat Input ≤ 448 MMBTU/hr (HHV). Maximum combined heat input for process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
14	Annual Gross Heat Input ≤ 3,924,480 MM Btu per any period of 365 consecutive days. Maximum annual combined heat input for process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by manual logging of parameter or storing data in a computer data system once per calendar day during operation. [N.J.A.C. 7:27-22.16(e)]	None.

New Jersey Department of Environmental Protection
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Emission Unit: U3 Sulfur Bubble Process Heaters

Operating Scenario: OS4 E246 - Process Heater 2 PFBW Reheat F104, 108 MM Btu/hr, RFG, PT11

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 44.8 lb/hr from stack PT11. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	SO ₂ \leq 380 lb/hr. Maximum allowable emission rate in any 60-minute period from PT11. [N.J.A.C. 7:27-7.2(b)(2)] and. [N.J.A.C. 7:27-7.2(r)]	None.	None.	None.
3	SO ₂ \leq 760 lb/hr. Maximum allowable emission rate for any instant from PT11. [N.J.A.C. 7:27-7.2(b)(2)] and. [N.J.A.C. 7:27-7.2(r)]	None.	None.	None.
4	SO ₂ \leq 2,000 ppmv at standard conditions. Maximum allowable concentration of SO ₂ in the gases being discharged into the atmosphere from stack, PT11. [N.J.A.C. 7:27-7.2(b)1]	None.	None.	None.
5	VOC (Total) \leq 2.2 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	NO _x (Total) \leq 42.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule : See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	NO _x (Total) \leq 0.2 lb/MMBTU. Maximum allowable emission rate for NO _x rule for F-102, F-103, F-104 and F-105 combined. Applies to OS2, OS3, OS4 and OS5. [N.J.A.C. 7:27-19.7(h)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on the average of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	CO \leq 99.5 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test—Submit protocol, conduct test and submit results: As per the approved schedule : See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	SO2 ≤ 13.4 lb/hr in any 3-hour rolling period. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [40 CFR 51.308(e)] and. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	TSP ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	PM-10 (Total) ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	PM 2.5 (Total) ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	Maximum Gross Heat Input ≤ 448 MMBTU/hr (HHV). Maximum combined heat input for process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS)/ electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
14	Annual Gross Heat Input ≤ 3,924,480 MM Btu per any period of 365 consecutive days. Maximum annual combined heat input for process heaters F-102, F-103, F-104 and F-105 (U3, OS2, OS3, OS4 & OS5 respectively). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by manual logging of parameter or storing data in a computer data system once per calendar day during operation. [N.J.A.C. 7:27-22.16(e)]	None.

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Emission Unit: U3 Sulfur Bubble Process Heaters

Operating Scenario: OS5 E247 - Process Heater 2 PFBW Reheat F105, 83 MM Btu/hr, RFG, PT11

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 44.8 lb/hr from stack PT11. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	SO ₂ \leq 380 lb/hr. Maximum allowable emission rate in any 60 minute period from PT11. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
3	SO ₂ \leq 760 lb/hr. Maximum allowable emission rate for any instant from PT11. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
4	SO ₂ \leq 2,000 ppmv at standard conditions. Maximum allowable concentration of SO ₂ in the gases being discharged into the atmosphere from stack, PT11. [N.J.A.C. 7:27-7.2(b)(1)]	None.	None.	None.
5	VOC (Total) \leq 2.2 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	NO _x (Total) \leq 42.6 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule : See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	NO _x (Total) \leq 0.2 lb/MMBTU. Maximum allowable emission rate for NO _x rule for F-102, F-103, F-104 and F-105 combined. Applies to OS2, OS3, OS4 and OS5. [N.J.A.C. 7:27-19.7(h)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on the average of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	CO \leq 99.5 lb/hr. Maximum stack (PT11) emission limit for OS2, OS3, OS4, and OS5 combined. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule : See protocol and submittal requirements elsewhere in this OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	SO ₂ ≤ 13.4 lb/hr in any 3-hour rolling period. Maximum stack (PT11) emission limit for OS ₂ , OS ₃ , OS ₄ , and OS ₅ combined. [40 CFR 51.308(e)] and. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	TSP ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS ₂ , OS ₃ , OS ₄ , and OS ₅ combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	PM-10 (Total) ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS ₂ , OS ₃ , OS ₄ , and OS ₅ combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	PM-2.5 (Total) ≤ 5.6 lb/hr. Maximum stack (PT11) emission limit for OS ₂ , OS ₃ , OS ₄ , and OS ₅ combined. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	Maximum Gross Heat Input ≤ 448 MMBTU/hr (HHV). Maximum combined heat input for process heaters F-102, F-103, F-104 and F-105 (U ₃ , OS ₂ , OS ₃ , OS ₄ & OS ₅ respectively). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
14	Annual Gross Heat Input ≤ 3,924,480 MM Btu per any period of 365 consecutive days. Maximum annual combined heat input for process heaters F-102, F-103, F-104 and F-105 (U ₃ , OS ₂ , OS ₃ , OS ₄ & OS ₅ respectively). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by manual logging of parameter or storing data in a computer data system once per calendar day during operation. [N.J.A.C. 7:27-22.16(e)]	None.

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Emission Unit: U3 Sulfur Bubble Process Heaters

Operating Scenario: OS6 E248 - Process Heater, 2 PFBW Regen F106, 66 MM Btu/hr, RFG, PT12

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 12.6 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27-4.2(e)]	None.	None.	None.
2	SO ₂ \leq 66 lb/hr. Maximum allowable emission rate in any 60 minute period. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(f)]	None.	None.	None.
3	SO ₂ \leq 132 lb/hr. Maximum allowable emission rate for any instant. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(f)]	None.	None.	None.
4	NO _x (Total) \leq 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)2]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on the average of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
5	VOC (Total) \leq 0.6 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	NO _x (Total) \leq 6.3 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
7	CO \leq 9.8 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	SO ₂ \leq 1.97 lb/hr in any 3-hour rolling period. [40 CFR 51.308(e)] and [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	TSP \leq 1.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
10	PM-10 (Total) \leq 1.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

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Emission Unit: U3 Sulfur Bubble Process Heaters
Operating Scenario: OS7 E249 - Process Heater, 2 PFBW Dryer F107, 10 MM Btu/hr, RFG, PT13

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 6 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27-4.2(e)]	None.	None.	None.
2	SO ₂ \leq 60 lb/hr. Maximum allowable emission rate in any 60-minute period. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
3	SO ₂ \leq 120 lb/hr. Maximum allowable emission rate for any instant. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
4	NO _x (Total) \leq 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)2]	None.	None.	None.
5	VOC (Total) \leq 0.1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
6	NO _x (Total) \leq 2 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
7	CO \leq 3.7 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
8	SO ₂ \leq 0.3 lb/hr in any 3-hour rolling period. [40 CFR 51.308(e)] and [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
9	TSP \leq 0.2 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
10	PM-10 (Total) \leq 0.2 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	PM-2.5 (Total) \leq 0.2 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	Maximum Gross Heat Input \leq 10 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
13	Maximum Gross Heat Input \leq 87,600 MMBTU/yr (HHV). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by manual logging of parameter or storing data in a computer data system annually. [N.J.A.C. 7:27-22.16(e)]	None.

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Emission Unit: U3 Sulfur Bubble Process Heaters

Operating Scenario: OS8 E250 - Process Heater, 2 PFBW Reboiler F108, 114 MM Btu/hr, RFG, PT14

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 16.1 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27-4.2(e)]	None.	None.	None.
2	SO ₂ \leq 230 lb/hr. Maximum allowable emission rate in any 60 minute period. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(f)]	None.	None.	None.
3	SO ₂ \leq 460 lb/hr. Maximum allowable emission rate for any instant. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(f)]	None.	None.	None.
4	SO ₂ \leq 2,000 ppmv at standard conditions. Maximum allowable concentration of SO ₂ in the gases being discharged into the atmosphere from stack, PT11. [N.J.A.C. 7:27-7.2(b)(1)]	None.	None.	None.
5	NO _x (Total) \leq 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)2]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on the average of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	VOC (Total) \leq 1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
7	NO _x (Total) \leq 10.8 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	NO _x (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	CO \leq 25.3 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	SO ₂ ≤ 3.41 lb/hr in any 3-hour rolling period. [40 CFR 51.308(e)] and. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	TSP ≤ 2.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	PM-10 (Total) ≤ 2.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	PM-2.5 (Total) ≤ 2.4 lb/hr. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
13	Maximum Gross Heat Input ≤ 114 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
14	Maximum Gross Heat Input ≤ 998,640 MMBTU (HHV) per any 265 consecutive day period. [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by manual logging of parameter or storing data in a computer data system once per calendar day during operation. [N.J.A.C. 7:27-22.16(e)]	None.

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Emission Unit: U3 Sulfur Bubble Process Heaters

Operating Scenario: OS11 E242 - Process Heater, DSU-1 Gas Oil Heater F101, 51 MM Btu/hr, RFG, PT8

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 11.1 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source from PT8. [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	SO ₂ \leq 230 lb/hr. Maximum allowable emission rate in any 60 minute period from PT8. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(f)]	None.	None.	None.
3	SO ₂ \leq 460 lb/hr. Maximum allowable emission rate for any instant from PT8. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(f)]	None.	None.	None.
4	SO ₂ \leq 2,000 ppmv at standard conditions. Maximum allowable concentration of SO ₂ in the gases being discharged into the atmosphere from stack, PT8. [N.J.A.C. 7:27-7.2(b)(1)]	None.	None.	None.
5	NOx (Total) \leq 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)2]	NOx (Total): Monitored by stack emission testing prior to permit renewal, based on the average of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	VOC (Total) \leq 0.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
7	NOx (Total) \leq 5.1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	CO \leq 11.3 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(e)]	CO: Recordkeeping by stack test results prior to permit renewal. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(e)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See protocol and submittal requirements elsewhere in U3, OS Summary. [N.J.A.C. 7:27-22.16(e)]

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Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
9	SO ₂ ≤ 1.53 lb/hr in any 3-hour rolling period. [40 CFR 51.308(e)] and. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	TSP ≤ 1.1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
11	PM-10 (Total) ≤ 1.1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	PM 2.5 (Total) ≤ 1.1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	Maximum Gross Heat Input ≤ 51 MMBTU/hr (HHV). [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
14	Maximum Gross Heat Input ≤ 446,760 MMBTU (HHV) per any 12 consecutive month period. [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by manual logging of parameter or storing data in a computer data system each month during operation. [N.J.A.C. 7:27-22.16(e)]	None.

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Emission Unit: U3 Sulfur Bubble Process Heaters

Operating Scenario: OS13 E253 - Process Heater, DSU-2 F401, 139 MM Btu/hr, RFG, PT17

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 17.5 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source. [N.J.A.C. 7:27-4.2(e)]	None.	None.	None.
2	SO ₂ \leq 515 lb/hr. Maximum allowable emission rate in any 60 minute period. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
3	SO ₂ \leq 1,030 lb/hr. Maximum allowable emission rate for any instant. [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
4	SO ₂ \leq 2,000 ppmv at standard conditions. Maximum allowable concentration of SO ₂ in the gases being discharged into the atmosphere from stack, PT11. [N.J.A.C. 7:27-7.2(b)(1)]	None.	None.	None.
5	NOx (Total) \leq 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)(2)]	NOx (Total): Monitored by stack emission testing prior to permit renewal, based on the average of three Department validated stack test runs. See the stack testing requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results upon occurrence of event. See the stack testing requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See the stack testing requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
6	VOC (Total) \leq 0.4 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
7	NOx (Total) \leq 13.9 lb/hr. [N.J.A.C. 7:27-22.16(e)]	NOx (Total): Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See the stack testing requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): Recordkeeping by stack test results upon occurrence of event. See the stack testing requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See the stack testing requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
8	CO \leq 9.8 lb/hr. [N.J.A.C. 7:27-22.16(e)]	CO: Monitored by stack emission testing prior to permit renewal, based on each of three Department validated stack test runs. See the stack testing requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	CO: Recordkeeping by stack test results upon occurrence of event. See the stack testing requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]	Stack Test - Submit protocol, conduct test and submit results: As per the approved schedule. See the stack testing requirements in OS Summary. [N.J.A.C. 7:27-22.16(o)]
9	SO ₂ \leq 4.16 lb/hr in any 3-hour rolling period. [40 CFR 51.308(e)] and [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
10	TSP \leq 1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
11	PM-10 (Total) \leq 1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
12	PM-2.5 (Total) \leq 1 lb/hr. [N.J.A.C. 7:27-22.16(e)]	None.	None.	None.
13	Maximum Gross Heat Input \leq 139 MMBTU/hr. Maximum heat input from preconstruction permit. [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Maximum Gross Heat Input: Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. [N.J.A.C. 7:27-22.16(e)]	None.
14	Annual Gross Heat Input \leq 1,217,640 MM Btu per any period of 365 consecutive days. [N.J.A.C. 7:27-22.16(e)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow and daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)].	Recordkeeping by manual logging of parameter or storing data in a computer data system once per calendar day during operation. [N.J.A.C. 7:27-22.16(e)]	None.

New Jersey Department of Environmental Protection
Facility Specific Requirements

Emission Unit: U3 Sulfur Bubble Process Heaters
Operating Scenario: OS15 E258 - No. 7 Pipestill OBFT Heater F702, RFG Firing, PT1

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
1	Particulate Emissions \leq 128 lb/hr. Particulate emission limit from the combustion of fuel based on rated heat input of source from PT1 (OS14, OS15 & OS16). [N.J.A.C. 7:27-4.2(a)]	None.	None.	None.
2	SO ₂ \leq 900 lb/hr. Maximum allowable emission rate in any 60-minute period from PT1 (OS14, OS15 & OS16). [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
3	SO ₂ \leq 1,800 lb/hr. Maximum allowable emission rate for any instant from PT1 (OS14, OS15 & OS16). [N.J.A.C. 7:27-7.2(b)(2)] and [N.J.A.C. 7:27-7.2(e)]	None.	None.	None.
4	SO ₂ \leq 2,000 ppmv at standard conditions. Maximum allowable concentration of SO ₂ in the gases being discharged into the atmosphere from stack, PT1 (OS14, OS15 & OS16). [N.J.A.C. 7:27-7.2(b)(1)]	None.	None.	None.
5	VOC (Total) \leq 4.6 lb/hr. Maximum emission limit for stack PT1 (OS14, OS15 & OS16). [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
6	NO _x (Total) \leq 59.3 lb/hr. Maximum emission limit for stack PT1 (OS14, OS15 & OS16 combined). [N.J.A.C. 7:27-22.16(a)]	NO _x (Total): Monitored by continuous emission monitoring system continuously, based on a 3-hour rolling average based on a 1-hour block average. The continuous emission monitor and recorder shall conform to 40 CFR 60 Appendix B and F, and 40 CFR 75, as applicable. This is combined emissions from two CEMS: One for F-702 heater and the other for combined F-701 & F-752 heaters. [N.J.A.C. 7:27-22.16(e)]	NO _x (Total): Recordkeeping by data acquisition system (DAS) / electronic data storage continuously. The continuous emission monitor and recorder shall conform to 40 CFR 60 Appendix B and F, and 40 CFR 75, as applicable. [N.J.A.C. 7:27-22.16(e)]	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). [N.J.A.C. 7:27-22.16(e)]

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New Jersey Department of Environmental Protection
Facility Specific Requirements

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
14	Annual Gross Heat Input \leq 11,169,000 MM Btu per any period of 265 consecutive days. Combined gross heat input for OS14, OS15 and OS16. [N.J.A.C. 7:27-22.16(a)]	Other: Maximum Gross Heat Input shall be monitored continuously by a system that monitors both fuel flow (gas) and the daily average heating value of refinery fuel gas. [N.J.A.C. 7:27-22.16(e)]	Recordkeeping by manual logging of parameter or storing data in a computer data system once per calendar day during operation. [N.J.A.C. 7:27-22.16(e)]	None.
15	NOx (Total) \leq 0.2 lb/MMBTU. [N.J.A.C. 7:27-19.7(h)2]	None.	None.	None.
16	NOx (Total) \leq 36 lb/hr for the heater F-702. [N.J.A.C. 7:27-22.16(a)]	NOx (Total): Monitored by continuous emission monitoring system continuously, based on a 3 hour rolling average based on a 1 hour block average. The CEMS will have data logger and integrator to obtain lb/hr emission rates. [N.J.A.C. 7:27-22.16(o)]	NOx (Total): 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. [N.J.A.C. 7:27-22.16(o)]
17	VOC (Total) \leq 1.75 lb/hr for the heater F-702. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
18	CO \leq 82.3 lb/hr for the heater F-702. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
19	TSP \leq 5.35 lb/hr for the heater F-702. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
20	SO ₂ and H ₂ SO ₄ , as converted and expressed as H ₂ SO ₄ \leq 1.49 lb/hr for the heater F-702. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
21	PM-10 (Total) \leq 5.35 lb/hr for the heater F-702. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
22	PM-2.5 (Total) \leq 5.35 lb/hr for the heater F-702. [N.J.A.C. 7:27-22.16(a)]	None.	None.	None.
23	Process Heaters fuel limited to Refinery Fuel Gas (RFG) with a Hydrogen Sulfide content \leq 60 ppmvd in any consecutive 365 days rolling average period, and natural gas. [N.J.A.C. 7:27-22.16(a)]	Monitored by parametric monitoring system continuously for refinery fuel gas. Install, calibrate, maintain, and operated an instrument for continuously monitoring and recording the concentration (dry basis) of H ₂ S in fuel gases before being burned in any fuel gas combustion device. [N.J.A.C. 7:27-22.16(o)]	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. [N.J.A.C. 7:27-22.16(o)]