

5 March 2015

Mr. David D. Dorocz
Environmental Department Head
Naval Station Newport
690 Peary Street
Newport, RI 02841

Dear Mr. Dorocz:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your application for the installation of fuel burning equipment at your facility located at Building 7CC, 1 Simonipietri Drive, Newport, Rhode Island.

Enclosed is a minor source permit issued pursuant to our review of your application (Approval No. 2286).

The issuance of this pre-construction minor source permit qualifies as an Off-Permit Change for your Title V Operating Permit under subsection 29.11.2 of Air Pollution Control Regulation No. 29. This permit will be incorporated into your operating permit at the time of renewal or re-opening.

A copy of this permit and a copy of your application should be maintained with your operating permit at all times until this permit is incorporated into your operating permit. In addition, as stated in subsection 29.11.2(d) of Air Pollution Control Regulation No. 29, the permit shield in Section II of your operating permit shall not apply to this permit until it is incorporated into your operating permit.

If there are any questions concerning this permit, please contact me at 401-222-2808, extension 7177 or at kasandra.mckenzie@dem.ri.gov.

Sincerely,

Kasandra McKenzie, EIT
Air Quality Specialist
Office of Air Resources

cc: Newport Building Official

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES

MINOR SOURCE PERMIT

NAVAL STATION NEWPORT

APPROVAL NO. 2286

Pursuant to the provisions of Air Pollution Control Regulation No. 9, this minor source permit is issued to:

Naval Station Newport

For the following:

Installation of an 800 HP Johnston Boiler Company, Model No. PFTA 800-4MG250S fire tube boiler equipped with flue gas recirculation and a low NO_x burner. The boiler shall be fired with natural gas or No. 4 fuel oil containing 0.5 percent sulfur, by weight or less. The boiler will replace the existing Boiler #3 at Boiler Plant 7CC.

Located at: *Building 7CC, 1 Simonipietri Drive, Newport, Rhode Island*

This permit shall be effective from the date of its issuance and shall remain in effect until revoked by or surrendered to the Department. This permit does not relieve *Naval Station Newport* from compliance with applicable state and federal air pollution control rules and regulations. The design, construction and operation of this equipment shall be subject to the attached permit conditions and emission limitations.

**Douglas McVay, Chief
Office of Air Resources**

Date of Issuance

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES**

Permit Conditions and Emission Limitations

NAVAL STATION NEWPORT

Approval No. 2286

- A. Emission Limitations - The following emission limitations are applicable to the 800 HP Johnston Boiler, Model No. PFTA 800-4MG250S, equipped with flue gas recirculation and low-NO_x burners, capable of burning natural gas or No. 4 fuel oil. The heat input capacity of the boiler while firing natural gas is 32.211 MMBtu/hr and 31.156 MMBtu/hr while firing No. 4 fuel oil.
1. Natural Gas Firing
 - a. Nitrogen oxides (as nitrogen dioxide (NO₂))

The emission rate of nitrogen oxides discharged to the atmosphere from the boiler shall not exceed 0.036 lb per million BTU heat input or 1.16 lb/hr, whichever is more stringent.
 - b. Carbon Monoxide (CO)

The emission rate of carbon monoxide discharged to the atmosphere from the boiler shall not exceed 0.036 lb per million BTU heat input or 1.16 lb/hr, whichever is more stringent.
 - c. Total Nonmethane Hydrocarbons (NMHC)

The emission rate of total nonmethane hydrocarbons discharged to the atmosphere from the boiler shall not exceed 0.004 lb per million BTU heat input or 0.13 lb/hr, whichever is more stringent.
 2. Fuel Oil Firing
 - a. Nitrogen Oxides (as nitrogen dioxide (NO₂))

The emission rate of nitrogen oxides discharged to the atmosphere from the boiler shall not exceed 0.50 lb per million BTU heat input or 15.58 lb/hr, whichever is more stringent.
 - b. Carbon Monoxide (CO)

The emission rate of carbon monoxide discharged to the atmosphere from the boiler shall not exceed 0.08 lb per million BTU heat input or 2.49 lb/hr, whichever is more stringent.

c. Sulfur Dioxide (SO₂)

- (1) All fuel burned in the boiler shall contain no more than 0.5 percent sulfur by weight.
- (2) The emission rate of sulfur dioxide discharged to the atmosphere from the boiler shall not exceed 0.50 lb/MMBtu.
- (3) The emission rate of sulfur dioxide discharged to the atmosphere from the boiler shall not exceed 15.58 lb/hr.

d. Particulate Matter

The emission rate of particulate matter discharged to the atmosphere from the boiler shall not exceed 0.033 lb per million BTU heat input or 1.03 lb/hr, whichever is more stringent.

e. Total Nonmethane Hydrocarbons (NMHC)

The emission rate of total nonmethane hydrocarbons discharged to the atmosphere from the boiler shall not exceed 0.01 lb per million BTU heat input or 0.31 lb/hr, whichever is more stringent.

3. Visible emissions from the boiler stack shall not exceed 10% opacity (6-minute average).

B. Operating Requirements

1. The maximum firing rate of the boiler shall not exceed 32,484 ft³/hr of natural gas or 213.4 gal/hr of No. 4 fuel oil.
2. The flue gas recirculation system shall be in operation whenever the boiler is in operation and firing natural gas.
3. The owner/operator shall limit the total quantity of No. 4 fuel oil combusted in the boiler to 491,586 gallons or less, in any consecutive 12-month period.
4. The fuel oil sulfur limits under Conditions A.2.c(1) and A.2.c(2) of this permit, apply at all times, including periods of startup, shutdown, and malfunction.
5. The owner/operator shall minimize the boiler's startup and shutdown periods and conduct startups and shutdowns according to the manufacturer's recommended procedures. If the manufacturer's recommended procedures are not available, the owner/operator shall follow recommended procedures for a unit of similar design for which manufacturer's recommended procedures are available.
6. The owner/operator must conduct a performance tune-up of the boiler every five years as specified in paragraphs (a-f) of this subsection and keep records as required in Condition F.12 of this permit to demonstrate continuous compliance. The owner/operator must conduct the tune-up while burning the type of fuel that

provided the majority of the heat input to the boiler over the last 12 months prior to the tune-up. The first five-year tune-up must be performed no later than 61 months after the initial startup of the boiler. Each subsequent five-year tune-up must be conducted no more than 61 months after the previous tune-up.

- a. As applicable, inspect the burner, and clean or replace any components of the burner as necessary.
- b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
- c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.
- d. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the boiler is subject.
- e. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
- f. If the boiler is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.
- g. The owner/operator may delay the burner inspection specified in paragraph a of this subsection and the inspection of the system controlling the air-to-fuel ratio specified in paragraph c of this subsection until the next scheduled unit shutdown, but the owner/operator must inspect each burner and system controlling the air-to-fuel ratio at least once every 72 months.

C. Continuous Monitors

1. The owner/operator shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system when the boiler is operating on fuel oil. The COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of Appendix B of 40 CFR Part 60. The span value of the opacity COMS shall be between 60 and 80 percent. The device shall be calibrated to sound an audio alarm at 10% opacity. The audio alarm must be located in an area where it will be heard by the operator or other person responsible for the boiler.
2. Natural gas and fuel oil flow for the boiler shall be continuously measured and recorded.

3. The owner/operator must install, calibrate, operate, and maintain an oxygen trim system according to the manufacturer's recommendations.

D. Fuel Oil Testing

1. The owner/operator shall demonstrate compliance with the fuel oil sulfur limits under Conditions A.2.c(1) and A.2.c(2) by collecting daily oil samples in an as-fired condition at the inlet to the boiler and analyzed for sulfur content and heat content according to Method 19 of appendix A of §40 CFR Part 60. Method 19 of appendix A provides procedures for converting these measurements into the format to be used in calculating the average SO₂ input rate.
2. Method 19 of appendix A shall be used to calculate E_{ao} when using daily fuel sampling. The procedures in Method 19 of appendix A are used to determine the 30-day average SO₂ emission rate (E_{ao}) in lb/MMBtu.
3. The owner/operator conducting as-fired fuel sampling pursuant to paragraph 1 of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator. *Operating day* means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the boiler. It is not necessary for fuel oil to be combusted continuously for the entire 24-hour period.

E. Stack Testing

1. Within 180 days of the startup of the boiler, emissions testing shall be conducted to demonstrate compliance with the emissions limitations.
2. A stack testing protocol shall be submitted to the Office of Air Resources for review at least 60 days prior to the performance of any stack tests. The owner/operator shall provide the Office of Air Resources at least 60 days prior notice of any stack test.
3. All test procedures used for emissions testing shall be conducted in accordance with Appendix A of 40 CFR 60 or another method approved by the Office of Air Resources and U.S. Environmental Protection Agency (EPA) prior to the performance of any emissions tests.
4. The owner/operator shall install any and all test ports or platforms necessary to conduct the required testing, provide safe access to any platforms and provide the necessary utilities for sampling and testing equipment.
5. All testing shall be conducted under operating conditions deemed acceptable and representative for the purposes of assessing compliance with the applicable emissions limitations.

6. A final report of the results of stack testing shall be submitted to the Office of Air Resources no later than 60 days following completion of testing.
7. All stack testing must be observed by a representative of the Office of Air Resources to be considered acceptable, unless the Office of Air Resources provides prior written authorization to the owner/operator to conduct the testing without an observer present.

F. Record Keeping and Reporting

1. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month, determine the total quantity of No. 4 fuel oil and natural gas combusted in the boiler. The owner/operator shall keep records of this determination and provide such records to the Office of Air Resources upon request.
2. The owner/operator shall notify the Office of Air Resources, in writing within 15 days of determining that the total quantity of No. 4 fuel oil combusted in the boiler exceeds 491,586 gallons, in any consecutive 12-month period.
3. The owner/ operator shall record and maintain records of the amount of No. 4 fuel oil combusted during each operating day.
4. Compliance with fuel oil sulfur limit under Condition A.2.c(1), of this permit shall be determined based on each fuel oil analysis.
5. Compliance with fuel oil sulfur limit under Condition A.2.c(2), of this permit shall be determined on a 30-day rolling average basis.
6. The owner/operator shall retain copies of all fuel oil analyses for each calendar quarter. These records shall be made accessible for review by the Office of Air Resources or EPA. This quarterly record shall include a certified statement, signed by the owner/operator, that the records represent all of the fuel combusted during the quarter.
7. The owner/operator shall notify the Office of Air Resources, in writing, of the date of actual initial start-up of the boiler no later than fifteen (15) days after such date.
8. The owner/operator shall submit notification of the date of construction and the date of actual startup as required under §40 CFR Part 60 Subpart Dc, "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units", subsection 60.48c(a), postmarked no later than thirty (30) days after such date to the USEPA. A copy of each notification shall be submitted to the Office of Air Resources. The notifications shall include:
 - a. The design heat input capacity of the boiler and identification of fuels to be combusted in the boiler.

9. The owner/operator shall submit an Initial Notification for §40 CFR Part 63 Subpart JJJJJ, “National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources” to the USEPA within 120 days after the initial start-up of the boiler, as required under §40 CFR Part 63 Subpart 63.9(b). A copy of the Initial Notification shall be submitted to the Office of Air Resources.
10. The owner/operator shall submit to the USEPA and the Office of Air Resources, the performance evaluation from the initial and any subsequent performance evaluation of the COMS using Performance Specification 1 of Appendix B of §40 CFR Part 60.
11. The owner/operator shall keep records and submit semi-annual reports, including the following information, as applicable for §40 CFR Part 60 Subpart Dc. All reports shall be submitted to the USEPA and the Office of Air Resources and shall be postmarked by the 30th day following the end of the reporting period.
 - a. Calendar dates covered in the reporting period.
 - b. Each 30-day average SO₂ emission rate (in lb/MMBtu) and the sulfur content of the fuel oil (in weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.
 - c. Each 30-day average percent of potential SO₂ emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.
 - d. Identification of any steam generating unit operating days for which SO₂ or diluent (O₂ or CO₂) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.
 - e. Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.
 - f. Identification of the F factor used in calculations, method of determination, and type of fuel combusted.
12. The owner/operator shall maintain the following records for §40 CFR Part 63 Subpart JJJJJ:
 - a. As required in §63.10(b)(2)(xiv), the owner/operator must maintain a copy of each notification and report that is submitted to comply with this permit and all documentation supporting any Initial Notification or Notification of Compliance Status that is submitted.

- b. Records must identify the boiler, the date of tune-up was conducted, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.
 - c. Records of the occurrence and duration of each malfunction of the boiler and monitoring equipment.
 - d. Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in Condition G.3 of this permit, including corrective actions to restore the malfunctioning boiler or monitoring equipment to its normal or usual manner of operation.
 - e. On a monthly basis, the owner/operator shall monitor and record the type and amount of fuel combusted in the boiler.
13. The owner/operator shall maintain on-site and submit, if requested by the Office of Air Resources or the USEPA, a report containing the information in paragraphs (a-c) of this subsection for §40 CFR Part 63 Subpart JJJJJJ:
- a. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.
 - b. A description of any corrective actions taken as a part of the tune-up of the boiler.
 - c. The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.
14. The owner/operator must prepare a 5-year Compliance Certification Report by March 1st for the previous 5 calendar years containing the information specified in paragraphs (a-b) of this subsection for §40 CFR Part 63 Subpart JJJJJJ. The report must be made available to the Office of Air Resources and the USEPA upon request.
- a. Company name and address.
 - b. Statement by responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of §40 CFR Part 63 Subpart JJJJJJ. The notification must include the following certification of compliance, and signed by the responsible official:
 - (1) "This facility complies with the requirements in §40 CFR 63.11223 to conduct a five year performance tune-up of the boiler."

15. The owner/operator shall notify the Office of Air Resources in writing of any physical or operational change to any equipment that would:
 - a. Change the representation of the facility in the application.
 - b. Alter the applicability of any state or federal air pollution rules or regulations.
 - c. Result in the violation of any terms or conditions of this permit.
 - d. Qualify as a modification under APC Regulation No. 9.

Such notification shall include:

- Information describing the nature of the change.
- Information describing the effect of the change on the emission of any air contaminant.
- The scheduled completion date of the planned change.

Any such change shall be consistent with the appropriate regulation and have the prior approval of the Director.

16. The owner/operator shall notify the Office of Air Resources of any anticipated noncompliance with the terms of this permit or any other applicable air pollution control rules and regulations.
17. Deviations from permit conditions shall be reported, in writing, within five (5) business days of the deviation, to the Office of Air Resources and to the USEPA. Reports shall describe the probable cause of such deviations, and any corrective actions or preventable measures taken.
18. All records required by this permit must be in a form suitable and readily available for expeditious review. The owner/operator must keep each record for 5 years following the date of each recorded action. The owner/operator must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. The owner/operator may keep the records off site for the remaining 3 years.

G. Other Permit Conditions

1. To the extent consistent with the requirements of this approval and applicable federal and state laws, the facility shall be designed, constructed, and operated in accordance with the representation of the facility in the permit application.

2. Employees of the Office of Air Resources and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Office of Air Resources.
3. At all times, including periods of startup, shutdown and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the facility in a manner consistent with good air pollution control practice for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this permit have been achieved. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Office of Air Resources which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.
4. The owner/operator is subject to the requirements of §40 CFR 60, Subpart A (General Provisions), §40 CFR 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) and §40 CFR 63, Subpart JJJJJ (National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources). Compliance with all applicable provisions therein is required.
5. Existing Boiler #3 (7CC-B3) located at Boiler Plant 7CC shall be removed from service or rendered inoperable on or before the startup of the new boiler.

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