northwest Clean Air agency

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Original Issuance: July 24, 2019
Revision a: December 18, 2019
Revision b: June 7, 2023

Northwest Clean Air Agency (NWCAA) hereby issues Order of Approval to Construct (OAC) 1327b

Project Summary: Construct and operate two 600 horsepower (HP) boilers at the Central Heating Plant (CHP).

This revision will clarify the testing schedules for the boilers when firing natural gas, allow for testing and tune-ups of the boilers during the 4th calendar quarter when operating at higher loads and following late 2nd/early 3rd calendar quarter scheduled comprehensive certification and maintenance activities.

Approved Emission Units:

- (2) 600 HP, natural gas-fired, Cleaver-Brooks Model CBLE boilers, BOI-0384-08 and -09. Each boiler has a maximum heat input capacity of 24.49 MMBtu per hour, equipped with an economizer, flue gas recirculation, oxygen trim, and the ability to combust distillate (jet fuel) as a backup fuel.

Owner/Operator	Facility Name and Location
Naval Air Station Whidbey Island 1115 W. Lexington Street, B103 Oak Harbor, WA 98278-5101 Contact: Jennifer Stewart, Base Air Program Manager	Naval Air Station Whidbey Island 3730 North Charles Porter Avenue Oak Harbor, WA 98278

Permit History

- As of the date of issuance, this Order supersedes NWCAA OAC 1327a, issued December 18, 2019.

Note that in addition to other applicable rules and regulations, one or more of the approved emission units are subject to applicable portions of the following federal regulations:

New Source Performance Standards (NSPS)

- 40 CFR 60 Subpart A - General Provisions
- 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- 40 CFR 63 Subpart A – General Provisions

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- 40 CFR 63 Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants: Industrial, Commercial, and Institutional Boilers and Process Heaters

Issuance of this Order is authorized by Northwest Clean Air Agency Regulation Section 300. The Owner/Operator must comply with the following restrictions and conditions[1]:

(1) Visible emissions from each boiler exhaust stack are prohibited that exceed zero percent (0%) opacity for more than an aggregate of 3 minutes in any consecutive 60-minute period as determined by Washington State Department of Ecology Method 9A.

(2) Only natural gas shall be combusted in the boilers, except that jet fuel as described in Condition (3) of this Order may be used as a backup fuel for:

- Up to 48 hours per year per boiler for readiness activities, such as boiler maintenance, personnel training, emission testing, etc and
- As needed during periods of natural gas curtailment.

Maintain a record of each period that backup fuel is combusted that includes the date and time period, boiler ID, reason for use, number of gallons combusted, and the ID of the storage tank supplying the fuel.

(3) All fuel used to supply backup fuel to the new boilers must be jet fuel with a sulfur content of no more than 0.3% sulfur by weight.

Compliance with this condition shall be documented by maintaining a record of each CHP tank refill event that includes the date, tank ID, number of gallons, type of fuel and its sulfur content.

(4) When combusting natural gas, do not exceed the following emission limits from each boiler:

(A) NOx: 9 ppm by volume, dry (ppmvd), corrected to 3% oxygen

(B) CO: 50 ppm by volume, dry (ppmvd), corrected to 3% oxygen

(5) Demonstrate compliance with Condition (4) of this Order by performing specified testing according to the following schedule:

(A) Before the end of calendar year 2025, and at least every 61 months after each subsequent test, conduct a source test of each boiler according to Condition (6) of this Order, and

[1] Nothing in this permit is intended to, or shall, alter or waive any applicable law [including but not limited to defenses, entitlements, challenges or clarifications related to the Credible Evidence Rule, 62 FR 8315 (Feb. 27, 1997)] concerning the use of data for any purpose under the Act, generated by the reference method specified herein or otherwise.

Pursuant to Section 300.10 of the NWCAA Regulation and ch 43.21B RCW, this Order may be appealed to the Pollution Control Hearings Board (PCHB). To appeal to the PCHB, a written notice of appeal must be filed with the PCHB and a copy served upon the NWCAA within 30 days of the date the applicant receives this Order. Additional information regarding appeal procedures can be found at: http://www.eluho.wa.gov/ under PCHB.

(B) Before the end of calendar year 2023, and every 13 months after each subsequent test, unless the boilers are being source tested in accordance with Condition (5)(A) during that calendar year, conduct testing according to Condition (7) of this Order.

(C) If a boiler is unexpectedly out-of-service when testing has been scheduled, due to no preventable fault or situation (e.g., poor or inadequate maintenance or operation) on behalf of the owner or operator, the out-of-service boiler must be tested within 30 calendar days following boiler startup after the date repairs are completed and the boiler has been re-certified for operation. For the purposes of this condition, boiler startup occurs when steam, hot water or process heat are produced that meet minimum operating temperature, flow or pressure required by any system that uses steam, hot water or process heat provided by the boiler.

Unless approved in advance by NWCAA in writing, conduct all testing while operating the boilers at representative operating conditions, in accordance with NWCAA Section 367 and NWCAA Appendix A.

(6) Unless approved in advance by NWCAA in writing, conduct source testing according to the following methods:

(A) NOx: 40 CFR 60 Appendix A Methods 3A and 7E

(B) CO: 40 CFR 60 Appendix A Methods 3A and 10

Submit test plans and reports in accordance with NWCAA Section 367 and NWCAA Appendix A. Record and report the average firing rate in MMBtu per hour (HHV) during testing.

(7) Conduct testing required in Condition (5)(B) of this Order using the following alternative test method:

(A) measure NOx and CO emissions simultaneously in accordance with the procedures specified in EPA Conditional Test Method (CTM)-034 utilizing a portable emissions analyzer, or other method approved in advance by NWCAA.

(B) Maintain a record of each test performed in accordance with this condition.

(C) Notify NWCAA within seven (7) days of any test performed in accordance with this condition that indicates noncompliance with any of the limits in Condition (4) of this Order.

At any time, testing in accordance with Condition (6) of this Order may be substituted for this alternative test method, and may be used to reset the 5-year source test/annual alternate test method schedule.

(8) When combusting backup fuel, do not exceed the following emission limits from each boiler:

(A) NOx: 70 ppm by volume, dry (ppmvd), corrected to 3% oxygen

(B) CO: 50 ppm by volume, dry (ppmvd), corrected to 3% oxygen

(9) Demonstrate compliance with Condition (8) of this Order by testing emissions every calendar year.

(A) Test by measuring NOx and CO emissions simultaneously in accordance with the procedures specified in EPA Conditional Test Method (CTM)-034 utilizing a portable emissions analyzer, or other method approved in advance by NWCAA.

(B) Maintain a record of each test report performed in accordance with this condition.

(C) Notify the NWCAA within seven (7) days of any test performed in accordance with this condition that indicates noncompliance with any of the limits in Condition (8) of this Order.

Unless approved in advance by NWCAA in writing, conduct all testing while operating the boilers at representative operating conditions, in accordance with NWCAA Section 367 and NWCAA Appendix A.

(10) Maintain and operate the boilers in accordance with the manufacturer's specifications and associated operation and maintenance manuals. Record all maintenance activities performed on each boiler.

(11) Develop a written operation and maintenance manual for the boilers including internal inspection schedules, maintenance requirements, and operating procedures. Maintain the manual onsite and readily available for inspection by NWCAA staff.

(12) Maintain all records required by this Order onsite for no less than 5 years from the date of generation and readily available for review by NWCAA staff.

Crystal Rau

Crystal Rau
Air Quality Scientist

Agata McIntyre P.E.

Agata McIntyre, P.E.
Engineering Manager

Revision a: Approve jet fuel instead of ULSD as backup fuel in the boilers.

Revision b: Clarify testing schedule, adjust testing timing and remove initial testing and startup notification.