



Puget Sound Clean Air Agency

Notice of
Construction No. 10470

HEREBY ISSUES AN ORDER OF APPROVAL TO CONSTRUCT, INSTALL, OR ESTABLISH

Registration No. 10088
Date

Two Caterpillar G3612 Lean Burn Engine Generators rated at 3,221 hp at 100% load each and combusting digester gas. The engines are part of a 4.6 Megawatt cogeneration system that generates heat for the West Point facility and generates electricity for sale to Seattle City Light.

This Order approves the following:

Cancelling and superseding OA 8914 and changing the units on the engine exhaust emission limits from g/bhp-hr to ppm at 15% O₂. It also includes periodic monitoring and testing of the engines and compliance methods for the PSD synthetic minor limits that were originally included in OA 8914. OA 8914 contained the emission limits for NO_x and CO, but did not contain compliance methods.

OWNER

**King Co Ntrl Res Wastewater Treatment
1400 Utah St W (West Point)
Seattle, WA 98199**

INSTALLATION ADDRESS

**King Co Ntrl Res Wastewater Treatment
1400 Utah St W (West Point)
Seattle, WA 98199**

THIS ORDER IS ISSUED SUBJECT TO THE FOLLOWING RESTRICTIONS AND CONDITIONS

1. Approval is hereby granted as provided in Article 6 of Regulation I of the Puget Sound Clean Air Agency to the applicant to install or establish the equipment, device or process described hereon at the INSTALLATION ADDRESS in accordance with the plans and specifications on file in the Engineering Division of the Puget Sound Clean Air Agency.
2. This approval does not relieve the applicant or owner of any requirement of any other governmental agency.
3. King Country DNR Wastewater Treatment Division shall not exceed the following one-hour average limits from each of the two Caterpillar G3612 Lean Burn engines.
 - a. NO_x: 54 PPM @ 15% O₂
 - b. CO: 363 PPM @ 15% O₂
4. The owner or operator shall perform periodic monitoring and performance testing to demonstrate compliance with the emission limits in condition 3 for each of the two Caterpillar G3612 Lean Burn engines while burning digester gas as described in this condition:
 - a. The periodic monitoring shall measure CO, NO_x and O₂ concentrations at the outlet of each engine and be performed at least every 600 hours of operation for each engine. The initial periodic monitoring required by this Order of Approval must be conducted within 120 days of the issuance of this Order of Approval.
 - b. All periodic monitoring shall be performed with a portable electrochemical analyzer and follow Appendix A to 40 CFR 63 Subpart ZZZZ or other methods approved by the Agency.
 - c. At least once every 60 months, and at any other time required by the Agency, the owner or operator shall conduct a performance test to show compliance with the emission limits in condition 4 using EPA methods 7E, 10, 3A, and/or other test methods required by the Agency. The initial test shall be

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- performed no more than six months after the issuance of this Order of Approval. Each test shall include three identical 60-minute runs performed on each engine.
- d. During each test and monitoring event, the engine output (in kW), the amount of fuel used, and any activities or non-typical operation shall be recorded. The Agency may require additional parameters to be recorded.
 - e. The engines must be operating at least at 1000 kW minimum during all monitoring and testing.
 - f. Within 21 days of completion each periodic monitoring event required by condition 4.a., a periodic monitoring report shall be submitted to the Agency for the monitoring event. The report must include all results of the monitoring, values of all parameters required to be recorded under condition 4.d. of this Order of Approval, all corrective action taken and maintenance performed associated with the monitoring, and all other relevant report.
 - g. Within 60 days of completion of each performance test required by condition 4.c., a test report shall be submitted to the Agency. The report must include all results of the testing values of all parameters required to be recorded under condition 4.d. of this Order of Approval, all corrective action taken and maintenance performed associated with the performance test and all other relevant information.
 - h. All performance tests must comply with Regulation I, Article 3.07.
 - i. Periodic monitoring does not need to comply with Regulation I, Article 3.07 unless otherwise required by the Agency.
5. The two Caterpillar G3612 Lean Burn engines shall only be fired on digester gas.
 6. PSD Synthetic Minor Limit. The permittee shall limit facility-wide emissions of oxides of nitrogen (NO_x) and carbon monoxide (CO) during each consecutive 12-month period to the following amounts:
 - a. 249 tons per year of oxides of nitrogen (NO_x)
 - b. 249 tons per year of carbon monoxide (CO)
 7. PSD Synthetic Minor Limit Compliance: Within 30 days of the end of each calendar month the permittee shall calculate and record the NO_x and CO emissions for the previous calendar month (for example, the emissions for March must be calculated by April 30). Within 30 days of the end of each 12-month rolling period the permittee shall calculate and record the NO_x and CO emissions for the previous 12-month rolling period. These calculations must be completed as described in condition 8 of this Order of Approval.
 8. PSD Synthetic Minor Limit Compliance Calculations: The NO_x and CO calculations must include emissions from all sources of NO_x and CO at the facility. However, fugitive emissions [as defined in 40 CFR 52.21(b)(20)], mobile source emissions, and emissions from nonroad engines do not need to be included in the calculations. The permittee shall use the following methods and approved emission factors:
 - a. Source specific emission tests results for individual external combustion units (e.g., boilers and heaters) if the test is conducted using EPA Reference Test Methods and results are approved by the Agency;
 - b. Emission factors reviewed for new or modified emission sources at the facility through the Notice of Construction review process in Regulation I, Article 6, including any emission limits in the final Order of Approval;
 - c. Alternative emission factors can be used if the Agency has preapproved each factor in writing.
 - d. If none of the emission calculation methods listed in sections i., ii., and iii. of this condition are available, the permittee may use EPA's AP-42: Compilation of Air Emission Pollutant Factors

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9. PSD Synthetic Minor Limit Compliance Notification: The owner or operator shall provide notification to the Puget Sound Clean Air Agency in writing, within 60 days after the end of any 12-month period if, during that period, facility-wide emissions of NOx or CO exceeded 200 tons. The report shall include a summary of the total 12-month emissions and a list of the emission factors used for each source of NOx and CO. Upon request by the Agency, the owner or operator shall provide the supporting emission calculations for the reported emission totals.
10. This Order of Approval cancels and supersedes Order of Approval No. 8914, dated August 3, 2004.

APPEAL RIGHTS

Pursuant to Puget Sound Clean Air Agency's Regulation I, Section 3.17 and RCW 43.21B.310, 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 Puget Sound Clean Air Agency within 30 days of the date the applicant receives this Order.

Carole Cenci
Reviewing Engineer

John Dawson
Engineering Manager