SWCAA
Southwest Clean Air Agency

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October 14, 2021

Mr. Martin Madarieta
Evergreen Public Schools
PO Box 8910
Vancouver, WA 98668-8910

Subject: Final Approval for Installation of Natural Gas Fired Equipment and Emergency Generator Engine at Ellsworth Elementary School

Dear Mr. Madarieta:

A final determination to issue Air Discharge Permit (ADP) 21-3483 has been completed for ADP Application CL-3174 pursuant to Section 400-110(4) of the General Regulations for Air Pollution Sources of the Southwest Clean Air Agency (SWCAA). Public notice for ADP Application CL-3174 was published in the permit section of SWCAA's website on August 26, 2001. SWCAA did not receive a request for a public comment period in response to the public notice and has concluded that significant public interest does not exist for this determination. Therefore, a public comment period will not be provided for this permitting action. Electronic copies of ADP 21-3483 and the associated Technical Support Document are available for public review in the "Recent Air Discharge Permits" section under the "Air Permits" link on SWCAA's website (*http://www.swcleanair.org*). Original copies are enclosed for your files.

This Air Discharge Permit may be appealed directly to the Pollution Control Hearings Board (PCHB) at P.O. Box 40903, Olympia, Washington 98504-0903 within 30 days of receipt as provided in RCW 43.21B.

If you have any questions, comments, or desire additional information, please contact me or Clint Lamoreaux at (360) 574-3058, extension 131.

Sincerely,

Gwald C Elwode for Uri Papish

Uri Papish
Executive Director

UP: cl

Enclosure: Technical Support Document and Air Discharge Permit 21-3483

SWCAA
Southwest Clean Air Agency

AIR DISCHARGE PERMIT
21-3483

Issued: October 14, 2021

Evergreen School District No. 114
Ellsworth Elementary School

512 SE Ellsworth Road, Vancouver, WA 98664

SWCAA ID – 418

CLINTON HILAIRE LAMOREAUX
STATE OF WASHINGTON
37640
REGISTERED
PROFESSIONAL ENGINEER

REVIEWED BY: _____
Clinton Lamoreaux, Acting Chief Engineer

APPROVED BY: Gerald C Elwood for Uri Papish
Uri Papish, Executive Director

TABLE OF CONTENTS

1. Equipment/Activity Identification

ID No.	Equipment/Activity	Control Equipment/Measure
1	Boiler 1 (Lochinvar model FBN2001)	Low emission burner
2	Boiler 2 (Lochinvar model FBN2001)	Low emission burner
3	Water Heater 1 (State Industries model SUF-100-150-NEA 300)	Low emission burner
4	Water Heater 2 (State Industries model SUF-100-150-NEA 300)	Low emission burner
5	Emergency Generator Diesel Engine (Mercedes-Benz model OM926LA)	Ultra-low sulfur diesel, EPA Tier 3 engine

2. Permit Requirements

The following tables detail the specific requirements of this Air Discharge Permit (ADP). In addition to the requirements listed below, equipment at this facility may be subject to other federal, state, and local regulations. The requirement number is identified in the left-hand column. The text of the requirement is contained in the middle column. The emission unit, equipment, or activity to which the requirement applies is listed in the right-hand column.

Emission Limits

Req. No.	Emission Limits	Equipment/ Activity ID No.
1.	Emissions from Boiler 1 must not exceed: Pollutant: NO_X — Emission Limit ppmvd @ 3% O_2 (1-hour average): 30 — Emission Limit lb/hr (1-hr average): 0.073 — Emission Limit tons per year: 0.32 Pollutant: CO — Emission Limit ppmvd @ 3% O_2 (1-hour average): 50 — Emission Limit lb/hr (1-hr average): 0.074 — Emission Limit tons per year: 0.32 Annual emissions must be calculated using the methodology described in the Technical Support Document for this Air Discharge Permit.	1

Req. No.	Emission Limits	Equipment/ Activity ID No.
2.	Emissions from Boiler 2 must not exceed: Pollutant: NO_X — Emission Limit ppmvd @ 3% O_2 (1-hour average): 30 — Emission Limit lb/hr (1-hr average): 0.073 — Emission Limit tons per year: 0.32 Pollutant: CO — Emission Limit ppmvd @ 3% O_2 (1-hour average): 50 — Emission Limit lb/hr (1-hr average): 0.074 — Emission Limit tons per year: 0.32 Annual emissions must be calculated using the methodology described in the Technical Support Document for this Air Discharge Permit.	2
3.	Hot Water Heaters must only be fired on natural gas. Emissions from Hot Water Heaters must meet the specifications of SWCAA 400-070 for the year of manufacture for each unit. Annual emissions must be calculated using the emission guaranteed value for the year of manufacture for each hot water heater. Factors are presented in Section 6 of the Technical Support Document for this Air Discharge Permit. Any replacement units not subject to permitting must also meet the specifications of SWCAA 400-070 for the appropriate year.	3, 4
4.	Visible emissions from all natural gas fired equipment must not exceed zero percent opacity for more than 3 minutes in any one hour period as determined in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400).	Facility-wide
5.	Visible emissions from the emergency generator diesel engine must not exceed five percent opacity for more than 3 minutes in any one-hour period as determined in accordance with SWCAA Method 9 (See Appendix A of SWCAA 400) except during startup. For the purposes of this requirement, the startup period ends when the earlier of the following operating events occurs: (a) The engine has reached normal operating temperature; or (b) The engine has been operating for 15 minutes.	5

Operating Limits and Requirements

Req. No.	Operating Limits and Requirements	Equipment/ Activity ID No.
6.	Emission units and activities identified in this ADP must be maintained and operated in total and continuous conformity with the conditions identified in this ADP. SWCAA reserves the right to take any and all appropriate action to maintain the conditions of this ADP, including directing the facility to cease operations until corrective action can be completed.	Facility-wide

Req. No.	Operating Limits and Requirements	Equipment/ Activity ID No.
7.	If the test results from any performance monitoring event for Boilers 1 or 2 indicates that emission concentrations may exceed 30 ppmvd NO_X @ 3% O_2 or 50 ppmvd CO @ 3% O_2, the permittee must either perform 60 minutes of additional monitoring to more accurately quantify CO and NO_X emissions, or initiate corrective action. Additional testing or corrective action must be initiated as soon as practical but no later than three days after the potential exceedance is identified. Corrective action includes tuning, maintenance by service personnel, limitation of boiler load, or other action taken to maintain compliance with permitted limits. Monitoring of unit emissions must be conducted within three days following completion of any corrective action to confirm that the corrective action has been effective. Corrective action must be pursued until observed emission concentrations no longer exceed 30 ppmvd NO_X @ 3% O_2 or 50 ppmvd CO @ 3% O_2.	1, 2
8.	Operation of the emergency generator diesel engine must be limited to maintenance checks, readiness testing, and as necessary to provide emergency power.	5
9.	Operation of the emergency generator diesel engine for maintenance checks and readiness testing must not exceed 100 hours per year. Emergency operation of the emergency generator diesel engine is not limited. A non-resettable time totalizer must be installed and used to measure the number of hours the engine operates.	5
10.	The emergency generator diesel engine must only be fired on No. 2 diesel or better. The sulfur content of the fuel fired in the diesel engine must not exceed 0.0015% by weight (15 ppm). A fuel certification from the fuel supplier may be used to demonstrate compliance with this requirement.	5
11.	Exhaust from the emergency generator diesel engine must be discharged vertically above the roof level of the building or enclosure in which the engine is housed (if applicable). Any device that obstructs or prevents vertical discharge is prohibited.	5

Monitoring and Recordkeeping Requirements

Req. No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity ID No.
12.	The following information must be collected, recorded at the intervals specified below, and readily available on-site for inspection: (a) The total amount of natural gas consumed facility-wide must be recorded for each month. Billing records may serve this purpose; (b) The number of hours the emergency generator diesel engine is operated must be recorded for each calendar year; (c) The sulfur content of the diesel fuel burned in the emergency generator diesel engine must be determined and recorded for each fuel delivery. A fuel supplier certification may be used in lieu of actual fuel testing; (d) Maintenance activities that may affect emissions must be logged for each occurrence; and (e) Excess emissions, and upset conditions that cause excess emissions, must be recorded for each occurrence.	Facility-wide
13.	With the exception of data logged by a computerized data acquisition system, each record required by this Air Discharge Permit must include the date and the name of the person making the record entry.	Facility-wide
14.	All records required by this Air Discharge Permit must be readily available on-site for a minimum period of no less than three years and must be available for inspection by SWCAA representatives.	Facility-wide

Emission Monitoring and Testing Requirements

Req. No.	Emission Monitoring and Testing Requirements	Equipment/ Activity ID No.
15.	Performance monitoring of Boilers 1 and 2 must be conducted at least annually as described in Appendix A of this Permit.	1, 2

Reporting Requirements

Req. No.	Reporting Requirements	Equipment/ Activity ID No.
16.	Excess emissions must be reported to SWCAA as follows: (a) As soon as possible, but no later than twelve (12) hours after discovery for emissions that represent a potential threat to human health or safety; (b) As soon as possible, but no later than forty-eight (48) hours after discovery for emissions which the Permittee wishes to claim as unavoidable pursuant to SWCAA 400-107(1); and (c) No later than thirty (30) calendar days after the end of the month of discovery for all other excess emissions.	Facility-wide
17.	The results of all performance monitoring conducted in accordance with Appendix A must be reported to SWCAA within 15 days of test completion.	1 , 2

Req. No.	Reporting Requirements	Equipment/ Activity ID No.
18.	Deviations from permit conditions must be reported no later than 30 days after the end of the month during which the deviation is discovered.	Facility-wide
19.	The following emissions related records must be reported to SWCAA by March 15th for the previous calendar year: (a) The total amount of natural gas consumed facility-wide; (b) The total number of hours the emergency generator diesel engine operated; and (c) Air emissions of criteria air pollutants, volatile organic compounds, toxic air pollutants (TAPs), and hazardous air pollutants (HAPs).	Facility-wide

3. General Provisions

Req. No.	General Provisions
A.	For the purpose of ensuring compliance with this ADP, duly authorized representatives of the Southwest Clean Air Agency must be permitted access to the Permittee's premises and the facilities being constructed, owned, operated and/or maintained by the Permittee for the purpose of inspecting said facilities. These inspections are required to determine the status of compliance with this ADP and applicable regulations and to perform or require such tests as may be deemed necessary.
B.	The provisions, terms, and conditions of this ADP bind the Permittee, its officers, directors, agents, servants, employees, successors and assigns, and all persons, firms, and corporations acting under or for the Permittee.
C.	The requirements of this ADP survive any transfer of ownership of the source or any portion thereof.
D.	This ADP must be posted conspicuously at or be readily available near the source.
E.	This ADP will be invalid if construction or installation of any new or modified equipment has not commenced within eighteen (18) months from date of issuance, if construction is discontinued for a period of eighteen (18) months or more, or if construction is not completed within a reasonable time.
F.	This ADP does not supersede requirements of other Agencies with jurisdiction and further, this ADP does not relieve the Permittee of any requirements of any other governmental Agency. In addition to this ADP, the Permittee may be required to obtain permits or approvals from other agencies with jurisdiction.
G.	Compliance with the terms of this ADP does not relieve the Permittee from the responsibility of compliance with SWCAA General Regulations for Air Pollution Sources, previously issued Regulatory Orders, RCW 70A.15, Title 173 WAC or any other applicable emission control requirements, nor from the resulting liabilities and/or legal remedies for failure to comply.
H.	If any provision of this ADP is held to be invalid, all unaffected provisions of the ADP will remain in effect and be enforceable.

Req. No.	General Provisions
I.	No change in this ADP will be made or be effective except as may be specifically set forth by written order of the Southwest Clean Air Agency upon written application by the Permittee for the relief sought.
J.	The Southwest Clean Air Agency may, in accordance with RCW 70A.15 impose such conditions as are reasonably necessary to assure the maintenance of compliance with the terms of this ADP, the Washington Clean Air Act, and the applicable rules and regulations adopted under the Washington Clean Air Act.

Appendix A
Performance Monitoring Requirements
Boilers 1 and 2

1. Introduction:

a. The purpose of periodically monitoring the exhaust of Boilers 1 and 2 is to minimize emissions and provide a reasonable assurance that the units are operating properly.

b. Periodic monitoring may be conducted with an electrochemical cell combustion analyzer, analyzers used for reference method testing, or other analyzers pre-approved by SWCAA.

2. Monitoring Requirements:

a. Performance monitoring to determine emission concentrations of the following constituents must be conducted for Boiler 1 and Boiler 2 no later than the end of March during each calendar year unless an alternative test schedule has been approved by SWCAA. The use of an alternative test schedule or method must be pre-approved by SWCAA in writing.

Constituents to be Measured
Carbon Monoxide (CO)
Nitrogen Oxides (NO_X)
Oxygen (O_2)

b. Source operation during monitoring must be representative of maximum intended operating conditions during that year.

c. Alternative monitoring methodologies must be pre-approved by SWCAA.

3. Minimum Quality Assurance/Quality Control Measures:

a. The analyzer(s) response to span (calibration) gas of a known concentration (reference) must be determined before and after testing. No more than 12 hours may elapse between response checks. The test results are invalid if the analyzer zero or span drift exceeds 10% of the span value. The test may not be started until the calibration error (the difference between the reference concentration and the analyzer response) is no more than 10% of the span value.

b. The CO and NO_X span gas concentrations must be no less than 50% and no more than 200% of the emission concentration corresponding to the permitted emission limit. A lower concentration span gas may be used if it is more representative of measured concentrations. Ambient air may be used to zero the CO and NO_X cells/analyzer(s) and span the oxygen cell/analyzer.

Appendix A
Performance Monitoring Requirements
Boilers 1 and 2

3. Minimum Quality Assurance/Quality Control Measures (continued):

c. Sampling of each unit must consist of at least 1 test consisting of at least 5 minutes of data collection following a "ramp-up phase." The ramp-up phase ends when analyzer readings have stabilized (less than 5%/minute change in emission concentration). Emission concentrations must be recorded at least once every 30 seconds during testing. All test data collected following the ramp-up phase(s) must be reported to SWCAA. Alternative testing methods may be utilized provided pre-approval is obtained from SWCAA.

If the test results from any performance monitoring event indicate that emission concentrations may exceed the relevant concentrations identified below, the permittee must either perform 60 minutes of additional monitoring to more accurately quantify CO and NO_X emissions or initiate corrective action. Additional testing or corrective action must be initiated as soon as practical but no later than three days after the potential exceedance is identified. Corrective action includes tuning, maintenance by service personnel, limitation of unit load, or other action taken to maintain compliance with permitted limits. Monitoring of unit emissions must be conducted within three days following completion of any corrective action to confirm that the corrective action has been effective. Corrective action must be pursued until observed emission concentrations no longer exceed the relevant concentrations indicated below on a 1-hour average basis. Initiation of corrective action does not shield the permittee from enforcement actions by SWCAA.

Unit	NO_X (ppmvd @ 3% O_2)	CO (ppmvd @ 3% O_2)
Boiler 1	30	50
Boiler 2	30	50

Appendix A
Performance Monitoring Requirements
Boilers 1 and 2

4. Reporting:

a. All monitoring results must be recorded at the facility and reported to SWCAA in writing using a format designated by the Agency. Results must be reported within 15 calendar days of completion. The following information must be included in the report:

(1) Time and date of the emissions evaluation;
(2) Identification of the personnel involved;
(3) Identification of the affected unit;
(4) A summary of results (NO_X, CO, O_2, etc.), reported in units consistent with the applicable emission standard(s) or limit(s);
(5) A summary of equipment operating conditions (e.g., firing rate, fuel flow, stack temperature, etc.);
(6) A description of the evaluation methods or procedures used, including all field data, quality assurance/quality control procedures and documentation; and
(7) Analyzer response check and calibration error documentation.

b. Individual data points must be reported as read. Final average monitoring results must be corrected to 3% O_2 in the exhaust gas and adjusted to reflect analyzer response to zero and span gases.

5. Changes to Requirements

Monitoring must be conducted as specified in the sections above. The Permittee may submit a written request to SWCAA for approval of minor modifications to the requirements above or the monitoring schedule. Upon review of the request and in accordance with EPA delegation, SWCAA will inform the Permittee in writing of any approved modifications.