

December 18, 2024

Martin Madarieta
Evergreen School District
PO Box 8910
Vancouver, WA 98668

RE: Final Air Discharge Permit for Two New Advanced Thermal Hydronics KN-30+ Boilers

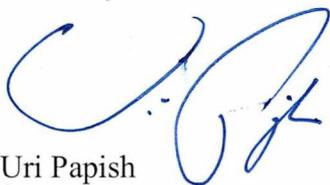
Dear Mr. Madarieta:

A final determination to issue Air Discharge Permit (ADP) 24-3676 has been completed for ADP application CL-3276 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-3276 was published in the permit section of SWCAA's website on November 1, 2024. 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 24-3676 and the associated Technical Support Document (TSD) are available for public review in the "Recent Air Discharge Permits" section under the "Air Permits" link on SWCAA's website (<http://www.swcleanair.gov>). Original copies are enclosed for your files.

ADP 24-3676 may be appealed directly to the Pollution Control Hearings Board (PCHB) within thirty (30) days of receipt as provided in Revised Code of Washington (RCW) 43.21B.

If you have any questions or comments, or desire additional information, please contact me or Abraham Apfel at (360) 574-3058, extension 124.

Sincerely,



Uri Papish
Executive Director

UP:aa





SWCAA
Southwest Clean Air Agency

**AIR DISCHARGE PERMIT
24-3676**

Issued: December 18, 2024

**Evergreen School District
Cascade Middle School
13900 NE 18th Street, Vancouver, WA 98684**

SWCAA ID – 418

REVIEWED BY: 
Clinton Lamoreaux, Chief Engineer



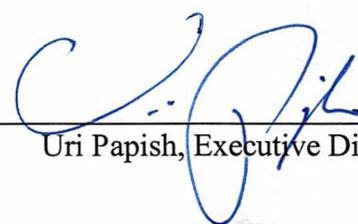
APPROVED BY: 
Uri Papish, Executive Director

TABLE OF CONTENTS

1. Equipment/Activity Identification 1

2. Permit Requirements..... 1

 Emission Limits 1

 Operating Limits and Requirements 2

 Monitoring and Recordkeeping Requirements 3

 Emission Monitoring and Testing Requirements 4

 Reporting Requirements 4

3. General Provisions 5

1. Equipment/Activity Identification

ID No.	Equipment/Activity	Control Equipment/Measure
1	Boiler 1 (ATH model KN-30+)	Low Emission Burner Low-sulfur Fuel (Natural Gas)
2	Boiler 2 (ATH model KN-30+)	Low Emission Burner Low-sulfur Fuel (Natural Gas)
3	Water Heater 1 (Rheem-Ruud Model HE119-199)	Low Emission Burner Low-sulfur Fuel (Natural Gas)
4	Water Heater 2 (Rheem-Ruud Model HE119-199)	Low Emission Burner Low-sulfur Fuel (Natural Gas)
5	Water Heater 3 (Rheem-Ruud Model HE119-199)	Low Emission Burner Low-sulfur Fuel (Natural Gas)
6	Emergency Generator Engine (Perkins Model 1006TG1A)	Ultra-low-sulfur diesel EPA Tier 2 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.

ADP 24-3676 supersedes ADP 04-2547R1 in its entirety.

Emission Limits

Req. No.	Emission Limits	Equipment/ Activity ID No.									
1.	<p>Emissions from Boiler 1 must not exceed any of the following:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Pollutant</th> <th colspan="2">Emission Limit</th> </tr> </thead> <tbody> <tr> <td>Nitrogen Oxides</td> <td>0.48 tpy</td> <td>30 ppmvd</td> </tr> <tr> <td>Carbon Monoxide</td> <td>0.49 tpy</td> <td>50 ppmvd</td> </tr> </tbody> </table> <p>The long-term emission limits are 12-month rolling sums calculated consistent with Section 6 of the Technical Support Document (TSD) for this ADP. The short-term emission limits are determined as a 1-hour average, corrected to 3% O₂.</p>	Pollutant	Emission Limit		Nitrogen Oxides	0.48 tpy	30 ppmvd	Carbon Monoxide	0.49 tpy	50 ppmvd	1
Pollutant	Emission Limit										
Nitrogen Oxides	0.48 tpy	30 ppmvd									
Carbon Monoxide	0.49 tpy	50 ppmvd									

Req. No.	Emission Limits	Equipment/ Activity ID No.									
2.	<p>Emissions from Boiler 2 must not exceed any of the following:</p> <table border="1" data-bbox="332 352 1224 468"> <thead> <tr> <th data-bbox="332 352 742 390">Pollutant</th> <th colspan="2" data-bbox="742 352 1224 390">Emission Limit</th> </tr> </thead> <tbody> <tr> <td data-bbox="332 390 742 428">Nitrogen Oxides</td> <td data-bbox="742 390 982 428">0.48 tpy</td> <td data-bbox="982 390 1224 428">30 ppmvd</td> </tr> <tr> <td data-bbox="332 428 742 468">Carbon Monoxide</td> <td data-bbox="742 428 982 468">0.49 tpy</td> <td data-bbox="982 428 1224 468">50 ppmvd</td> </tr> </tbody> </table> <p>The long-term emission limits are 12-month rolling sums calculated consistent with Section 6 of the TSD for this ADP. The short-term emission limits are determined as a one-hour average, corrected to 3% O₂.</p>	Pollutant	Emission Limit		Nitrogen Oxides	0.48 tpy	30 ppmvd	Carbon Monoxide	0.49 tpy	50 ppmvd	2
Pollutant	Emission Limit										
Nitrogen Oxides	0.48 tpy	30 ppmvd									
Carbon Monoxide	0.49 tpy	50 ppmvd									
3.	<p>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.</p>	3-5									
4.	<p>Visible emissions from natural gas-fired equipment must not exceed zero percent (0%) opacity for more than three (3) minutes in any one-hour period as determined in accordance with SWCAA Method 9.</p>	1-5									
5.	<p>Visible emissions from the Emergency Generator Engine must not exceed five percent (5%) opacity for more than three (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 start-up period ends when the earlier of the following operating events occurs:</p> <ul style="list-style-type: none"> (a) The engine has reached normal operating temperature; or (b) The engine has been operating for 15 minutes. 	6									

Operating Limits and Requirements

Req. No.	Operating Limits and Requirements	Equipment/ Activity ID No.
6.	<p>Reasonable precautions must be taken at all times to prevent and minimize fugitive emissions from plant operations.</p>	Facility-wide
7.	<p>Operations that cause or contribute to a nuisance odor must use recognized good practice and procedures to reduce these odors to a reasonable minimum.</p>	Facility-wide
8.	<p>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.</p>	Facility-wide

Req. No.	Operating Limits and Requirements	Equipment/ Activity ID No.
9.	Each pollution control device must be operated whenever the processing equipment served by that air pollution control device is in operation. Control devices must be operated and maintained in accordance with the manufacturer's specifications. Furthermore, air pollution control devices must be operated in a manner that minimizes emissions.	Facility-wide
10.	All exhausts must be discharged vertically into the ambient air above the level of the building roof. Any device that obstructs or prevents vertical discharge is prohibited.	Facility-wide
11.	Boilers and Water Heaters must be fired on natural gas at all times.	1-5
12.	If the test results from any performance monitoring event for Boilers 1 or 2 indicate that emission concentrations may exceed the permitted emission limits, 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
13.	The Emergency Generator Engine must only be fired on diesel fuel with a maximum sulfur content of 15 ppmw. Any fuel other than ultra-low sulfur diesel fuel must be approved by SWCAA in writing prior to use.	6
14.	The Emergency Generator Engine must be equipped with a non-resettable hour meter to record hours of operation.	6
15.	Operation of the Emergency Generator Engine for maintenance checks and readiness testing must not exceed 100 hr/yr. Emergency operation of the emergency engine is not limited.	6
16.	Operation of the Emergency Generator Engine is limited to maintenance checks, readiness testing, and as necessary to provide emergency power.	6

Monitoring and Recordkeeping Requirements

Req. No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity ID No.
17.	Except for data logged by a computerized data acquisition system, each record required by this ADP must include the date and the name of the person making the record entry, at minimum. If a control device or process is not operating, a record must be made to that effect.	Facility-wide

Req. No.	Monitoring and Recordkeeping Requirements	Equipment/ Activity ID No.
18.	All records required by this ADP must be kept for a minimum period of no less than three (3) years and must be maintained in a form readily available for inspection by SWCAA representatives.	Facility-wide
19.	The following information must be collected, recorded at the intervals specified below, and readily available on-site inspection: (a) The total amount of natural gas consumed facility-wide must be recorded each month. Billing records may serve this purpose; (b) The number of hours the emergency generator engine is operated must be recorded for each calendar year; (c) Maintenance activities that may affect emissions must be logged for each occurrence; and (d) Excess emissions, and upset conditions that cause excess emissions, must be recorded for each occurrence.	Facility-wide

Emission Monitoring and Testing Requirements

Req. No.	Emission Monitoring and Testing Requirements	Equipment/ Activity ID No.
20.	Emission monitoring of Boilers 1 and 2 must be conducted once per calendar year in accordance with Appendix A.	1-2

Reporting Requirements

Req. No.	Reporting Requirements	Equipment/ Activity ID No.
21.	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
22.	Deviations from permit conditions must be reported as soon as possible but no later than 30 days after the end of the month during which the deviation is discovered.	Facility-wide
23.	All air quality related complaints received by the Permittee must be reported to SWCAA within three (3) calendar days of receipt. Complaint reports must include the date and time of the complaint, the name and contact information (if available) for the complainant, the nature of the complaint, and any actions taken by the Permittee to address the complaint.	Facility-wide

Req. No.	Reporting Requirements	Equipment/ Activity ID No.
24.	An annual emissions inventory report must be submitted to SWCAA by March 15 for emissions from the previous calendar year in accordance with SWCAA 400-105(1). Each report must contain, at a minimum, the following information: (a) The annual sum of emissions of NO _x , CO, VOC, PM, PM ₁₀ , PM _{2.5} , SO ₂ , TAPs, and HAPs; (b) The total amount of natural gas consumed facility-wide; and (c) The total amount of hours the Emergency Generator Engine operated.	Facility-wide
25.	Emission monitoring results must be reported to SWCAA in writing within fifteen (15) calendar days of completion.	1-2

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 invalidated, in whole or in part, 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 without prior SWCAA approval, 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 ensure 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.
K.	For the purposes of establishing if a condition of this ADP has been violated or is being violated, nothing in this ADP precludes the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test procedures or methods had been performed.

Appendix A

Performance Monitoring Requirements

Boilers 1 and 2

1. Background

The purpose of emission monitoring ("tuning") is to quantify emissions from the boilers, provide a basis for adjusting the boilers as necessary to minimize emissions, and to provide a reasonable assurance that the boilers are operating properly.

2. Test Constituents and Test Methods

- (a) Oxygen (O₂) using a calibrated portable combustion analyzer or EPA Methods 3 or 3A;
- (b) Nitrogen oxides (NO_x) using a calibrated portable combustion analyzer or EPA Method 7E; and
- (c) Carbon monoxide (CO) using a calibrated portable combustion analyzer or EPA Method 10.

Combustion analyzers include electrochemical cell combustion analyzers, analyzers used for reference method testing, or other analyzers pre-approved by SWCAA.

3. Monitoring Requirements

- (a) Dates. Emission monitoring must be conducted at least once within every twelve (12) month period no later than the end of March, unless the boiler is not in use during that year or a reference method source testing was conducted on that unit during that year. Monitoring conducted more than three months before the required due date will not satisfy the periodic monitoring requirement without pre-approval from SWCAA.
- (b) Source Operation. Boiler operation during the emissions test must be representative of current intended operating conditions.
- (c) Data Collection.
 - (1) Sampling must consist of at least one (1) test consisting of at least five (5) minutes of data collection following a "ramp-up phase." The ramp-up phase ends when analyzer readings have stabilized (less than 5% per minute change in emission concentration). Emission concentrations must be recorded at least once every thirty (30) seconds during the data collection phase. All test data collected following the ramp-up phase must be reported to SWCAA.
 - (2) The analyzer(s) response to span gas of a known concentration must be determined before and after testing. No more than twelve (12) hours may elapse between span gas response checks. The results of the analyzer response will not be valid if the pre and post response check results vary by more than 10% of the known span gas value.
 - (3) 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 limits. 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.
 - (4) If the monitoring results from any monitoring event indicate that emission concentrations exceed the permitted emission limits for the unit, the Permittee must either perform sixty (60) minutes of additional monitoring to more accurately quantify CO and NO_x emissions, or initiate corrective action. Additional monitoring or corrective action must be initiated as soon as practical but no later than three (3)

Appendix A

Performance Monitoring Requirements

Boilers 1 and 2

calendar days after the 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 (3) calendar days following completion of any corrective action to confirm that the corrective action has been effective. Initiation of corrective action does not shield the Permittee from enforcement.

Permit Limits (1-hr average)

NO _x (ppmvd @ 3% O ₂)	CO (ppmvd @ 3% O ₂)
30	50

4. Reporting Requirements

Monitoring results must be reported to SWCAA within fifteen (15) calendar days of monitoring completion. The average of the results of each run is evaluated against the requirements of this ADP. Results must be submitted on forms provided by SWCAA or in an alternative format previously approved by SWCAA. The report must include the following information:

- (a) A description of the emission unit, including manufacturer, model number and facility designation;
- (b) Time and date of the emissions evaluation;
- (c) Identification of the personnel involved;
- (d) Test "tapes" or other direct information generated by the monitoring equipment;
- (e) All collected data, calculations, and final results, reported in units consistent with the applicable emission standard or limit;
- (f) Final test result concentrations will be corrected to 3% O₂;
- (g) A summary of control system or equipment operating conditions;
- (h) A description of the evaluation methods or procedures used, including all field data, quality assurance/quality control procedures and documentation; and
- (i) Calibration error checks documentation.

5. Changes to Requirements

Emission 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.