

## APPROVAL GVU1189

**Pursuant to:**

Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008  
and the BC Environmental Management Act, S.B.C 2003, c.53

**Issued to:**

Corix Utilities Inc.  
(the "Approval Holder")

**To Authorize:**

the discharge of air contaminants to the air from  
a district heating facility

**Located at:**

8500 South Campus Road, Burnaby, BC


**Effective Period:**

The terms and conditions set out in the Approval apply to the existing or planned works as of  
June 14, 2021 and this Approval will expire on October 14, 2021.

All previous versions of this Approval are invalid.

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Issued: October 09, 2020  
Amended: June 11, 2021

  
R.H. (Ray) Robb, P. Eng.  
District Director

**METRO VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT APPROVAL**

**SECTION 1 – AUTHORIZED EMISSION SOURCES**

Authorization to discharge air contaminants from the authorized Emission Sources and Works listed below is subject to the specified terms and conditions.

Approximate locations of the emission sources are shown on the Site Plan in section 4.

**EMISSION SOURCE 01: Biomass boiler discharging through a Stack(s).**

MAXIMUM EMISSION FLOW RATE: **572** m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: **2920** h/y  
MAXIMUM PRIMARY BURNER INPUT FIRING RATE: **73.3** GJ/h

MAXIMUM EMISSION QUALITY:

1. 240 mg/m<sup>3</sup> Carbon Monoxide
2. 15 mg/m<sup>3</sup> Combustion Condensable Particulate Matter
3. 240 mg/m<sup>3</sup> Nitrogen Oxides
4. 20 mg/m<sup>3</sup> Total Volatile Organic Compounds
5. 10 mg/m<sup>3</sup> Particulate Matter
6. 10% Opacity.

WORKS AND PROCEDURES:

Wellons 13.5 MW biomass boiler, multicyclone dust collector, and Wellons three-electrical-field dry electrostatic precipitator (ESP) model 2W-091-1922 complete with high-frequency power supplies (HFPS) and good operating practices. Emissions are required to be continuously monitored for NO<sub>x</sub>, CO, O<sub>2</sub> and Opacity.


Stack height (m) = 23.8  
Stack diameter (m) = 1.27  
Minimum exhaust gas temperature (°C) = 75.8  
Exit velocity (m/s) = 13.44

**EMISSION SOURCE 02: Low NO<sub>x</sub> natural gas boiler #1 discharging through a Stack(s).**

MAXIMUM EMISSION FLOW RATE: **62** m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: **2920** h/y  
MAXIMUM PRIMARY BURNER INPUT FIRING RATE: **13.7** GJ/h

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**MAXIMUM EMISSION QUALITY:**

1. 8.3 mg/m<sup>3</sup> Combustion Volatile Organic Compound
2. 60 mg/m<sup>3</sup> Nitrogen Oxides
3. 21.9 mg/m<sup>3</sup> Sulphur Oxides
4. 12 mg/m<sup>3</sup> Particulate Matter
5. 10% Opacity.

**WORKS AND PROCEDURES:**

Thermogenics HG300HWNAX low-NOx boiler complete with flue gas recirculation (FGR), low NOx burners and good operating practices.

Stack height (m) = 15

Stack diameter (m) = 0.5

Minimum exhaust gas temperature (°C) = 135

Exit velocity (m/s) = 10.11

**EMISSION SOURCE 03: Low NOx natural gas boiler #2 discharging through a Stack(s).**

**MAXIMUM EMISSION FLOW RATE: 62 m<sup>3</sup>/min**

**MAXIMUM ANNUAL OPERATING HOURS: 2920 h/y**

**MAXIMUM PRIMARY BURNER INPUT FIRING RATE: 11.7 GJ/h**

**MAXIMUM EMISSION QUALITY:**

1. 8.3 mg/m<sup>3</sup> Combustion Volatile Organic Compound
2. 60 mg/m<sup>3</sup> Nitrogen Oxides
3. 2.9 mg/m<sup>3</sup> Sulphur Oxides
4. 12 mg/m<sup>3</sup> Particulate Matter
5. 10% Opacity.

**WORKS AND PROCEDURES:**

Thermogenics HG300HWNAX low-NOx boiler complete with flue gas recirculation (FGR), low NOx burners and good operating practices.

Stack height (m) = 15

Stack diameter (m) = 0.5

Minimum exhaust gas temperature (°C) = 135

Exit velocity (m/s) = 10.11

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## METRO VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT APPROVAL

### SECTION 2 – GENERAL REQUIREMENTS AND CONDITIONS

#### **A. AUTHORIZED WORKS, PROCEDURES AND SOURCES**

Works and procedures, which this Approval authorizes in order to control the discharge of air contaminants, must be employed during all operating periods of the related sources. The Approval Holder must regularly inspect and maintain all such works, procedures and sources.

The District Director must be provided with reasonable notice of any changes to or replacement of authorized works, procedures or sources. Any changes to or replacement of authorized works, procedures or sources must be approved by the District Director in advance of operation. For certainty, this does not include routine maintenance or repair.

The discharge criteria described in Section 1 of this Approval are applicable on the issued or last amended date of this Approval unless specified otherwise. If a date different to the issued or last amended date is specified, the existing works, procedures and sources must be maintained in good operating condition and operated in a manner to minimize emissions.

#### **B. NOTIFICATION OF MONITORING NON-COMPLIANCE**

The District Director must be notified immediately of any emission monitoring results, whether from a continuous emissions monitor or periodic testing, which exceed the quantity or quality authorized in Section 1 of this Approval. Notification must be made to Metro Vancouver's 24-hour number: 604-436-6777, or to [regulationenforcement@metrovancouver.org](mailto:regulationenforcement@metrovancouver.org).

#### **C. POLLUTION NOT PERMITTED**

Notwithstanding any conditions in this Approval, no person may discharge or allow or cause the discharge of any air contaminant so as to cause pollution as defined in the Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008 and the Environmental Management Act.

#### **D. BYPASSES**

The discharge of air contaminants that have bypassed authorized control works is prohibited unless advance approval has been obtained and confirmed in writing from the District Director.


#### **E. EMERGENCY PROCEDURES**

In the event of an emergency or condition beyond the control of the Approval Holder that prevents effective operation of the authorized works or procedures or leads to unauthorized discharge, the Approval Holder must:

1. Comply with all applicable statutory requirements;
2. Immediately notify the District Director of the emergency or condition and of contingency actions invoked or planned to mitigate adverse impacts and restore compliance. Notification must be made to Metro Vancouver's 24-hour number: 604-436-6777; and
3. Take appropriate remedial action for the prevention or mitigation of pollution.

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The District Director may specify contingency actions to be implemented to protect human health and the environment while authorized works are being restored and/or corrective actions are being taken to prevent unauthorized discharges.

If an emergency situation results in a "spill" as defined in the Environmental Management Act Spill Reporting Regulation, the spill must also be reported immediately to the Provincial Emergency Program by telephoning 1-800-663-3456.

### **F. AMENDMENTS**

The terms and conditions of this Approval may be amended, as authorized by applicable legislation. New works, procedures or sources or alterations to existing works, procedures or sources must receive authorization in advance of operation.

### **G. STANDARD CONDITIONS AND DEFINITIONS**

Unless otherwise specified, the following applies to this Approval:

1. Gaseous volumes are corrected to standard conditions of 20 degrees Celsius (°C) and 101.325 kilo Pascals (kPa) with zero percent moisture.
2. Contaminant concentrations from the combustion of specific fuel types are corrected to the following Oxygen content, unless specified otherwise:
  - 3% O<sub>2</sub> for natural gas and fuel oil; or
  - 8% O<sub>2</sub> for wood fuel
3. Where compliance testing is required, each contaminant concentration limit in this Approval will be assessed for compliance based on a valid test using test methods approved by the District Director.
4. Visual opacity measurements are made at the point of maximum density, nearest the discharge point and exclude the effect of condensed, uncombined water droplets. Compliance determinations are based on a six-minute average in accordance with the United States Environmental Protection Agency (US EPA) Method 9: Visual Determination of the Opacity of Emissions from Stationary Sources. Continuous Emission Monitor System (CEMS) opacity compliance determinations are based on a one-hour average (taken from the top of each hour).
5. If authorized in Section 1 of this Approval, standby fuel use is restricted to a maximum of 350 hours per year and to those periods during which the primary authorized fuel is not available. Fuel oil sulphur content shall not exceed 15 milligrams per kilogram (mg/kg) and emissions during fuel oil firing shall not exceed 10% opacity.
6. Definitions in the Environmental Management Act and Air Quality Management Bylaw apply to terminology used in this Approval.
7. Threshold Limit Values (TLV) refer to the Time Weighted Average (TWA) exposure limits for substances specified in the American Conference of Governmental Industrial Hygienists Threshold Limit Values handbook, current on the latest date that this Approval issuance or amendment came into effect.
8. Sulphur Oxides (SO<sub>x</sub>) are expressed as Sulphur Dioxide.
9. Nitrogen Oxides (NO<sub>x</sub>) are expressed as Nitrogen Dioxide.

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10. The Canadian Council of Ministers of the Environment (CCME) "Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks (PN1180)" shall be adhered to for all applicable tanks unless otherwise stated in this Approval.
11. Authorized 'Maximum Annual Operating Hours' of 8760 hours per year for an emission source is equivalent to authorization for continuous operation of the emission source for an entire calendar year, including leap years.

### **H. RECORDS RETENTION**


All records and supporting documentation relating to this Approval must be kept for at least three years after the date of preparation or receipt thereof, and be made available for inspection within 48 hours of a request by an Officer.

### **I. HEATING, VENTILATION, AIR CONDITIONING AND INTERNAL COMBUSTION ENGINES**

Any natural gas-fired heating, ventilation or air conditioning system for buildings and any internal combustion engine located at the discharge site must be maintained and operated in a manner prescribed by the manufacturer to ensure good combustion of the fuel with minimum discharge of air contaminants.

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**SECTION 3 – REPORTING REQUIREMENTS**

**A. MONITORING REQUIREMENTS AND REPORTING**

Unless otherwise approved in writing by the District Director prior to any sampling or analysis, all measurements must be performed by an independent agency in accordance with Metro Vancouver Air Emissions Sampling Program Manual of Methods and Standard Operating Procedures and the BC Ministry of Environment Field Sampling Manual, as they may be amended from time to time. Any variance from these procedures must receive prior written approval from the District Director.

A minimum of 5 working days advance notice must be given prior to taking measurements required by this Monitoring and Sampling Program. Notification must be given to the Metro Vancouver Environmental Regulation & Enforcement Division (phone 604-436-6777, Fax 604-436-6707, email [regulationenforcement@metrovancover.org](mailto:regulationenforcement@metrovancover.org)).


Unless otherwise specified, sampling must be performed under operating conditions representative of the previous 90 calendar days of operation. All field data and calculations must be submitted with monitoring results and they must be reported in the metric units that are used in this Approval. These submissions must include process data relevant to the operation of the source of the emissions and the performance of the emission control works.

Unless otherwise specified or approved in writing by the District Director, stack sampling must not occur more than 120 calendar days prior to the due dates specified below.

The Approval Holder must conduct the following monitoring and sampling and submit electronic reports of the results to the District Director by the due dates specified in the following table using a password enabled web based application provided by Metro Vancouver.

EMISSION SOURCE	INITIAL DUE DATE	SUBSEQUENT DUE DATES	REQUIREMENT	PARAMETER(S)	TEST METHOD	REPORT TYPE/TITLE
N/A	N/A	N/A	N/A	N/A	N/A	N/A

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**B. INFORMATION REPORTING REQUIREMENTS**

The Approval Holder must submit electronic reports containing the required information to the District Director by the due dates specified in the following table using a password enabled web based application provided by Metro Vancouver.

EMISSION SOURCE	INITIAL DUE DATE	SUBSEQUENT DUE DATES	REQUIREMENT	REPORT TYPE/TITLE
01, 02, 03	November 16, 2021	On or before November 16 for each subsequent year.	Written report providing details of the types and amounts of fuel burned during the approval period.	Fuel Use
01, 02, 03	November 16, 2021	On or before November 16 for each subsequent year.	Written report providing details of the total number of hours and days operated during the approval period. Detailed records are to be maintained and made available for inspection by Metro Vancouver staff for a minimum period of three years.	Operating Period
Facility	January 31, 2022	On or before January 31 for each subsequent year.	<p>Submit a written report, as per an approved ambient air quality monitoring station data report outline, summarizing NO<sub>2</sub> concentrations from the approved ambient NO<sub>2</sub> monitoring stations for the previous 12-month period or part thereof.</p> <p>Monitoring must be conducted as per a monitoring plan approved in writing by the District Director.</p> <p>Until such time as the ambient NO<sub>2</sub> monitoring stations are established, this report can consist of a progress report on establishing the stations.</p>	Ambient Air Quality Monitoring Station Data Report

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<b>EMISSION SOURCE</b>	<b>INITIAL DUE DATE</b>	<b>SUBSEQUENT DUE DATES</b>	<b>REQUIREMENT</b>	<b>REPORT TYPE/TITLE</b>
Facility	July 15, 2021	N/A	Submit a final plan for written approval by the District Director, that addresses all comments from Metro Vancouver, to mitigate potential exposure if elevated nitrogen dioxide concentrations are measured by the NO <sub>2</sub> monitoring stations. The plan should include actions related to windows that can be opened, accessible balconies and HVAC intakes at buildings where exceedances of Metro Vancouver’s ambient NO <sub>2</sub> objectives were predicted using the modelling methodology approved by Metro Vancouver. The plan should be clear what will be considered an “elevated level” and potentially could have different actions at different concentration levels.	Final Nitrogen Dioxide Exposure Mitigation Plan
Facility	July 15, 2021	N/A	Submit for review by the Fraser Health Authority and approval by the District Director a final report of a human health risk/impact assessment completed in accordance with the Human Health Risk Assessment Plan approved by the District Director and that addresses all comments from the Fraser Health Authority and Metro Vancouver.	Final Human Health Risk Assessment Report

**C. AMENDED OR ADDITIONAL REQUIREMENTS**

Based on the results of the monitoring program, including the stack sampling results or any other information, the District Director may:

1. Amend the monitoring and reporting requirement of any of the information required by this Approval including plans, programs and studies.
2. Require additional investigations, tests, surveys or studies.

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**SECTION 4 – SITE PLAN**

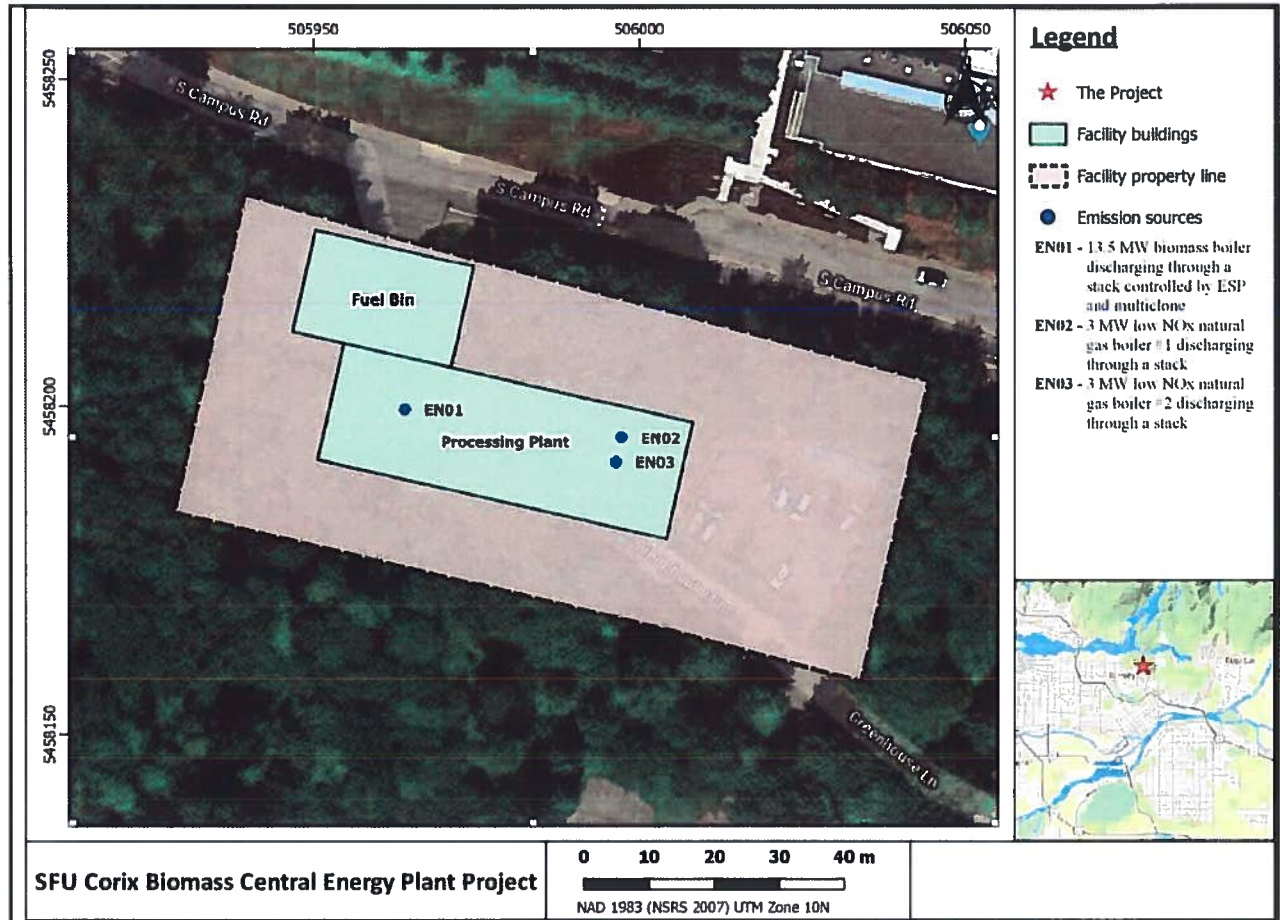
LEGAL DESCRIPTION OF DISCHARGE SITE: **Parcel Identifier: 028-300-131**

**Legal Description:**


**LOT 1 DISTRICT LOTS 31, 101, 102, 141, 144, 147, 209, 210 AND 211**

**GROUP 1 NEW WESTMINSTER DISTRICT PLAN BCP45523**

The following site plan is not to scale and the locations of the discharge points are approximate.



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