



**metrovancover** Greater Vancouver Regional District • Greater Vancouver Water District

Greater Vancouver Sewerage and Drainage District • Metro Vancouver Housing Corporation  
4330 Kingsway, Burnaby, BC, Canada V5H 4G8 604-432-6200 www.metrovancover.org

*Policy & Planning Department, Regulation & Enforcement Division, Telephone 604-432-6200, Fax: 604-436-6707*

## PERMIT GVA0007

Pursuant to  
Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008  
and BC Environmental Management Act

**SUPERIOR PLUS INC.**

located at  
**100 FORESTER STREET, NORTH VANCOUVER, B.C.M V7H 1W4**

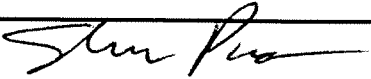
is authorized to discharge air contaminants to the air from a  
**SODIUM CHLORATE MANUFACTURING PLANT**

located at the above address, subject to the requirements in this permit.

Contravention of any of these requirements is a violation of the bylaw  
and may result in enforcement action.

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Date Issued: December 14, 1992  
Date Amended: **NOV 02 2009**

  
Silvano Padovan, Assistant District Director  
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**SECTION 1 – AUTHORIZED EMISSION SOURCES**

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

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

**EMISSION SOURCE 11:** No. 7 cell line discharging through a Scrubber Exhaust.

MAXIMUM EMISSION FLOW RATE: 70 m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:  
1. 15 mg/m<sup>3</sup> Chlorine

**WORKS AND PROCEDURES:**

A scrubbing system consisting of a titanium counter-current packed column scrubber using brine as the scrubbing solution and a fibreglass counter current packed column scrubber using sodium hydroxide as the scrubbing solution, and other related appurtenances together with good operating practices.

**EMISSION SOURCE 12:** Sodium Chlorate dryer discharging through a Scrubber Exhaust.

MAXIMUM EMISSION FLOW RATE: 120 m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:  
1. 50 mg/m<sup>3</sup> Sodium Chlorate

**WORKS AND PROCEDURES:**

A cyclonic vane scrubber using water as the scrubbing solution and other related appurtenances together with good operating practices.

**EMISSION SOURCE 13:** Environmental ventilation system discharging through a Scrubber Exhaust.

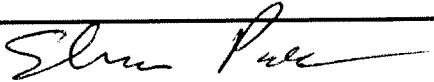
MAXIMUM EMISSION FLOW RATE: 114 m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:  
1. 15 mg/m<sup>3</sup> Chlorine

**WORKS AND PROCEDURES:**

A PVC counter-current packed column scrubber using sodium hydroxide as the scrubbing solution and related appurtenances together with good operating practices.

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**GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT**

**EMISSION SOURCE 14:** No. 8 cell line discharging through a Scrubber Exhaust.

MAXIMUM EMISSION FLOW RATE: 185 m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. 15 mg/m<sup>3</sup> Chlorine.

WORKS AND PROCEDURES:

A scrubbing system consisting of a titanium counter-current packed column scrubber using brine as the scrubbing solution and a 2 stage titanium counter-current packed column scrubber using sodium hydroxide as the scrubbing solutions, and related appurtenances together with good operating practices.

**EMISSION SOURCE 15:** Fluid bed dryer discharging through a Scrubber Exhaust.

MAXIMUM EMISSION FLOW RATE: 175 m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. 50 mg/m<sup>3</sup> Sodium Chlorate

WORKS AND PROCEDURES:

An impingement plate scrubber using water as the scrubbing solution and other related appurtenances together with good operating practices.

**EMISSION SOURCE 16:** Hydrogen compressor pressure control vents discharging through a stack.

MAXIMUM EMISSION FLOW RATE: 255 m<sup>3</sup>/min.  
MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. No odour beyond the plant boundary such that the District Director determines that pollution has occurred.


WORKS AND PROCEDURES:

No air contaminants shall be emitted from this source into the atmosphere except during a nitrogen purge of the line 7 and/or line 8 compressor recycle loops or during pressure control of line 7 and/or 8 compressor recycle loops. Consequently, emissions from emission source 16 will have been diverted from emission sources 11 and/or 14 and passed through the control works authorized for emission sources 11 and 14. The maximum emission quality restrictions specified for emission sources 11, and 14 apply to emission source 16.

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**SECTION 2 – GENERAL REQUIREMENTS AND CONDITIONS**

**A. AMENDMENTS**

The terms and conditions of this permit may be amended, as authorized by applicable legislation. New and modified sources must receive authorization prior to start-up.

**B. POLLUTION**

Notwithstanding any conditions in this permit, no person shall 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.

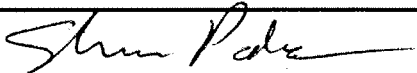
**C. STANDARD CONDITIONS AND DEFINITIONS**

Unless otherwise specified, the following applies to this permit:

1. Gaseous volumes are corrected to standard conditions of 20° Celsius & 101.325 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;
  - 8% O<sub>2</sub> for wood fuel.
  - 15% O<sub>2</sub> for turbines
3. Where compliance testing is required, each contaminant concentration limit in this permit 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. Visual opacity compliance determinations are based on a 6 minute average in accordance with the provincial "Source Testing Code for the Visual Measurement of The Opacity of Emissions from Stationary Sources".
5. If authorized in section 1 of this permit, standby fuel use is restricted to a maximum of 350 hrs/yr and to those periods during which the primary authorized fuel is not available. Fuel oil sulphur content shall not exceed 15 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 permit.
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 permit issuance or amendment came into effect.
8. Sulphur Oxides (SOx) are expressed as Sulphur Dioxide.
9. Nitrogen Oxides (NOx) are expressed as Nitrogen Dioxide.
10. The Canadian Council of Ministers of the Environment (CCME) "Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks (June 1995, CCME-EPC-87E)" shall be adhered to for all applicable tanks unless otherwise stated in this permit.
11. Authorized 'Maximum Annual Operating Hours' of 8760 hrs/yr for an emission source is equivalent to authorization for continuous operation of the emission source for an entire calendar year, including leap years.

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

Air contaminants discharged from any natural gas-fired heating, ventilation or air conditioning systems for buildings and any internal combustion engines located at the discharge site shall be maintained and operated in a manner prescribed by the manufacturer to ensure good combustion of the fuel with minimum discharge of air contaminants.

#### **E. AUTHORIZED WORKS AND PROCEDURES**

Works and procedures, which this permit authorizes to control the discharge of air contaminants, shall be employed during all operating periods of the related facilities. The permit holder shall regularly inspect and maintain all such works in good repair.

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

#### **F. BYPASSES**

The discharge of contaminants which have bypassed authorized control works during non-emergency conditions are prohibited unless approval has been obtained in writing from the District Director.

#### **G. EMERGENCY PROCEDURES**

In the event of an emergency that prevents compliance with a requirement(s) of this permit, that requirement(s) shall be suspended for such time as the emergency continues or until otherwise directed by the District Director, provided that:


1. Due diligence was exercised in relation to the process, operation or event that caused the emergency and that the emergency occurred notwithstanding this exercise of due diligence; and,
2. The District Director is notified at the first available opportunity of the emergency and of contingency actions invoked or planned to mitigate adverse impacts and restore compliance. Notification shall be made to Metro Vancouver's 24-hour number: 604-436-6777; and,
3. Due diligence is exercised in shutting down related processes and/or taking action to restore compliance in the shortest possible time frame, unless specified otherwise in this permit or by written notice from the District Director.

Notwithstanding 1, 2 and 3 above, the District Director may specify contingency actions to be implemented to protect human health and the environment while authorized works and/or standard operating procedures are being restored.

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

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**SECTION 3 – REPORTING REQUIREMENTS**

**A. MONITORING REQUIREMENTS AND REPORTING**

Unless otherwise approved by the District Director prior to any sampling or analysis, all measurements shall 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 approval from the District Director.

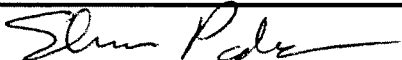
A minimum of 3 days advance notice must be given prior to taking measurements required by this Monitoring and Sampling Program. Notification must be given to the Metro Vancouver, Regulation & Enforcement Division (phone 604-436-6777, Fax 604-436-6707, email [regulationenforcement@metrovancover.org](mailto:regulationenforcement@metrovancover.org) ).

Unless otherwise specified, sampling shall 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 shall be reported in the metric units which are used in this permit. These submissions shall include process data relevant to the operation of the source of the emissions and the performance of the emission control works.

The permit holder shall conduct the following monitoring and sampling and submit written and/or electronic reports of the results to the District Director by the dates specified below.

SOURCE	DUE DATE	FREQUENCY	REQUIREMENT	PARAMETER(S)	TEST METHOD
11, 13, 14	September 30, 2010	Annually	Submit a written report detailing the measured discharge rate and concentration of specified parameters in the emissions.	Chlorine	EPA Method 26
12, 15	March 31, 2010	Annually	The measured rate of, and concentration of air contaminants in, the emission(s).	Sodium Chlorate	EPA Method 5

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## B. INFORMATION REPORTING REQUIREMENTS

The permit holder shall submit written and/or electronic reports containing the required information to the District Director by the dates specified below.

EMISSION SOURCE	DUE DATE	FREQUENCY	REQUIREMENT	REPORT TYPE
16	March 31, 2010	Annually	Submit a written report detailing the total number of hours and days air contaminants were emitted during the preceding calendar year. Records are to be maintained in a written bound log or other format approved by the District Director, and made available for inspection for a minimum period of three years.	Operating Period
General	March 31, 2010	Annually	Submit a written report detailing the types and amounts of principal products produced and principal raw materials used in the preceding calendar year.	Materials & Products


## 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 permit including plans, programs and studies.
2. Require additional investigations, tests, surveys or studies.

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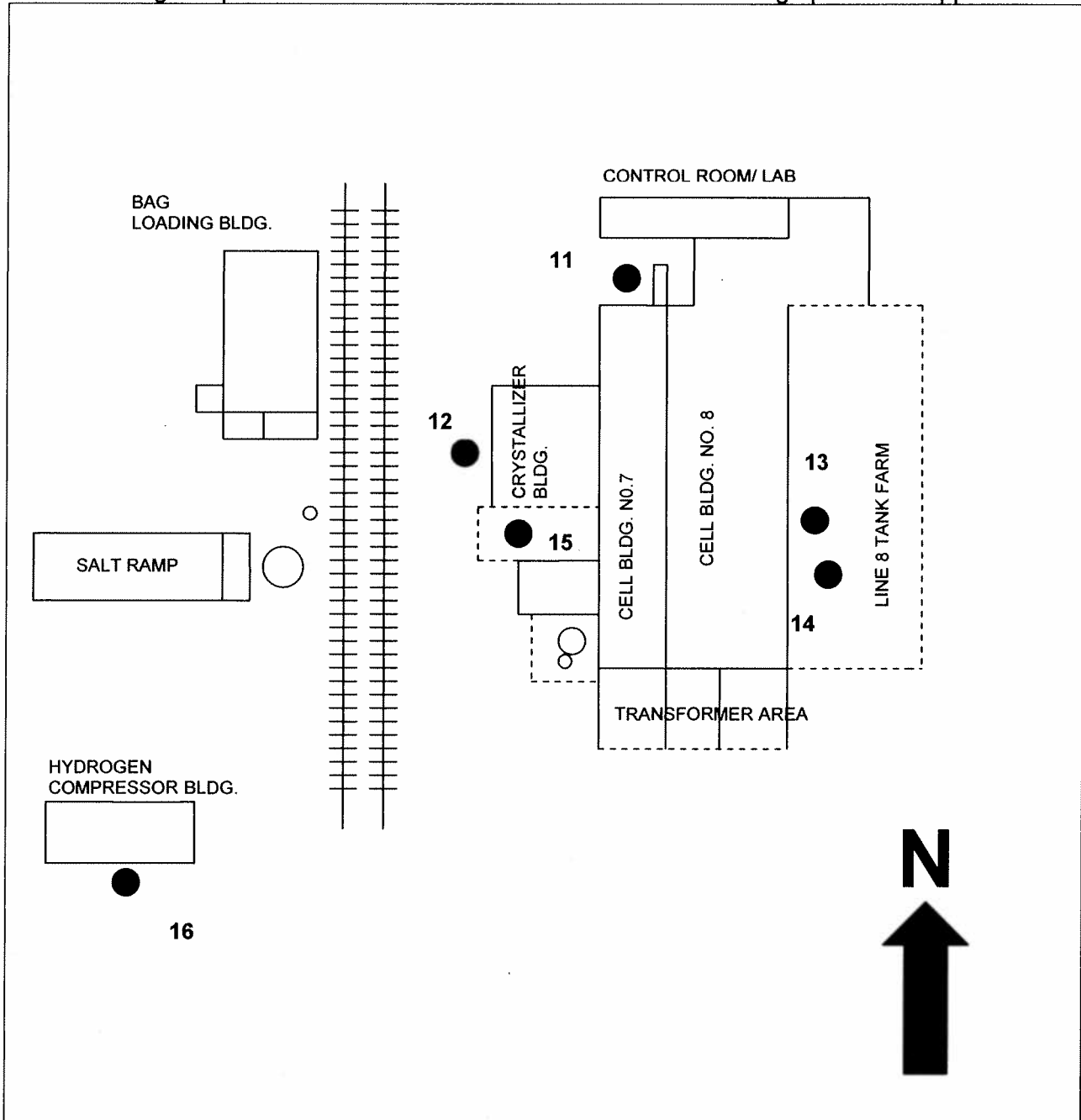


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# SECTION 4 – SITE PLAN

LEGAL DESCRIPTION OF DISCHARGE SITE: CONSOLIDATED LOTS CONSISTING OF LOT 3 (EXPLANATORY PLAN 5078) EXCEPT: PART SUBDIVIDED BY PLAN LMP50161 BLOCK X DISTRICT LOTS 611 GROUP 1 PLAN 9510 & LOT L

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



004978592 AQ Permit

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