METRO VANCOUVER

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

Policy and Planning Department
Tel: 604-432-6200 Fax: 604-436-6707

PERMIT GVA0141

(Under the provisions of the GVRD Air Quality Management Bylaw No. 937, 1999
and the BC Environmental Management Act)

WEST COAST REDUCTION LTD.

IS AUTHORIZED TO DISCHARGE AIR CONTAMINANTS

FROM A RENDERING PLANT

LOCATED AT 105 NORTH COMMERCIAL DRIVE, VANCOUVER BC V5L 4V7

This permit has been issued under the terms and conditions
prescribed in the attached Schedules A, B, C, D, E, F, G & H
for works existing or planned on

MAR 1 4 2008

R.H. ROBB
DISTRICT DIRECTOR

INDEX OF SCHEDULES

GREATER VANCOUVER REGIONAL DISTRICT

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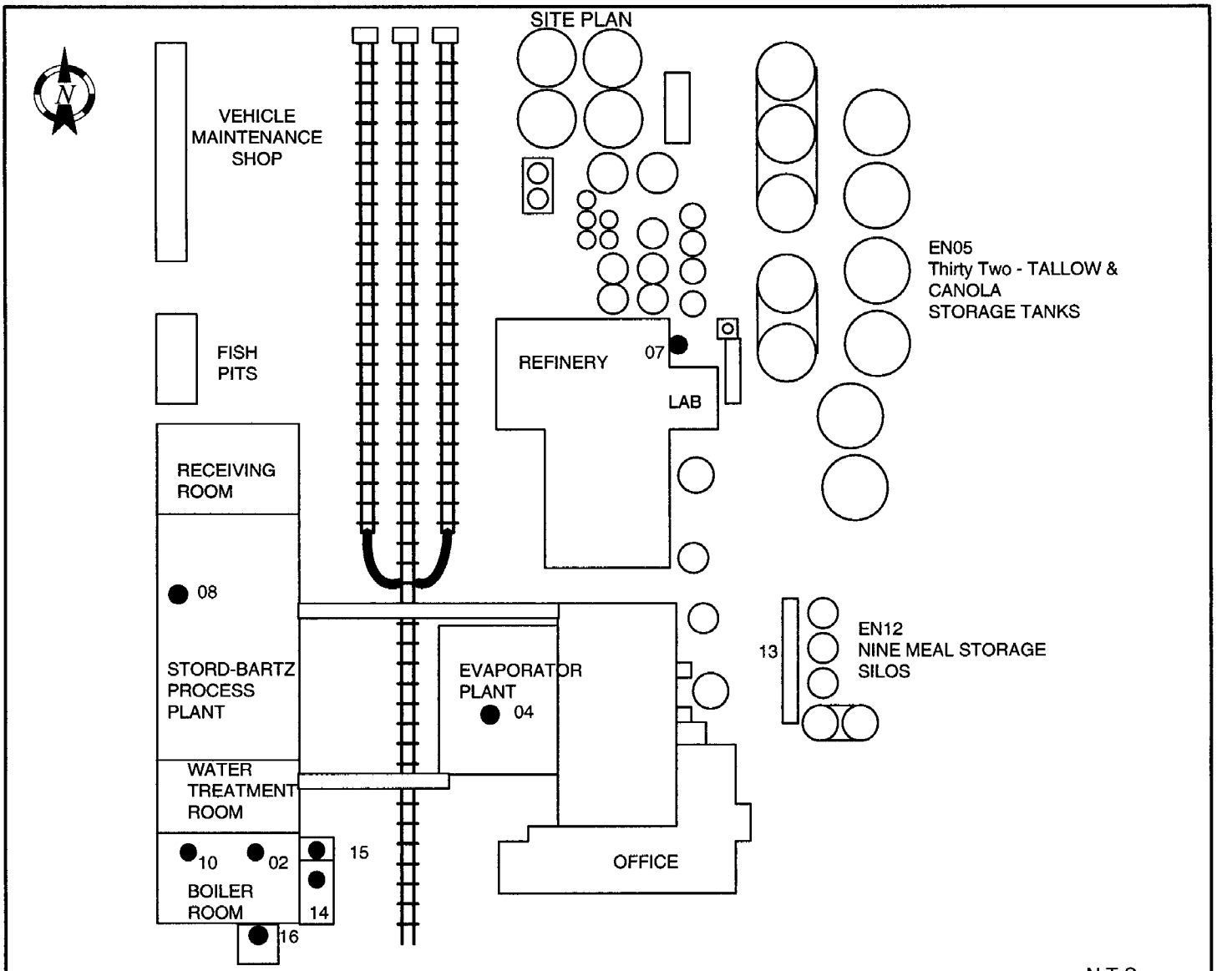
to PERMIT GVA0141

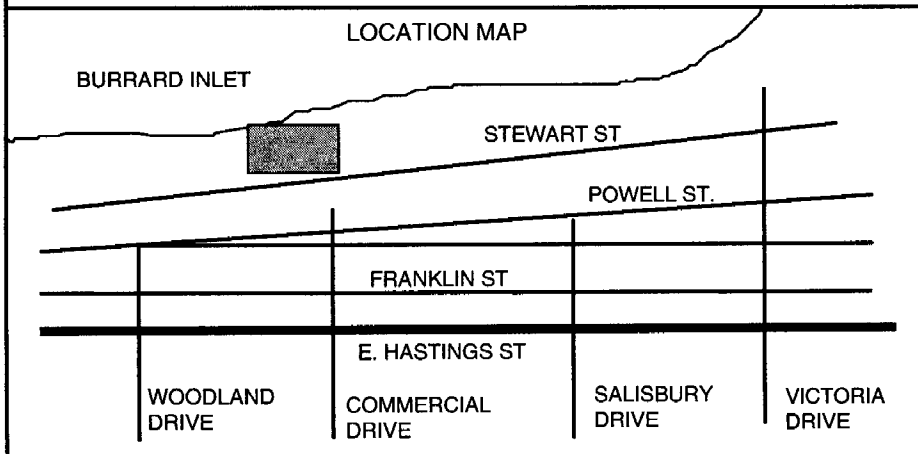
SITE PLAN



THE NUMBERED LOCATIONS OF THE DISCHARGE POINTS ARE APPROXIMATE

N.T.S.

LOCATION MAP



MAR 1 4 2008

R.H. ROBB, DISTRICT DIRECTOR

SCHEDULE A to PERMIT No. GVA0141
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A AMENDMENTS

The terms and conditions of this Permit may be amended, as authorized by applicable legislation.

B MAINTENANCE AND OPERATION OF WORKS

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 Permittee shall regularly inspect and maintain all such works in good repair.

C EMERGENCY PROCEDURES

An emergency or other condition may prevent the continuous utilization of the above authorized works and procedures, or may result in a discharge of air contaminants which is not authorized by this Permit. If such a situation occurs, the Permittee shall report the circumstances of this event to the Metro Vancouver, Policy and Planning Department at 604-436-6777 (24 hours), at the first available opportunity.

No discharge that has bypassed control works is authorized unless the District Director's approval has been obtained. In the event of an emergency, bypassing facilities may be used for such periods as are necessary to effect a shutdown of the related processes.

D AIR CONDITIONING, HEATING AND VENTILATION SYSTEMS

Air contaminants discharged from any natural gas-fired air conditioning, heating or ventilation systems for buildings located at the discharge site are not specified in this Permit. These works 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. Notwithstanding the above, the District Director may at her/his discretion stipulate limits for emission of contaminants from these sources in the Permit at a future date under provisions of the Bylaw.

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E GENERAL SITE RESTRICTIONS

No air contaminant(s) from any single source, or combination of sources shall pass the boundary of the property, described in Section I of this Schedule B, such that the District Director determines that pollution has occurred.

Fugitive particulate matter shall be suppressed such that dustfall at the site boundary will compare favorably to a value of 1.75 mg/dm2/day when consideration is given to:
1. The relative contribution of dustfall sources on site to measured ambient values;
2. The sensitivity of the receiving environment;
3. Other pertinent information.

F INTERNAL COMBUSTION ENGINES

Air contaminants discharged from any natural gas, propane, gasoline, diesel, or other fossil fuel fired internal combustion engines operated at the discharge site may not be specifically authorized in this Permit. These works shall be maintained and operated in a manner prescribed by the manufacturer to ensure good combustion of the fuel and to minimize emissions such that the requirements of Section E of this Schedule B are not exceeded. The District Director may at her/his discretion stipulate further limits for emission of contaminants from these sources in the Permit at a future date under provisions of the Bylaw.

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DISTRICT DIRECTOR

G ENGINEERING UNITS

The engineering units specified in this Permit are in accordance with the Metric System of measure. Approximate equivalent values for the British System can be calculated using the following conversion factors.

mg/m3 x 0.000437 = gr/cf
m3/min x 35.3 = cf/min
kg/m3 x 0.0624 = lbs/cf
kg/L x 10.0 = lbs/gal
mg/m3 x 24.0/M = ppm (by volume)
GJ/h x 0.9478 = MMBTU/h

where

m3 = cubic metre
min = minute
mg = milligram
cf = cubic feet
s = second
lb = pound
kg = kilogram
gal = gallon
L = litre
M = molecular weight
gr = grain
ppm = parts per million
GJ = GigaJoule
MMBTU = Million British Thermal Unit
h = hour
ou = odour unit

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H STANDARD CONDITIONS AND DEFINITIONS

Except where otherwise indicated, the following standard conditions and definitions apply to this Permit.

1. The Restrictions in the attached Schedules are maximum limits.

2. Gaseous volumes are corrected to dry conditions of 20° Celsius & 760mm Hg.

3. Particulate matter from combustion sources is corrected to 12% Carbon Dioxide (unless otherwise stated).

4. Opacity is measured at the point of maximum density, nearest the discharge point.

5. Opacity measurements exclude the effect of condensed, uncombined water droplets.

6. Standby fuel use is restricted to those periods during which the primary authorized fuel is not available.

7. Definitions in the Environmental Management Act and GVRD Air Quality Management Bylaw current at the time of issuance of this Permit apply to terminology used in this Permit. If the Permit is subsequently amended, definitions in the Environmental Management Act and GVRD Air Quality Management Bylaw current at the time of amendment shall apply to terminology used in this Permit.

8. 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 for the year 2007.

9. Any production, storage, transportation, handling, treatment, processing or ownership of a hazardous waste must comply with the requirements of the Environmental Management Act Hazardous Waste Regulation (BC Reg. 63/88).

I DESCRIPTION OF DISCHARGE SITE

The land from which the air contaminants are discharged is described as:

105 COMMERCIAL
Block C & D, District Lot 183, New Westminster Land District, Portion BED OF BURRARD INLET, LID 1-01-00161 TO 1-01-00166 & 1-01-00251 LEASE V-4099(06) & V-4368(02) OR PCL D OF THE BED OF BURRARD INLET & OF BLK 21 IN C & D NHB
LBF#: VPAV4099

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DISTRICT DIRECTOR

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This Schedule describes emission monitoring, sampling and reporting requirements.

The Permittee shall conduct the following monitoring and sampling program on the discharges and submit the results to the District Director. The need for increased or decreased monitoring may be reviewed periodically by the District Director.

EMISSION NUMBER	DUE DATES	REQUIREMENTS
02, 04, 07, 08, 10, 14, 15, 16	March 31, 2008 and annually thereafter	Written report detailing the total number of hours and days operated during the preceding calendar year. The operating period described in Schedule E of this Permit shall be continuously monitored and recorded using methods approved by the District Director. These records are to be maintained in a written bound log or other format approved by the District Director, and be available for inspection by GVRD staff for a minimum period of three years.
02, 10, 14, 15, 16	March 31, 2008 and annually thereafter	Written report detailing the types and amounts of fuel burned in the preceding calendar year.
04, 07, 08	March 31, 2008 and annually thereafter	Written report indicating the scrubber inspection frequency, condition of the packing and remedial action undertaken or proposed to resolve any problems detected. All scrubbers described in Schedule G of this Permit shall be covered in this report.
04, 07, 08	See requirement	The Permittee shall continuously monitor and record scrubber operating parameters, approved by the District Director, for the scrubbers described in Schedule G of this Permit. These records shall be kept available for inspection by GVRD staff for a minimum period of three years.

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EMISSION NUMBER	DUE DATES	REQUIREMENTS
04, 07, 08, 14, 16	December 1, 2008	Written report proposing the maximum odour concentration and odour discharge rate for each emission source to be achieved by May 1, 2009, and the predicted maximum odour concentration (as calculated by dispersion modeling) in the community associated with these odour discharge rates. Dispersion modeling shall be carried out as per plans and methods approved by the District Director. The report shall also include a description of any equipment or process modifications (in place or planned) that will contribute to the reduction of odours in the community.
04, 07, 08, 14, 16	October 1, 2008	The Permittee shall submit a plan, for approval by the District Director, detailing the model, methodology and inputs proposed for use in completion of the dispersion modeling of odours as required by this Permit.
04, 07, 08, 14, 16	April 15, 2008	Odour sample collection plan including, but not limited to, details of sample collection equipment and methods, pre-dilution of sample bags, chain of custody, maintenance of sample integrity and shipping arrangements. Sample collection methods must be consistent with procedures specified in EN 13725:2003 "Air Quality - Determination of Odour Thresholds by Dynamic Dilution Olfactometry".

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EMISSION NUMBER	DUE DATES	REQUIREMENTS
04, 08	May 31, 2008, June 30, 2008, July 31, 2008, August 31, 2008 and September 30, 2008.	Written report, including all consultant and laboratory reports, detailing the measured discharge rate and concentration of odour (expressed in odour units per cubic metre and odour units per second) in the emission(s). Sample analysis must be consistent with procedures specified in ASTM E679-04 "Standard Practice for Determination of Odour and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits" or EN 13725:2003 "Air Quality - Determination of Odour Thresholds by Dynamic Dilution Olfactometry". Sampling must be conducted during periods of plant production and activity that will challenge the odour control systems to the maximum degree practicable. Ideally, all processing equipment should be operating at a rate that represents at least 90% of the maximum operating rate recorded in the previous three months.
07, 14, 16	June 30, 2008 and August 31, 2008	Written report, including all consultant and laboratory reports, detailing the measured discharge rate and concentration of odour (expressed in odour units per cubic metre and odour units per second) in the emission(s). Sample analysis must be consistent with procedures specified in ASTM E679-04 "Standard Practice for Determination of Odour and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits" or EN 13725:2003 "Air Quality - Determination of Odour Thresholds by Dynamic Dilution Olfactometry". Sampling must be conducted during periods of plant production and activity that will challenge the odour control systems to the maximum degree practicable. Ideally, all processing equipment should be operating at a rate that represents at least 90% of the maximum operating rate recorded in the previous three months.

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EMISSION NUMBER	DUE DATES	REQUIREMENTS
14, 16	See requirement	The temperatures referred to in Schedule G of this Permit shall be taken at a location which has received prior approval by the District Director and shall be continuously monitored and recorded in a conveniently visible location. The Permittee shall calibrate this temperature measurement system at the discretion of, and in a manner acceptable to, the District Director.
General	March 31, 2008 and annually thereafter	Written report detailing the types and amounts of principal products produced and principal raw materials used in the preceding calendar year.
General	May 1, 2008	The Permittee shall continuously monitor and record wind speed and direction at the plant site. These parameters shall be measured at a location which has received prior approval by the District Director and which will produce data of a quality suitable for use in dispersion models. The Permittee shall calibrate this measurement system at the discretion of, and in a manner acceptable to, the District Director. Daily summaries of wind speed and direction shall be faxed to Metro Vancouver offices before 9:00 AM of the following work day during the months of May, June, July, August and September. Data for the rest of the year must be maintained in a format approved by the District Director, and be available for inspection on request of Metro Vancouver staff.
General	March 21, 2008	Written report detailing a plan for managing odours on weekends and statutory holidays. The elements of the plan, when implemented, should provide assured odour-free periods of time on Saturdays, Sundays and statutory holidays during the months of May, June , July, August and September. In addition, the plan should provide detailed explanations as to why certain mitigative actions (for example, curtailment of production or delayed receipt of raw materials), may, in the opinion of the Permittee, be impractical to implement in some circumstances.

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Unless otherwise approved by the District Director prior to any sampling or analysis, all emission measurements shall be performed by an independent agency in accordance with those procedures described in applicable source test codes and laboratory manuals which have been published by the British Columbia Ministry of Environment, as they may be amended from time to time. Any variance from these procedures must receive prior approval from the District Director. Monitoring results shall be reported in the metric units which are used in this Permit to specify the authorized discharge criteria. These submissions shall include the production rate at the time of the test, and all field data and calculations. In addition, the Permittee shall provide the Metro Vancouver, Policy and Planning Department, with a minimum of 3 working days advance notice before any emission measurements required by this Monitoring and Sampling Program are carried out.

Ambient air sampling and monitoring shall be undertaken by the Permittee, when required by the District Director.

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EMISSION NUMBER	EMISSION SOURCE	DISCHARGE POINT
02	One 189 HP Babcock & Wilcox Boiler (No. 3).	Stack(s)
04	Dupps process room air, feather and blood process room air, mill room and pneumatic conveyor system	Stack(s)
05	Thirty-two tallow and canola oil storage tanks.	Vent(s)
07	Tallow refinery room air, mill room air and pneumatic conveying system.	Stack(s)
08	Stord Bartz process room air, raw materials receiving room air and fish receiving tank	Stack(s)
10	Two 410 HP Babcock & Wilcox process boilers (Nos 1 & 2)	Stack(s)
12	Nine meal storage silos	Vent(s)
13	Meal truck loading station	Truck containers
14	Stord Bartz process equipment, Dupps process equipment, feather and blood process equipment, tallow	Stack(s)
15	One 248 HP Babcock & Wilcox process boiler (No. 5).	Stack(s)
16	Stord Bartz process equipment, Dupps process equipment, feather and blood process equipment, tallow	Stack(s)

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EMISSION NUMBER	MAXIMUM AUTHORIZED RATE OF DISCHARGE			NOTES & ADDITIONAL REQUIREMENTS
	FLOW m3/min	DURATION hours/day	FREQUENCY days/week	
02	96	24	7	Maximum operating period of 6000 hours per annum.
04	2,550	24	7	Maximum operating period of 5403 hours per annum.
05	See Notes	24	7	The rate of discharge is that resulting from venting during tank filling and breathing.
07	2,100	24	7	Maximum operating period of 5403 hours per annum.
08	5,720	24	7	Maximum operating period of 5403 hours per annum.
10	792	24	7	Maximum operating period of 6500 hours per annum.
12	See Notes	24	7	The rate of discharge is that resulting from venting during tank filling and breathing.
13	See Notes	24	7	The rate of discharge is that resulting form meal truck filling and displacement air from the truck container.
14	585	24	7	Maximum operating period of 7500 hours per annum.
15	87	24	7	Maximum operating period of 2500 hours per annum.
16	567	24	7	Maximum operating period of 7500 hours per annum.

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EMISSION NUMBER	PARAMETER	RESTRICTION	NOTES
02	Combustion Products	See Notes	Typical products of natural gas combustion at a maximum firing rate of 22.5 GJ/h. Standby fuel is No. 2 fuel oil with a maximum sulphur content of 0.05% by weight.
10	Combustion Products	See Notes	Typical products of natural gas combustion at a maximum firing rate of 66.5 GJ/h for each boiler. Standby fuel is No. 2 fuel oil with a maximum sulphur content of 0.05% by weight.
14	Combustion Products	See Notes	Typical products of natural gas combustion at a maximum firing rate of 32.7 GJ/h. Standby fuel is No. 2 fuel oil with a maximum sulphur content of 0.05% by weight.
15	Combustion Products	See Notes	Typical products of natural gas combustion at a maximum firing rate of 20.0 GJ/h.
16	Combustion Products	See Notes	Typical products of natural gas combustion at a maximum firing rate of 6.33 GJ/h. Standby fuel is No. 2 fuel oil with a maximum sulphur content of 0.05% by weight.
12, 13	Particulate Matter	See Notes	None past the plant boundary such that the District Director determines that pollution has occurred.
04, 07, 08	Particulate Matter	15 mg/m^3	
14, 16	Particulate Matter	15 mg/m^3	Does not apply during periods of standby fuel use.
04, 07, 08, 14, 16	Opacity	10%	
12, 13	Opacity	20%	
05, 12, 13	Odour	See Notes	None past the plant boundary such that the District Director determines that pollution has occurred.

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EMISSION NUMBER	PARAMETER	RESTRICTION	NOTES
		Prior to May 1, 2008	After April 30, 2008
04	Odour Concentration	4,000 ou/m^3	1,200 ou/m^3
	Odour Loading	67,590 ou/s	45,400 ou/s
07	Odour Concentration	1,500 ou/m^3	450 ou/m^3
	Odour Loading	19,050 ou/s	10,600 ou/s
08	Odour Concentration	2,300 ou/m^3	1,500 ou/m^3
	Odour Loading	98,440 ou/s	86,000 ou/s
14	Odour Concentration	2,500 ou/m^3	2,500 ou/m^3
	Odour Loading	14,760 ou/s	14,000 ou/s
16	Odour Concentration	900 ou/m^3	1,400 ou/m^3
	Odour Loading	7,640 ou/s	8,500 ou/s

The above odour concentration and loading limits may be further reduced if, in the opinion of the District Director, a satisfactory level of rendering plant odours in the community is not achieved.

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The authorized emission control works and procedures to control the discharge of air contaminants from the emission sources described in Schedule D are indicated below. The District Director may require that further works be installed, if the existing works, in her/his opinion, do not provide an acceptable level of emission control. New works or alterations to existing works must be approved, in principle, by the District Director.

Where the District Director has specified that additional works are required, the maximum discharge criteria described in Schedule F of this Permit are applicable as specified by the Completion Date(s) listed below. Prior to the specified date(s) the existing control works and procedures must be maintained in good operating condition and operated in a manner to minimize emissions.

EMISSION NUMBER	COMPLETION DATE	DESCRIPTION OF CONTROL WORKS/PROCEDURES
05, 12, 13	Completed	Good operating practices.
08	May 1, 2008	Modification of the existing works to meet the restrictions stated in Schedule F. In the interim, four packed tower scrubbers utilizing sodium hypochlorite or ozone as the oxidizing agent.
04	May 1, 2008	Modification of the existing works to meet the restrictions stated in Schedule F. In the interim, four scrubbers in a four stage scrubbing system which includes two sea water venturi scrubbers, a fresh water packed tower scrubber and one packed tower scrubber utilizing sodium hypochlorite or ozone as the oxidizing agent.
16	May 1, 2008	Modification of the existing works to meet the restrictions stated in Schedule F. In the interim, natural gas fired thermal oxidizer (low NOx burner design) and related appurtenances, together with good operating practices. Standby fuel is No. 2 fuel oil with a maximum sulphur content of 0.05% by weight. The thermal oxidizer shall be operated at a minimum incinerator operating temperature of 760 degrees C. All high intensity odours from rendering processes must be ducted to this oxidizer or the oxidizer described in Emission Number 14. Bypass of the thermal oxidizer is authorized only in the event of an emergency procedure as described in Section C of Schedule B of this permit and only for such periods as are necessary to effect a shutdown of the related processes.

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EMISSION NUMBER	COMPLETION DATE	DESCRIPTION OF CONTROL WORKS/PROCEDURES
14	May 1, 2008	Modification of the existing works to meet the restrictions stated in Schedule F. In the interim, natural gas fired thermal oxidizer and related appurtenances, together with good operating practices. Standby fuel is No. 2 fuel oil with a maximum sulphur content of 0.05% by weight. The thermal oxidizer shall be operated at a minimum incinerator operating temperature of 760 degrees C. All high intensity odours from rendering processes must be ducted to this oxidizer or the oxidizer described in Emission Number 16. Bypass of the thermal oxidizer is authorized only in the event of an emergency procedure as described in Section C of Schedule B of this permit and only for such periods as are necessary to effect a shutdown of the related processes.
07	May 1, 2008	Modification of the existing works to meet the restrictions stated in Schedule F. In the interim, one packed tower scrubber utilizing sodium hypochlorite or ozone as the oxidizing agent.
15	Completed	The firing of the process boiler with natural gas using good combustion practices and operating procedures.
02, 10	Completed	The firing of the process boilers with natural gas using good combustion practices and operating procedures. Standby fuel is No. 2 fuel oil with a maximum sulphur content of 0.05% by weight.

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RECORD OF PERMIT ISSUANCE

DATE	ACTION	SECTIONS AFFECTED
MAR 1 4 2008	AMENDMENT	Face, Schedules A, B, C, D, E, F, G & H
December 08, 1992	ISSUANCE	Face, Schedules A, B, C, D, E, F, G & H
April 29, 1994	AMENDMENT	Face, Schedules A, B, C, D, E, F, G & H
March 23, 2001	AMENDMENT	Face, Schedules A, B, C, D, E, F, G & H
May 11, 2006	AMENDMENT	Face, Schedules A, B, C, D, E, F, G & H
June 18, 2007	AMENDMENT	Face, Schedules A, B, C, D, E, F, G & H

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