

Chevron Burnaby Refinery

Air Emissions Management

CAP May 2, 2012



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Overview

- Permit GVA0117 Overview
- Establishing Emission Limits/Restrictions
- Authorized Sources/Restrictions
- Self Monitoring & Reporting
- Refinery Information Reporting
- Ambient Air Quality Monitoring Stations
- Compliance Monitoring
- Resources



Permit GVA0117 Overview

- Previously separate permits for tank farm and refinery
- Permit was last amended May 2, 2008
 - Initiated by Chevron to authorize a Steam Methane Reformer (not yet constructed) which resulted in emission reductions for a number of existing sources
- Permit consists of the following sections
 1. Authorized Emission Sources
 2. General Requirements & Conditions
 3. Reporting Requirements
 4. Information Reporting Requirements



PERMIT GVA0117

Pursuant to
Greater Vancouver Regional District Air Quality Management Bylaw No. 937, 1999
and the province of BC Environmental Management Act,

Chevron Canada Limited

000900 01

5201 Penzance Drive and 355 N. Willington Avenue, Burnaby BC, V5C 1X4
is authorized to emit air contaminants from a
Petroleum Refinery and Tank Farm
located at the above addresses, subject to the conditions listed in this Permit.

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

Notes:

1. The authorized Emission Sources associated with the Tank Farm operation and the related permit terms and conditions for those Emission Sources were formerly contained in QVRD Air Quality Management Bylaw Permit GVA0118 and have been transferred to this permit, GVA0117.
2. Identification of Emission Sources and requirements related to the Refinery are designated with the letter R and a letter T for the Tank Farm.

Date Issued: November 30, 1992
Date Amended: **MAY 02 2008**
(most recent)


R.H. Robb, District Director
Permits GVA0117

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Establishing Emission Limits/Restrictions

Establishing Permit Limits includes:

- Air Quality Management Plan Goals & Objectives
- Ambient Air Quality Objectives
- Air Emission Dispersion Modeling
- Health Risk Assessment
- Historic Emission Source Test Data
- Best Available Control Technology (BACT)
- Best Management Practices (BMP)
- Municipality & Health Agency comments
- Neighborhood/Public comments
- Emission Inventory Data

Air Quality District Director



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Authorized Sources/Restrictions

Refinery Emission Source	Flow	CO	H2S	NOx	PM	SOx (hourly)	SOx (daily)	Opacity
01 Crude Unit Furnaces	X			X				X
06 Rheniformer reactors furnaces	X			X				X
07 Steam Boiler	X			X				X
11 Steam Plant Boilers	X			X				X
13 Elevated Refinery Flare	X							X
19 Fluid catalytic cracker regenerator & Waste Heat Boiler	X	X	X	X	X	X	X	X
20 Diesel Hydrotreater charge furnace	X			X				X
21 Diesel Hydrotreater fractionators furnace	X			X				X
22 Sulfur recovery unit SRU incinerator	X		X	X	X			X
23R Crude splitter furnace	X			X				X
24 Naphtha hydrotreater	X			X				X
25 Desulphurizer reboiler	X			X				X
29 Gasoline hydrotreater	X			X				X
30 Steam plant boiler	X			X				X



Self Monitoring & Reporting

Permitted Source	Discharge Rate	Nitrogen oxides (NOx)	Sulphur Oxides (SOx)	Particulate Matter (PM)	Opacity	Particle Distribution
01 Crude Unit Furnaces	annual	annual				
06 Rheniformer reactors furnaces	annual	annual				
07 Steam Boiler	annual	annual				
11 Steam Plant Boilers	annual	annual	annual			
13 Elevated Refinery flare	continuous					
19 FCC Regenerator & WHB	3 month intervals	CEMS	CEMS	3 month	CEMS	Dec 31, 2009 & 2011
20 Diesel Hydrotreater charge furnace	annual	annual				
21 Diesel Hydrotreater Fractionator furnace	annual	annual				
22 SRU Incinerator			CEMS			
23 Crude Splitter furnace	annual	annual				
24 Naptha Hydrotreater feed furnace	annual	annual				
25 Desulpherizer Reboiler	annual	annual				
29 Gasoline Hydrotreater	annual	annual				
30 Steam Plant Boiler	annual	annual				
Crude & Product Storage Tanks	Annual inspection & gap measurements					
Process valves, firings etc.	Leak Detection and Repair (LDAR) on-going facility survey with 1000ppmv defined as leak.					



Refinery Information Reporting

- CEMs Performance Evaluation
- CEMs Independent Audit
- Refinery Production
- SRU Efficiency
- Major Process Unit Shutdown Schedule
- Flare Events
- Tank Upgrade Report
- Flare Flow Verification Report
- Utility Reliability Report
- Complaint Follow-up Reports



Ambient Air Quality Monitoring Stations

Air Quality Monitors												
Station		Gases						Particulate Matter		VOC	Meteorological	
		SO ₂	TRS	NO ₂	CO	O ₃	THC	PM10	PM2.5		Wind	T
T4	Kensington Park	x	x	x	x	x	x	x	x		x	x
T6	Second Narrows	x		x	x	x			x	x	x	
T23	Capitol Hill	x	x								x	x
T24	Burnaby North	x	x				x	x		x	x	x

SO₂ = sulphur dioxide; TRS = total reduced sulphur; NO₂ = nitrogen dioxide; CO = carbon monoxide; O₃ = ozone; THC = total hydrocarbon; NH₃ = ammonia; PM10 = inhalable particulate matter; PM2.5 = fine particulate matter; VOC = volatile organic compounds; Wind = wind speed and wind direction; T = air temperature



Compliance Monitoring

Compliance assessment and promotion

- MV staff audit compliance testing
- Review Chevron monitoring reports
- Conduct site inspections
- Respond to public inquiries and complaints
- Conduct odour tours
- Ambient monitoring stations



Resources

Air Quality Regulatory Homepage:

- Air Quality Permits
- Emission Test Results (Stack Surveys & CEMs)
- Air Quality Complaint & Inquiries



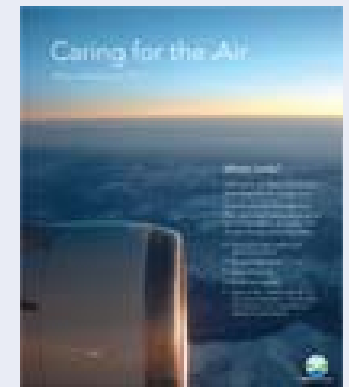
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Air Quality Planning Homepage:

- Ambient Air Quality Annual Reports
- Air Quality Management Plan
- Caring for the Air Report



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Questions?



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