Item	06
Manager's Report No.	22
Council Meeting	00/08/28

TO: CITY MANAGER **DATE:** 2000 08 17

FROM: DIRECTOR ENGINEERING **FILE:** 10 08 11 (01)

SUBJECT: **CHEVRON CANADA REFINERY LIMITED**

PURPOSE: TO PROVIDE AN UPDATE ON VARIOUS ISSUES RAISED BY COUNCIL REGARDING CHEVRON CANADA REFINERY LIMITED

RECOMMENDATION:

1. **THAT** the Province be encouraged to adopt relevant components of the CCME "Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products" in Provincial legislation.

2. **THAT** any such enacted Provincial legislation be made applicable to refineries.

3. **THAT** a copy of this report be forwarded to the four Burnaby MLA's.

REPORT

1.0 INTRODUCTION

At the regular Council Meeting on July 31, 2000, Council received a staff report on Chevron Canada Refinery Limited. Arising from the discussion, Council requested that staff report on the:

- Organization called Canadian Council of Ministers of the Environment (CCME);
- CCME Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products;
- GVRD monitoring, evaluation and reporting protocols for air emission and waste water discharge to the sanitary sewer from Chevron Canada Refinery Limited.

This report responds to the above issues.

2.0 CANADIAN COUNCIL OF MINISTERS OF THE ENVIRONMENT (CCME)

The Canadian Council of Ministers of the Environment (CCME) is comprised of environment ministers from the Federal, Provincial and Territorial governments. It provides the ministers with a forum for discussion of the harmonization of laws, policies and actions, and the development of cooperative action by the member governments to address issues of national and international concern in matters pertaining to the environment.

While it *proposes* guidelines, CCME does not *impose* its guidelines on its members since it has no authority to implement or enforce legislation. Each jurisdiction decides whether or not to adopt the CCME code of practice and add any additional restrictions or conditions in order to address specific concerns in that province or territory.

3.0 CCME ENVIRONMENTAL CODE OF PRACTICE FOR ABOVEGROUND STORAGE TANK SYSTEMS CONTAINING PETROLEUM PRODUCTS

The CCME "Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products" was established in 1994 and presents minimum requirements to protect the environment from existing, new, or proposed aboveground storage tank systems that contain petroleum products.

The Code provides guidelines for tank registration, design and installation of new tanks, upgrading of existing tanks (overfill protection, secondary containment, leak detection of underground piping, containment and collection of spill and storm run-off, and groundwater monitoring), upgrade timelines, operation and maintenance, and tank withdrawal from service. The Code applies to the owners of aboveground petroleum storage tanks. However, it does not apply to storage tank systems containing crude oil or areas in refineries or process plants.

According to the B.C. Ministry of Environment, the province has endorsed the Code as a provincial policy however the Code has not been enacted in Provincial legislation. Other provinces throughout Canada have adopted the relevant parts of the Code or have developed legislation which closely parallels or is substantially based upon the Code. The Federal government currently has a regulation under the Canadian Environmental Protection Act to register storage tanks. This regulation, which only applies to federal lands, works and undertakings, is currently being rewritten to adopt the principles of the CCME Environmental Code of Practice for aboveground storage tank systems containing petroleum products. Staff recommend that the Province be encouraged to adopt the Code or relevant components of the Code in legislation.

The Ministry staff have informed Chevron officials that the Ministry will be reviewing the CCME Code to determine which aspects are relevant for inclusion in Chevron's effluent permit that is currently under amendment.

Appearing elsewhere in the Council Agenda is correspondence from Mr. Peter Duda, Chevron Canada Refinery Limited to Mr. Brian Wilson, Regional Director, Pacific & Yukon Region, Environment Canada, providing Chevron's commitment to meeting the CCME Code of Practice for Aboveground Storage Tanks Containing Petroleum Products within the timelines provided for existing facilities.

4.0 G.V.R.D MONITORING, EVALUATION AND REPORTING PROTOCOL

Attached are letters from the G.V.R.D Air Quality and Source Control Departments (see Attachments #1 and #2) outlining the process used by the G.V.R.D. to authorize, monitor, seek compliance and report out on air emissions and discharge of waste water to sanitary sewer from Chevron Canada Refinery Limited.

Air emission is regulated by the GVRD Air Quality Department under the Air Quality Management Bylaw. Information on the air emission related issues is communicated to the GVRD Board, the Community Advisory Panel (CAP) and the public through the GVRD website.

Waste discharge is regulated by the GVRD Source Control Department under the Sewer Use Bylaw. Samples obtained from the discharged waste are tested regularly for compliance. Results of the sampling and testing program are available to the public through the GVRD.

5.0 SUMMARY

The B.C. Ministry of Environment has endorsed CCME "Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products" as a provincial policy however the Code has not been enacted in Provincial legislation. Staff recommend that the Province be encouraged to adopt the Code or relevant components of the Code in Provincial legislation. The Ministry has conveyed to Chevron that the Ministry will be looking at applying relevant components of the Code for inclusion in the effluent permit currently under amendment.

For Council's information, in the latest staff discussion with the B.C. Ministry of Environment official staff were advised that, the draft Terms of Reference for Environmental Review / Public Safety Risk Assessment and Groundwater Investigation at Chevron Canada Refinery will be revised by September, 2000. Staff have again written to the Ministry expressing interest in being kept fully informed on all issues between the Ministry and Chevron on the draft Terms of Reference and have requested that the revised draft Terms of Reference be forwarded to the City for review and comments prior to finalization and acceptance.

W.C. Sinclair, P. Eng.
DIRECTOR ENGINEERING

DD:
Attach.

cc: Director Planning and Building
Fire Chief
Emergency Coordinator

ATTACHMENT #1

Greater Vancouver Regional District
4330 Kingsway, Burnaby, British Columbia, Canada V5H 4G8
Air Quality Department. Tel (604) 436-6700 Fax (604) 436-6707

General
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RECEIVED IN ENGINEERING DEPT.

August 8, 2000

File: AQ10-01 08 2000

LSC
WCS
DD

City of Burnaby
4949 Canada Way
Burnaby, B.C.
V5G 1M2

Attention: Mr. L. S. Chu, P. Eng., Deputy Director Engineering

Dear Mr. Chu:

Re: Chevron – GVRD Air Emission Monitoring, Evaluation and Reporting Protocol

Further to your 02-Aug-00 letter and Burnaby Council's request for information, we are pleased to provide the requested details of the GVRD air emission control programs relative to the Chevron Canada Limited facilities in Burnaby. GVRD Source Control staff will provide information relative to sewer discharges from Chevron in a separate letter.

1. Process used to regulate emissions

Emissions from the Chevron refinery and tank farm are regulated through the issuance of Permits pursuant to GVRD Air Quality Management Bylaw No. 937, 1999 (the Bylaw can be viewed at the internet address: http://www.gvrd.bc.ca/business_info/air/bylaws/pdfs/aqbylaw.pdf). The Air Quality Department obtains it's legislative authority for air pollution control and air quality management from the provincial Waste Management Act and GVRD Letters Patent. The GVRD's Air Quality Management Plan (AQMP) guides the activities of the department toward achieving GVRD's air quality goals (an overview of the AQMP can be viewed at the following internet address: http://www.gvrd.bc.ca/business_info/air/bylaws/pdfs/AQMP.pdf) .

2. Emission Source Monitoring Programs.

Permit monitoring requirements for the refinery include quarterly submission of information, including: a refinery sulphur balance; emissions from storage tanks and equipment leaks; stack sampling results from key emission sources (Fluid Catalytic Cracker, Sulphur Recovery Unit and Furnaces); fuel combustion data; and flaring activity. In addition, the permit requires the use of certified continuous emission monitors on the Fluid Catalytic Cracking Unit and the Sulphur Recovery Plant. (Copies of the Permits are attached).

The tank farm permit requires annual reporting of hydrocarbon losses from storage tanks, tank truck and marine vessel loading activities, and equipment leaks. The Permit requires adherence to the Canadian Council of Ministers of the Environment (CCME) environmental code of practice for equipment leaks, which includes annual testing and repair requirements for leaks detected. Adherence to the CCME "Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Above Ground Storage Tanks" is also required. This includes annual measurements of seal gaps between roofs and tank walls to ensure good contact is made, and a program of upgrading to double seal specifications on floating roof tanks by 2004.

3. Ambient Air Monitoring Programs

The GVRD operates an extensive ambient air monitoring network throughout the GVRD and the Lower Fraser Valley (Details of the network and monitoring results can be viewed in the most recent Lower Fraser Valley Ambient Air Quality Report at the following internet address: http://www.gvrd.bc.ca/services/air/emissions/reports/LFV1998AmbRpt.pdf).

As part of this network, the GVRD operates an air quality monitoring station on Capitol Hill, specifically to monitor emissions from Chevron. The station measures sulphur dioxide and total reduced sulphur compounds, which are indicator contaminants for the refinery. To supplement monitoring at this permanent station, the GVRD's Mobile Air Quality Monitoring Unit (MAMU) was located on Capitol Hill for periods of 2-3 weeks each Quarter from April/98 to March/00. MAMU monitored for Inhalable Particulate (PM_{10}), Nitrogen Dioxide (NO_2) and Ozone (O_3). Measurements of these three parameters were found to be comparable to other stations in the GVRD with no evidence of incremental impacts from Chevron.

The GVRD participates in a federal program that samples the air for a variety of hydrocarbons, some of which could be a source of odours. Currently, there are a total of seven sampling sites in the GVRD. Two of these sites are located in North Burnaby, at 4300 Block Eton & 7800 Block Shellmont (the most recent monitoring report can be viewed at the following internet address: http://www.gvrd.bc.ca/services/air/emissions/reports/VOC_Report.pdf). To enhance this hydrocarbon monitoring, the District is currently investigating the acquisition of a monitor that will provide more immediate information on hydrocarbon levels in the area around Chevron.

4. Mechanisms used to seek compliance

Determination of compliance with these Permits is accomplished through assessment of the monitoring data, routine and non-routine inspections of the facilities and off-site observations. All complaints registered with the GVRD complaint line are investigated at the first available opportunity. These investigations may also result in a compliance assessment.

Working together to solve environmental problems is a key element of our enforcement program. Incidents of non-compliance are remedied through a variety of progressive enforcement actions, such as advisories, directives (Pollution Abatement Order or Pollution Prevention Order) or deterrent actions such as prosecution that can ultimately lead to court-imposed fines. Deterrent actions are the maximum consequences possible for a given non-compliance situation. Factors that influence deterrent selection include:

- The company's response to the non-compliance situation
- Its past practices and history of compliance
- The extent of the environmental impact of the non-compliance
- Whether the situation resulted from negligence or an intentional act.

5. Reporting out process on monitoring results

The Air Quality Department issues a semi-annual non-compliance list showing companies that have experienced incidents of significant non-compliance with their Permits during a particular reporting period. The list describes the specific details of each non-compliance situation and the resolution measures that have been taken. The report is publicly presented to the GVRD Board of Directors and provided to the local media. The City of Burnaby is represented by two

Directors on the GVRD Board. The report is also made available to the public on the internet at the following address:
http://www.gvrd.bc.ca/services/air/compliance/noncomprpts/aqnocom6.pdf)

The Air Quality Department has developed a notification procedure for emission events from Chevron, to ensure that the City of Burnaby and other regulators are kept apprised of any significant emission events and/or non-compliance.

The Air Quality Department regularly communicates information to a Community Advisory Panel (consisting of environmental, business, and residential groups and associations) that was formed to discuss environmental and safety issues at Chevron. While GVRD is not a member of this panel, Air Quality Department staff have attended all meetings, since inception, to communicate information about our regulatory and monitoring programs.

If you have any questions or require further information, please call me at 436-6713 or Mr. Bob Smith at 436-6710.

Yours truly,

Silvano Padovan, Senior Officer
Air Quality Control Division

Attach (2)

ATTACHMENT #2

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT

ESTABLISHED 1914

Policy and Planning Department - Source Control
Phone: (604) 432-6375 Fax: (604) 432-7360

4330 KINGSWAY
BURNABY, B.C.
CANADA V5H 4G8
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By Facsimile

August 9, 2000 File: SE04 SC-100010-VSA

W.C. Sinclair, P. Eng.
Director Engineering
City of Burnaby
4949 Canada Way
Burnaby
V5G 1M2

Dear Mr. Sinclair:

Re: Response to your Request for Additional Information Regarding Chevron's Discharge to the Sanitary Sewer

Thank you for your letter dated August 2, 2000 in which you request input from the GVRD on several issues pertaining to Chevron Canada Ltd.'s air and sanitary sewer discharge permits. I am writing on behalf of the GVRD Source Control group, which is responsible for regulating discharges to the sanitary sewer under the authority of Sewer Use Bylaw No. 164. I understand GVRD Air Quality staff is preparing a similar letter regarding air emissions. Our responses with respect to the sanitary sewer are as follows:

1. The process used by the GVRD to monitor sewer discharges from the Chevron site.

Waste Discharge Permit No. SC-100010-VSA specifies the terms and conditions for Chevron's wastewater discharge to the District's sanitary sewer system, and includes a self-monitoring program. This program requires continuous, weekly, monthly and quarterly testing of quantitative and qualitative parameters that are regulated in the Permit. Results are submitted to the GVRD Source Control group quarterly. GVRD sampling staff also conduct unannounced audit sampling inspections several times per year, testing for the same parameters.

Samples are obtained from the effluent discharge line downstream of Pond #3 and the wastewater pumps. The sample point is specifically authorized in the Permit and is considered to be representative of the final discharge to the sanitary sewer.

2. Parameters included in the monitoring program and in the event of elevated discharges, what mechanism is used by the GVRD to seek compliance?

Chevron is required to monitor the discharge to the sanitary sewer on the following frequencies:

Continuously: flow, pH and temperature

Weekly: total suspended solids, total sulphate, biochemical oxygen demand, oil & grease (hydrocarbons), total sulphide, total phenols, total cyanide, and ammonia-nitrogen

Monthly: toxicity, benzene, ethylbenzene, toluene, xylenes, total aluminum, total arsenic, total boron, total cadmium, total cobalt, total copper, total iron, total lead, total manganese, total molybdenum, total nickel, total solver and total zinc

Quarterly: total polynuclear aromatic hydrocarbons

Permits are enforced in accordance with the Source Control enforcement strategy, which defines a set of escalating enforcement actions intended to effectively communicate non-compliance and instigate timely and effective remedial actions. Enforcement actions are based on the seriousness of the non-compliance event.

Serious infractions, such as discharge of prohibited substances and discharges that threaten the safety or integrity of sewerage works or the environment, are forcefully dealt with through cease discharge orders and legal action where necessary.

For infractions of the type that are not immediately threatening to the sewer system, the environment or worker safety, the enforcement strategy involves the evaluation of long term compliance and allows for occasional excursions. However, should a history of repeated non-compliance occur, without satisfactory voluntary resolution by the Permit holder, an order to commit to a formal compliance program is issued by Source Control. The Permit holder is subsequently included on the Source Control Non-Compliance List. Failure to commit to, or complete a compliance program results in further escalated enforcement action.

Since commissioning their secondary wastewater treatment upgrade in September 1996, Chevron has continued to improve the performance of the system and, over the past two years, has demonstrated a very high level of compliance with the discharge criteria specified in their Permit. Exceedances of some parameters are still noted on occasion, and continue to be addressed by Chevron through fine-tuning. To date, Chevron has not qualified to be ordered to commit to a formal compliance program or to be included on the Source Control Non-Compliance List.

3. The reporting out process for the monitoring results.

Chevron is required to submit the results of their wastewater-monitoring program to the GVRD on a quarterly basis. As this wastewater discharges to the District's sanitary sewer system, rather than directly to the receiving environment, there is no requirement to further report this information to other levels of government or the general public. This file information is considered to be public, however, and is available to anyone through the GVRD's file information access procedures.

If you have any further questions, please contact me at 436-6723.

Yours truly,

Grant McGillvray
Senior Source Control Officer

cc: L.S. Chu, Deputy Director Engineering - Burnaby