Minutes of the Parkland Burnaby Refinery
Community Advisory Panel (CAP)
Wednesday, September 19, 2018
6:30pm – 8:30pm
Refinery Office (Boardroom) 355 North Willingdon Avenue

PRESENT

Joanne Smith, Eileen Luongo, Al Mytkowicz, Michael Coyle, Aswinee Rath

Parkland Representatives:
Dave Schick, Director, Policy and External Relations; Kel Coulson, Policy, Government and Public Affairs Rep; Alex Coles, Refinery Manager; Peter Turner, Operations Manager; Shannon Urquhart, Community Affairs Lead; Tom Rukavina, Operations Coordinator

Metro Vancouver Representative:
Darrell Wakelin and Jason Mushtuk Regulatory Representatives from Metro Vancouver

Facilitator:
Catherine Rockandel, Rockandel & Associates

Regrets: Davis Vaitkunas, Rich Baerg, Kathy Mezei, Fraser Health: Dr. Aamir Bharmal, Vicki Bowman, Environmental Team Lead; Jill Donnelly, Health, Environment, and Safety Manager

CAP BUSINESS

1. Opening Remarks

- Catherine Rockandel welcomed CAP members and provided an update on the Membership Sub-Committee recruitment process.
- Dave Schick provided an introduction to Shannon Urquhart, Community Affairs Lead. Shannon has a background in communications and will be supporting CAP.

2. Parkland Updates

a. General Refinery Operations – Alex Coles

- The plant has run well with no reportable injuries in the past quarter. Continue to focus on safe and reliable operations
- The Q2 results were favorable as the assets between Chevron and Parkland continue to be integrated.
- The annual business planning process is underway. A presentation will be made to the board that looks at investments in facility initiatives around flexibility of infrastructure and green environment in the next couple of weeks.
- Planning for the 2019 turnaround is underway. It will be a smaller turnaround with approximately a quarter of the workforce on site compared to this year in first quarter. Traffic and noise will be limited relative to the 2018 turnaround. Pre-work begins in October with prefabrication and more contractors on site. The Poly and Penex units are going to be turned around

Comments and questions about the update:

Q1: Anything on cracker in this upgrade**?**

A1: No, that was upgraded in 2015.

Q2: What do you mean when you said “flexibility of infrastructure?”

A2: To increase plant flexibility we will be looking at tank modernization, particularly tanks not in use, and human resource space configuration.

Q3: Is the tankage for feedstock or produced product?

A3: It would be to support future fuels that we have been exploring and have discussed at prior CAP meetings.

Q4: With these new fuels, is there a change in acidity or corrosive effect on tanks?

A4: Potentially there is with different feedstocks. For example: in the next few weeks we are testing tallow characteristics. Some of the things we look at include: what metallurgy do we need and do we have the tanks that we need to manage new feedstocks? Are there other impacts such as smell?

Q5: What is tallow?

A5: It is an animal by-product that we source from West Coast Reduction in Vancouver.

Q6: Do you currently use tallow?

A6: No, we are testing potential uses. Tallow is currently shipped to Singapore to be refined and then shipped back to Canada for use. We are looking into refining it here instead. We are also working with Carbon Engineering in Squamish on other alternative feedstocks.

b. Refinery Maintenance – Dave Schick

- Ditch drainage work and grounds management has been completed from the slump that occurred earlier in the year.

3. **CAP Q&A -** Kel Coulson

An update was provided in response to questions raised by CAP prior to the meeting.

Q7: What is happening with the Chevron station at Willington and Hastings? Why is it closed?

A7: The marketing team is conducting a refresh of the station. They are replacing old tanks and infrastructure. The station is scheduled to reopen in one month. In the meantime, there are four stations nearby that customers are being directed to, including Hastings and Vernon Street, Rupert Street.

Q8: Did the refinery reduce operations during smoky days? If so, how?

A8: The smoke from forest fires is different from refinery emissions. The PM (particulate matter) produced by the refinery was insignificant relative to the impact from the forest fires and thus the refinery did not reduce operations.

Q9: How are you affected, if it at all, by the federal government purchase of the Trans Mountain Pipeline? Did they consult you?

A9: We were neither consulted on nor affected by the purchase.

Q10: In regards to the Chevron station at Hastings and Willingdon, is this work a continuation of the historical issue that required upgrading several years ago?

A10: No, that was a different issue that was resolved. This work is part of our regular maintenance program.

4. Presentations:

a) Marine Shipping - Tom Rukavina **(See Attachment One)**

Comments and questions about the presentation:

Q11: What is a dolphin in this context?

A11: It is fixed mooring facility that allows vessels to tie up safely.

Q12: Is a dock and wharf the same thing?

A12: Yes.

Q13: Why are butane and propane not shipped but loaded on rail cars?

A13: The refinery has the infrastructure to send small amounts by rail but not by ship.

Q14: Do the vapors get added back into the system and does the gasoline from the Marine Vapour Recovery Unit also get piped back to refinery?

A14: Some gas remains on the ship, some remains in the pipe and most is recovered and sent back up to refinery

Q15: Is booming done on a proactive basis?

A15: The booms are used when loading heavy products as a proactive safety measure to contain product in the unlikely event of a spill.

Q16: What size of ships do you usually see?

A16: We typically see barges and the occasional Medium Range tanker (generally once per month).

Q17: In the slide show when you show pictures of all the boats, how do you tell if they are barges or ships?

A17: Barges are pushed or pulled by tug and ships have a visible wake.

Q18: Are tugs and barges designed to fit together?

A18: In some cases, yes. In the slide image of the ITB Trader barge that moves product to Vancouver Island weekly, you can see how they are designed to fit together.

Q19: If a ship can carry 330,000 barrels and you only produce 50,000 barrels per day, do they take all your product stored at the refinery?

A19: No, the ships pick up product from several refineries along the coast.

Q20: If you switch products being loaded into ships then don't you have to clean it?

A20: Yes, and to avoid this, ships, or sections within the ships, are usually designated for specific product.

Q21: The barge that had an accident on the Fraser River, was it carrying your product?

A21: No, none of our barges go up Fraser River.

Q22: Aren't there new shipping restrictions for tankers?

A22: A tanker moratorium has been placed on the northern coast of BC.

Q23: How do you ensure that the ships that come to refinery are safe?

A23: The refinery utilizes an independent company to conduct assessments and they produce what is called a SIRE report. This looks at the vessel's safety record, specifications and other factors that determine whether or not a vessel can be used to ship our product.

C23: This presentation and information may be very interesting to share with the neighbourhood at the public meeting.

Q24: Are there independent pilots for ships coming into Parkland dock?

A24: Yes.

b) Low Carbon Fuels Regulation Update - Dave Schick

The new regulations will change the composition of fuel at the pump. There are a number of implications that the refinery is exploring. For example: Are current vehicles compatible with higher levels of ethanol?

Comments and questions:

Q25: Does tallow have a lower carbon intensity and does that mean its life cycle is reduced?

A25: Yes, that is the right analysis. Currently, renewable diesel is shipped here from Singapore and tallow goes back in the same ship.

Q26: What is the volume of product that will be run through the refinery and what is the impact on the community?

A26: Possible commercial feedstocks include canola and tallow. Canola would arrive at our facility via rail, tallow would enter our facility via barge. Early tests indicate no additional impact on the community. The feedstocks would be developed elsewhere but refined here.

c) <u>Vegetation Update</u> – Kel Coulson

- The vegetation in the new parking lot is very green. Some trees were lost over winter and we are committed to replanting these.

Q27: Is the grass going to be mowed?

A27: There is no intention to mow.

5. **Metro Vancouver Update** - Darrell Wakelin and Jason Mushtuk

Date: Wednesday, September 19, 2018
Reporting Period: June 2018 through August 2018

Overview of MV Update Content
Metro Vancouver has the regulatory authority specific to the discharge of air contaminants and management of non-domestic waste to sewer within the region. The Parkland Burnaby refinery has both an air discharge permit and liquid waste discharge permit that we administer. Both the permits have extensive monitoring and reporting requirements.

Typically our summary at CAP is a snapshot of some of the activities related to the administration of the permits conducted since the last CAP reporting period. Topics can include:

- Site Inspections
- Summary of air quality complaints
- Odour surveys
- Response to specific Incidents (i.e. Parkland Advisories)
- Regional air quality management initiatives such as Bylaw development.

a. Refinery Notifications

Date	Level	Discussion
June 26 – 28, 2018		**Routing of acid gas to flare to accommodate maintenance of sour water stripper**
May 20-21, 2018		**FCCU Opacity Exceedance** Exceedance of 20% Opacity permit limit occurred over the two days as a result of a leak in the Catalyst Cooler exchanger which allowed steam to enter the catalyst regenerator, leading to increased attrition of catalyst, thereby, increasing fines emissions.
May 19, 2018		**Sulphur Recover Unit (SRU) Exceedance of Permit Limit for SO_2** Dip in power caused SRU to trip and route acid gas to flare. This resulted in a one-hour exceedance of 10000 mg/m^3 upset condition limit set out in the permit. No exceedances of ambient objectives observed at any monitoring station. Notice of Violation issued to Parkland Refining.
May 5, 2018		**Sulphur Recover Unit (SRU) Exceedance of Permit Limit for SO_2** Permit limit of 5000 mg/m^3 exceeded for 14 hours. Parkland responded by cutting feed rates and initiated investigation. Cause believed to be result of elevated temperature in sulphur pit resulting in release of SO_2 from the pit. No exceedances of SO_2 ambient objectives observed at monitoring stations during this period.

Date	Level	Discussion
April 2, 2018	One	**2018 Major Turn-Around – Start Up** Start-up of the refinery is progressing following a scheduled maintenance turnaround. We are in the process of bringing the units back on-line over the course of the next few days. During start up, there may be periods of intermittent, elevated flaring as equipment is being safely brought on-line.
March 16, 2018	One	**2018 Major Turn-Around – Final Stages** Processing units to be brought back on-line over the course of the next two weeks. The first stage of the planned start-up will be relighting of the refinery flare expected on March 17th. During start up, there may be periods of intermittent, elevated flaring as equipment is being safely brought on-line and subsequently restarted when the work is completed.
January 31, 2018	One	**2018 Major Turn-Around** Regularly planned, periodic maintenance procedure of our processing units. These shutdowns are required to carry out inspection, cleaning, maintenance and repair work to ensure safe, reliable and efficient operations. This work can only be done while the units are not functioning. Work is scheduled to begin Thursday, February 1, 2018 with a phased shutdown of specific sections of the plant. The current schedule calls for the work to be completed by approximately the end of March, 2018.
January 26, 2018 (100 Hrs)	One	**Burnaby Refinery – Power Outage** Power outage during the morning of January 26, 2018. The loss of power took some refinery units off line. Potential for some elevated flaring as work to resume normal operations over the remainder of the day. SRU exceedance of permit restriction of 5000 mg/m^3. No exceedances of AQ objectives of 0.07 ppm SO_2 recorded at any ambient stations.
2017	One	**Total of 6 Level One advisories**

b. Air Quality Complaints

Month/Year	Complaints	Confirmed	Comments
January 2018	**1**	**1**	1 oily sewer.
February 2018	**3**	**3**	2 oily sewer. 1 complaint of gas or crude oil odours – no location of odours provided by complainant.
March 2018	**0**	**0**	
April 2018	**2**	**2**	1 oily sewer. 1 complaint of heavy gas odour noted west of Area One.
May 2018	**5**	**4**	3 oily sewer. 1 complaint of oil odour noted east of refinery.
June 2018	**5**	**5**	4 oily sewer. 1 complaint of gas odour noted west of Area 1. Gas odour related to transfer rate to heavy crude tank being too fast and overwhelming odour filter system.
July 2018	**1**	**1**	1 oily sewer odour.
August 2018	**0**	**0**	

Total to Date	**17**	**16**	
Total 2017	**35**	**27**	Total complaints received by MV.
Total 2016	**53**	**45**	Total received by Chevron from MV and public was 63. Analysis – September highest month (16% - 9 complaints) – Increase related to oily sewer 22 in 2016 vs. 4 in 2015.
Total 2015	**41**		Total complaints identified in Chevron's Odour Management Plan Annual Review submitted March 31st.

c. Odour Surveys

Date	Activity
January 2018	None
February 2018	None
March – April 2018	None
May 2018	Two odour surveys responding to complaints.
June 2018	Three odour surveys responding to complaints.
2017 Total	Eight odour surveys.
2016 Total	Eight odour surveys.

d. Site Inspections/Meetings

Date	Activity
September 6, 2018	Audit FCCU Particulate/Metals testing for Q2
August 22, 2018	Particle Sizing testing on FCCU discussion
June 18, 2018	Area 1 inspection of Tank 26 PVRV vapour leak causing off-site gasoline odours.
May 9, 2018	Meeting with Parkland staff to discuss findings of SRU exceedance investigation.
May 15, 2018	Site inspection and verification of SRU CEMs RATA testing, Area 1 inspection of Tank 69 odour filter system.
February 14, 2018	Meeting with Parkland staff to discuss permit amendment.
2017	8 inspections, 2 meetings with Parkland staff.

e. Liquid Waste Permit

Date	Activity
2018 2nd Quarter (Apr – Jun) 2018-08-08	No exceedances. MV audit sampling of wastewater. No exceedance for any of the monitored wastewater parameters.

2018 1st Quarter (Jan-Mar)	Quarterly sampling requirement in Liquid Waste Permit. Feb. 24/18 sample failed fish toxicity during refinery turnaround. Cause determined to be due to low bug population and over injection of polymer coupled with presence of non-toxic RTI chemical used for equipment cleaning being present in the waste water. No other exceedances of permit parameters.
2017-11-28 2018-01-17	Metro Vancouver audit sampling of wastewater. No exceedance for any of the monitored wastewater parameters.
2017-11-19	Qtr. 4 self-monitoring report identified a CN exceedance. Root cause analysis is the same as noted in the 2017-07-31 report. Violation letter issued.
	Elevated CN Study. June 15th Amending document to authorize intermittent interruptions in sodium hypochlorite injection to conduct sampling and analysis of cyanide in effluent. The conclusion reached was that continuous bleach injection of their effluent resulted in detectable cyanide formation.

f. SOx Curtailment Events

Date	Activity
	No exceedances since last report.
2017-12-07 0135 – 0230Hr 0850 – 0915Hr	Two SCE triggered based on SO2 readings above 190 ppb permit set point at T23. 1 Hr SO2 Objective of 70 ppb was exceeded during both events with hourly averages of 75.9 ppb and 123.6 ppb respectively.
2018-01-01 2200Hr	1 Hr SO2 Objective of 70 ppb was exceeded with hourly average of 70.8 ppb. This did not trigger a SCE.
2017-03-20 0700 to 0800Hr 1700 to 1800Hr	Two SCE triggered based on SO2 readings above 190 ppb permit set point at T23. Interim 1 Hr SO2 Objective of 75 ppb was exceeded during both events with hourly averages of 82.9 ppb and 79.1 ppb respectively. Calm Stagnant inversion meteorological conditions. **Chevron investigation did not confirm cause of missed alert but reported testing of system indicates it is currently working properly (June 1st email).**
2017-10-28 0000-0100 Hrs	SCE triggered based on SO2 readings above 190 ppb permit set point at T23 (0030Hrs). Interim 1 Hr SO2 Objective of 75 ppb was exceeded with hourly averages of 112.8 ppb. AQ & CC investigation discovered that the SO2 analyzer had an upper level threshold set at 100 ppb, which caused concentrations above 100 ppb to be flagged as invalid. As a result Chevron would not have been aware that SCE trigger was met or been able to respond as required in their permit. AQ report issue has been resolved.

MV continues to work through the new permit requirements with Parkland Refining. These include the following:

Data Collection

- Requirement to install on-site meteorological station – Completed
- Requirement to conduct off-site ambient monitoring of SO_2, PM and possibly NO_x, depending on the results of dispersion modelling.
- Ambient AQ Monitoring Plan - Submitted June 29, 2018, revised and re-submitted September 12, 2018. Re-submission currently under review.
- Ambient Monitoring Station to be installed & operational by December 31, 2018.

Dispersion Modelling

- First round of modelling includes one-hour & annual SO_2, 24-hour and annual PM and one-hour and annual NO_2 – This modelling was completed May 31, 2018.
- Second round of modelling will include one year of data from the on-site meteorological station – due January 31, 2020.
- Modelling will be used for the emission control technology assessment.
- Modelling scenarios will include permitted levels, upset events and non-standard operating conditions, such as when boilers are fired using fuel oil.

Emission Control Technology Assessment

- Technology Scoping Plan: outlines methodologies for assessing potential control technologies - submitted July 31, 2018.
- Technology Scoping Report: preliminary evaluation of possible options for Refined Technology Assessment - due December 31, 2018.
- Interim Solutions Plan: plan describing measures that Parkland will take to reduce emissions until a permanent technology solution is implemented - due December 1, 2018.
- Refined Technology Assessment Plan: engineering assessment of top-ranked technologies and dispersion modelling - due May 15, 2019.
- Refined Technology Assessment Report: identify preferred emission control technology & implementation schedule - due January 31, 2020.

Permit Term

- Permit expires on January 31, 2021.
- Parkland will need to apply for a new permit
    - studies conclude on January 31, 2020
    - permit term provides 1 year for the permit application process.
- Permit application will be subject to Public Notification Regulation requirements.

Comments and questions about the update:

Q28: Are you thinking of putting in a new monitoring station?

A28: Yes, we are assessing locations and modelling, including on the North Shore. Based on that, a decision will be made as to where additional ambient monitoring should happen. The stations are installed by Parkland and monitored by MV. The new stations will have enhanced monitoring to look at data prior to technology upgrades.

Q29: Would the current or new stations just be used by Parkland or to collect other industrial emissions such as chlorine from the plant on the North Shore?

A29: The parameters are only for the refinery. If chlorine monitoring was added and the companies wanted to share costs then perhaps that might be an option.

Q30: Is there a new station being installed in Area 2?

A30: MV is currently in discussions with Parkland as to where the new station will be installed with somewhere on the North Shore being the likely location. There are no plans to put a new station near Area 2, however, we're looking at the possibility of enhancing the monitoring capabilities of the monitoring stations around Area 2.

Q31: Are stations monitored in real time?

A31: Yes, Metro Vancouver does audits and quality assurance checks.

Q32: For the two reportable incidents, what was the cause?

A32: (Parkland responded): The opacity issue was caused by a piece of equipment we took out of service and the SRU was caused by a power dip that resulted in the exceedance.

6. **2018 CAP Meeting Schedule** – Catherine Rockandel

Next meeting is November 21, 2018 (Public Meeting)

Q33: How does word get out about public meeting.

A33: A notice goes into Neighbourhood News. Parkland could look at other opportunities including providing e-copies for sharing with CAP to share with neighbours

C34: Can you put notice on front page of Neighbourhood News instead of inside?

A34: Yes

C35: CAP could share promotions through neighbourhood Block Watch.

C36: CAP could promote through Art Evening that neighbours coordinate.

C37: Other presentation topics for public meeting could include an overview of marine, truck and rail operations and safety, Truck rack vetting – safety, overview of new fuels versus current fuels, 'who is Parkland' to update neighbours, and other good news stories.

C38: CAP suggested offering fresh fruit as well as cookies, bulk water instead of bottles and, asking people to RSVP so there is not too much waste.

ADJOURNMENT: Meeting adjourned at 8:32 pm