

**Minutes of the Parkland Burnaby Refinery
Community Advisory Panel (CAP)
Wednesday, February 12, 2020
6:30pm – 8:30pm
Refinery Office (Boardroom) 355 North Willingdon Avenue**

PRESENT

Al Mytkowicz, Davis Vaitkunas, Tim Maryon, Dan Wood, Joanne Smith, Aswinee Rath

Parkland Representatives:

Alex Coles, Refinery Manager; Kate Groves, Director, Operations; Shannon Urquhart, Sustainability & Indigenous Relations Lead; Vicki Bowman, Environmental Team Lead; Jonathan Tyler, Senior Advisor, New Fuels

Regulatory Representatives

Metro Vancouver: Darrell Wakelin and Jason Mushtuk

Facilitator:

Catherine Rockandel, Rockandel & Associates

Guests: Amy Smith, prospective CAP member; Judith Roche, prospective CAP member; Amanda King, Relationship Manager, Tsleil-Waututh Nation

Regrets: Kathy Mezei, Michele Joel, Catherine Carlson, Dr. Aamir Bharmal, Fraser Health; Kel Coulson, Manager, Policy & External Relations; Nick Middleton, Director, Health, Safety & Environment

CAP BUSINESS

1. Opening Remarks

- Catherine Rockandel acknowledged the unceded traditional territory of the Tsleil-Waututh, Squamish and Musqueam Nations.
- She welcomed CAP and shared member regrets. She led the introductions welcoming guests and reviewing the CAP Terms of Reference protocol for guests and providing an overview of the agenda.

2. Parkland Updates

a. General Refinery Operations – Alex Coles

We ended 2019 safely and reliably and have continued our Incident and Injury Free (IIF) operations into 2020. From the last CAP meeting, there have been three environmental exceedances: One was an SO₂ exceedance in the Sulphur Recovery Unit (SRU) at the end of November due to a compressor trip. The second was an ammonia exceedance out of our waste water treatment system. The third was due to a temporary faulty indicator leading to an SO₂ exceedance in the SRU. There was one recordable injury in January due to a worker slipping on snow. As part of our culture of continuous

improvement, we are focused on understanding the increased neighborhood calls related to odour in 2019. We are planning to provide a presentation based on the data analysis and proposed actions.

Comments and questions:

Q1: What provisions do you put in place to protect or warm gauges during cold weather?

A1: To mitigate the effect of colder temperatures, we follow a winterizing routine whereby measures are taken to ensure that equipment will continue to operate without fault (based on historical winter design ambient temperatures). We are looking to enhance this further in certain circumstances by adding additional insulation blanketing to instruments and gauges. All of the plant is instrumented, so we are targeting critical systems by installing instrument enclosures that heat and alarm sensitive processes.

3. Presentation (Attachment One)

a. Fire Safety Tree Removals – Alex Coles

At the end of 2019 Parkland pro-actively and selectively removed trees from Area 1 (tank farm) and Area 2 (refinery). We sincerely apologize for the lack of advance notice to residents and recognize that this did not meet neither our own communication standards, nor or the standards our neighbours can and should expect from us. We are using this as a learning opportunity.

We want to ensure our facility is operating as safely as possible and these removals are a proactive step to help realize this. A new protocol from the American Petroleum Institute (API) audit prompted the plan for the removal of trees. Clearing is guided by the National Fire Protection Agency (NFPA). In response to the new regulations, Parkland's fire safety team and contracted certified arborists completed an audit and recommended the selective removal of trees adjacent to tanks. This work proceeded but the step that was missing was engaging with our neighbours about the process. Since then, we have stopped the work and have met with neighbours to understand the impact of the tree removals and potential mitigation measures. Additional engagement with residents is planned to occur prior to any additional tree removals.

Comments and questions:

Q2 What was the process that Parkland used to determine that the trees needed to be removed?

A2 Removal of combustibles from around equipment was identified as a result of the 2019 third-party API audit. Our fire safety specialists evaluated the risks with having vegetation on our property and determined areas that needed removals and/or trimming. We retained a professional arborist to determine a plan for required permitting and removal.

Q3 Did Parkland consult with the City of Burnaby prior to removing the trees?

A3 Yes, our professional arborist worked with the City.

Q4 Did Parkland get the appropriate permits?

A4 The arborist consultant met with the City. The City has provided the authorization for trees removed in 2019.

Q5 What is the timeline for remediation, specifically visual screening and light mitigation?

A5 We plan for the light mitigation to be addressed after the turnaround. Sightline remediation will be based upon input from residents and discussions with the landscape architect.

C6 Since the trees were removed neighbours can hear increased noise from the barges being loaded, increased light impacts.

b. Traffic – Alex Coles

Parkland provided notification to neighbours in fall 2019 that traffic would increase due to the planned turnaround. We are deep into the turnaround and the traffic has increased. Our traffic committee continues to monitor and to minimize the impact of increased refinery traffic. We notified the RCMP about our event and have sought their support for enforcing traffic laws outside of company property. We continue to educate our workforce about the importance of safe, courteous driving behaviours both inside and outside our fence line.

Our company has invested approximately one million dollars to manage traffic, and these measures include: renting an offsite parking lot with security, increasing the number of flag people near our facility, providing shuttle buses to and from the offsite parking, investing in offsite storage of materials, and providing incentives to get both employees and contractors out of their vehicles and into shuttle buses or carpools (e.g. prize draws, gas coupons, coffee/doughnuts). We continue operating within our approved traffic management permit for this event.

Comments and questions:

Q7 How do you manage who gets incentives for free gas?

A7 The security guards record the license plates of those that park in the offsite lot and take shuttle buses.

Q8 Lots of neighbours are complaining about noise early in the morning and late at night?

A8 We continue to respond to our neighbours' feedback and have asked the workforce to be cognizant of where they are having their conversations and to keep their voices down because neighbours are sleeping. We have also asked the workforce to manage and minimize lighting and sounds from vehicles.

C9 I have brought this up before at CAP but there still seems to be significant confusion in the neighbourhood about Metro Vancouver's watermain project that's impacted traffic near the refinery.

A9 Metro Vancouver's Douglas Watermain Project is not related to Parkland. However, it is expected to impact local traffic.

Q10 What kind of change in employee numbers from normal operations to the number of people required for a turnaround?

A10 During normal operations contractors and staff is approximately 500. During a turnaround that number increases to 1500 across two shifts, so approximately 750 per shift.

c. Power Outages – Kate Groves

Parkland provided a presentation on this topic in November 2019; this update is to provide additional information based on questions raised by the CAP.

Comments and questions:

Q11 In plain language, how do power outages affect plant operations?

A11 Power outages, when significant enough, can result in interruptions in our processing units. Production is impacted, maintaining safe operations is not.

Q12 What critical systems are protected? What is not protected?

A12 All of the critical systems are protected. Everything that is required to bring the refinery to a safe state is protected during a power outage.

Q13 Do normal operations run 24 hours?

A13 Yes.

Q14 What was the substance that was released in the last power outage? When a substance is released, what are procedures specifically around releases? What is the health impact of that release? Does any independent health agency provide assessment of the health impacts from these releases?

A14 It was hydrogen. If a material is released, we notify all appropriate external agencies. The agency notified depends on the type of material and volume released. Outside agencies would then assess the potential for impact to the public, if any, and act accordingly. In this instance, all appropriate reports were made and there was no further action required.

d. Emergency Notification – Jonathan Tyler

We do not have an update at this time further to what was shared at our September 2019 meeting. We will share relevant updates as they arise.

Comments and questions:

Q15 Is there designated staff that communicate with the neighbourhood when a Level One, Level Two or Level Three emergency occurs?

A15 The ICS or Incident Command System is a formalized planning and response system that guides notification. Depending on the type of event, Parkland would liaise with City and follow protocols that are well defined under the ICS structure

e. Turnaround – Kate Groves

The refinery is on day twelve of a six to nine-week turnaround. Planning for this turnaround began five years ago. Three major units are undergoing maintenance and project work, and due to the processing capability of these units, the refinery is entirely

shutdown except for waste water treatment and some steam production.

Comments and questions:

Q16 Is the refinery still running during the shutdown?

A16 Almost everything is shut down.

Q17 Does that mean employees are not working?

A17 Employee duties shift to focus on the turnaround activities and we also need to move some employees to work on nightshift.

Q18 I am still seeing fuel trucks coming in and out, why?

A18 The refinery still has to serve its customers, like the airport and local retail stations.

Q19 I see a truck with molten sulphur, how come you don't have piles of sulphur at the refinery?

A19 The trucks pick up the molten sulphur that is in a liquid form. It is transported to another facility in liquid form. Sulphur used in other industries, such as agriculture.

Q20 What does the Sulphur Recovery Unit do? How are the sulphur emissions handled if the refinery is still operating and the sulphur recovery unit is being maintained and not working?

A20 The sulphur recovery unit extracts sulphur in the production process. As the refinery is not running during this turnaround, the Sulphur Recovery Unit is not needed to remove sulphur from products.

f. Low Carbon Policy Questions – Jonathan Tyler

Q21 What is the implication of government changes in rules and how is this driving Parkland to respond?

A21 Governments are bringing in significant legislation to reduce greenhouse gas emissions from transportation, buildings and industry. In Canada, the federal government has made commitments to the Paris accord and will be implementing a "Clean Fuel Standard" (CFS). In BC we have the "Low Carbon Fuel Standard" (LCFS). Both of these standards require producers of transportation fuels, like Parkland, to reduce the carbon footprint of fuels. Parkland is already a leader in the low-carbon fuel space, and is well positioned to help support these goals by leveraging our existing infrastructure.

Q22 Does Parkland get federal or provincial funding to undertake these green initiatives?

A22 Parkland receives incentives through "Part Three Credit Agreements" for work that reduces our carbon footprint. Public notices about these incentives and who they are awarded to is posted on the BC Government website.

4. **Metro Vancouver Update** – Jason Mushtuk

Date: Wednesday, February 12, 2020

Reporting Period: December 2019 through February 2020

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
2017 Total		7 Level One notifications
2018 Total		7 Level One notifications
2019 Total		4 Level One notifications
Nov. 30, 2019		Sulphur Recover Unit (SRU) Exceedance of Permit Limit for SO₂ Permit limit of 5000 mg/m ³ exceeded for one hour (6001 mg/m ³) Parkland initiated investigation. Cause believed to be result of compressor in the GHT tripped. No exceedances of SO ₂ ambient objectives observed at monitoring stations during this period.
Dec. 23, 2019		Sour Water Strippers Bypass to Flare One hour bypass of sour water strippers while repairs made.
Jan. 14, 2020		Sulphur Recover Unit (SRU) Exceedance of Permit Limit for SO₂ Permit limit of 5000 mg/m ³ exceeded for two hours (5377 mg/m ³). Parkland responded initiated investigation. Cause believed to be result of freezing level transmitter. No exceedances of SO ₂ ambient objectives observed at monitoring stations during this period.
Jan. 20, 2020		Sour Water Strippers Bypass to Flare Planned shutdown of sour water stripper for maintenance.

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Jan. 22, 2020		Sour Water Strippers Bypass to Flare One hour bypass of sour water strippers while repairs made.
Jan. 30, 2020	One	Planned Shutdown Refinery wide shutdown for six to nine weeks for planned maintenance. Possibility of elevated flaring while units are brought down and back up again.
Jan. 31, 2020		Sour Water Strippers Bypass to Flare sour water stripper acid gas sent to flare preparing for refinery shutdown.
Feb. 1, 2020		Hourly Flare Flowrate Reporting - resulting from refinery shutting down.
Feb. 3, 2020		Hourly Flare Flowrate Reporting - resulting from refinery shutting down.
Feb. 4, 2020		Hourly Flare Flowrate Reporting - resulting from refinery shutting down.
Feb. 5, 2020		Refinery Power Loss – Power loss on evening of February 5th. Refinery mostly shut down so minimal elevated flaring.
Feb. 6, 2020		Refinery Power Loss – Brief interruption of power during afternoon of February 6.

b. Air Quality Complaints

Month/Year	Complaints	Confirmed	Comments
Total 2017	35	27	Analysis – January highest month (25% - 9 complaints)
Total 2018	24	20	Analysis – June highest month (25% - 5 complaints – 4 were oily sewer odours)
Total 2019	75	64	Analysis – December highest month (16% - 12 complaints)
January 2020	13	4	3 oily sewer, 1 petroleum odour, 9 rotten egg odour
Feb 2020	6	6	3 oily sewer, 3 petroleum odour

c. Odour Surveys

Date	Activity
2017 Total	Eight odour surveys.
2018 Total	Five odour surveys.
2019 Total	Eleven odour surveys.

January 2020	No odour surveys.
February 2020	Two odour surveys.

d. Site Inspections/Meetings

Date	Activity
2017	8 inspections, 3 meetings with Parkland staff.
2018	5 inspections/monitoring audits, 4 meetings with Parkland staff.
2019	14 inspections/monitoring audits, 4 meetings with Parkland staff.
January 22, 2020	Boiler 4 NOx testing audit./Meeting to discuss permit amendment and complaints.
Feb. 2020	None to date.

e. Liquid Waste Permit

Date	Activity
2017	Metro Vancouver audit sampling of wastewater. No exceedance for any of the monitored wastewater parameters. 4 non compliance issues reported from quarterly monitoring reports.
2018	One exceedance of fish toxicity test in Feb. 2018. No other exceedances reported. No exceedances of Metro Vancouver audit sampling of wastewater.
2019	One exceedance of TSS permit limit on March 9, 2019
Jan. 15, 2020	Ammonia exceedance

MV issued Parklands amended Liquid Waste Permit on June 11, 2019. The key changes to their permit are:

- Increasing their instantaneous cyanide limit from 0.1 mg/L to 0.3 mg/L with the monthly average remaining at 0.1 mg/L. Typical authorized limits for cyanide in Sewer Use Bylaw 299, 2007 (as amended) is 1.0 mg/L
- Allow wastewater discharge with a TSS concentration up to 100 mg/L from the beginning of October to the end of March annually. The average monthly TSS concentration is to remain at 40 mg/L. Typical authorized limits for TSS in Sewer Use Bylaw 299, 2007 (as amended) is 600 mg/L.
- Parkland Refining submitted an application to authorize the use of a temporary waste water treatment plant while they carry out necessary maintenance to their

existing treatment works on May 6, 2019. Authorization of the temporary treatment system was granted from June 15 – September 15, 2019, with the provision of a verification period between June 30 – July 7, 2019 to prove the effectiveness of the temporary system. Parkland Refining met this requirement to the satisfaction of Metro Vancouver staff.

- MV issued a temporary amendment to Parkland Refining’s Wastewater Discharge Permit to allow an increase in ammonia in their wastewater from 20 mg/L to 30 mg/L from January 17 – 31, 2020, in response to sour water stripper issues in the SRU as well as high volumes of rain water.

f. SOx Curtailment Events

Date	Activity
2017	Five SCE triggered based on SO2 readings above 190 ppb permit set point.
2018	2018-01-01 1 Hr SO2 Objective of 70 ppb was exceeded with hourly average of 70.8 ppb. This did not trigger a SCE. No other SCE recorded.
2019	None
2020	None to date.

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 SO₂, 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. Plan accepted.
- Ambient Monitoring Station to be installed & operational by December 31, 2018. Installation extension until December 31, 2020.

Dispersion Modelling

- First round of modelling includes one-hour & annual SO₂, 24-hour and annual PM and one-hour and annual NO₂ – 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. Reporting deadline extended to July 31, 2020 for Phase One reporting and August 31, 2021 for Phase Two reporting.
- 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. Approved October 30, 2018.
- Technology Scoping Report: preliminary evaluation of possible options for Refined Technology Assessment - due December 31, 2018. After April 10th meeting between Metro Vancouver staff and Parkland Refining staff, the report was revised and re-submitted May 7th. September 5, 2019, Metro Vancouver staff met with Parkland Refining staff to discuss Parkland's re-submission. Another meeting on October 3, 2019 to finalize Parkland's revisions. Metro Vancouver received their final revision on October 17, 2019. Report accepted on November 19, 2019.
- Interim Solutions Plan: plan describing measures that Parkland will take to reduce emissions until a permanent technology solution is implemented - due December 1, 2018. Reviewed and accepted. On September 30, 2019, Metro Vancouver received Parkland Refining's application to amend their permit to reflect their interim limits. Finalized amendment application received February 11, 2020.
- Refined Technology Assessment Plan: engineering assessment of top-ranked technologies and dispersion modelling - submitted May 15, 2019. The revised Refined Technology Assessment Plan was submitted on October 17, 2019. Submission has been reviewed and accepted on January 24, 2020.
- Refined Technology Assessment Report: identify preferred emission control technology & implementation schedule - due January 31, 2020. Reporting deadline extended to July 31, 2020 for Phase One reporting and August 31, 2021 for Phase Two reporting.

Permit Term

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

5. CAP Q&A

Q23 What does Parkland do when they receive a weather warning from wind to snowfall?

A23 Depending on the event, we send out site-wide communications with information on how best to deal with the inclement weather, and may adjust our operations as needed.

Q24 Does Parkland salt Penzance Drive for trucks entering refinery? Does the Refinery own snow plows?

A24: Penzance Drive is maintained by the City of Burnaby. The refinery owns snowplows and salts roads within its property.

Q25 How does weather affect refinery operations?

A25 The refinery is designed to operate in different weather environments.

Q26 Does fuel and other products freeze?

A26 In general, hydrocarbon fuels (like gasoline and diesel) won't freeze in lower temperatures found at Burnaby in the winter. However, for colder climates found in Northern BC fuels are produced for the lower temperatures.

Q27 Is Parkland affected by the Coronavirus?

A27 This is a health issue related to work force planning.

Q28 When power comes back on plant, is there any impact on community electricity draw?

A28 The refinery has two electric feeders independent of the community so there would be no impact on the community.

C29 A community member recently approached me to suggest tanks could use a paint job. They wondered if you could look at using a color palette that blends in with environment.

A29 Thank you, there are lots of examples of tanks being painted in different colors. We will look into this.

6. **2020 CAP Administration Update** – Catherine Rockandel

- Reminded CAP of upcoming meetings May 6; September 16; November 18 (public)
- Several requests were received for tours of the refinery. This is more ideal after May and into the summer months when the weather is more conducive to an outside tour.
- The Emergency Notification Sub-Committee is looking for members. CAP members were asked to consider working with Kathy Mezei on this committee.

7. **CAP Membership Sub-Committee Report** –

- Joanne Smith and Aswinee Rath from Membership Sub-Committee provided a report on the CAP member applicants Amy Smith and Judith Roche. After discussion CAP voted to accept the application. All in favor. Carried.

ADJOURNMENT: Meeting adjourned at 8:30 pm