

**Minutes of the Parkland Burnaby Refinery
Community Advisory Panel (CAP) and Annual Public Meeting
Wednesday, November 21, 2018
7:00 – 9:00pm
Confederation Seniors Centre**

PRESENT

Al Mytkowicz, Michael Coyle, Davis Vaitkunas, Joanne Smith

Parkland representatives:

Dave Schick, Director, Policy and External Relations; Kel Coulson, Manager, Policy and External Relations; Alex Coles, Refinery Manager; Peter Turner, Operations Manager; Shannon Urquhart, Community Affairs Lead; Jill Donnelly, Health, Safety and Environment Manager; Vicki Bowman, Environmental Team Lead; Mack Atkinson, Process Engineer; Davy Campardo, Distillate Optimizer, Marine; Richard Spence, Terminal Supervisor

Regulatory Representatives

Metro Vancouver: Darrell Wakelin and Jason Mushtuk

Facilitator:

Catherine Rockandel, Rockandel & Associates

Regrets: Rich Baerg, Kathy Mezei, Eileen Luongo, Aswinee Rath, Fraser Health: Dr. Aamir Bharmal

CAP BUSINESS

1. Opening Remarks (See Attachment One)

- Catherine Rockandel welcomed CAP members and members of the public. She led the introductions of CAP and other Parkland representatives then provided an overview of the agenda
- 18 members of the public attended the meeting

2. Refinery Updates

a. General Refinery Operations – Alex Coles, Refinery Manager

Operations

- We've had another year of safe and reliable operations. There have been no environmental events since our last CAP meeting in September.
- Due to the natural gas pipeline incident in Prince George, we had to curtail operations for a few days. We are still evaluating and responding to the Fortis BC natural gas curtailment. Burnaby Refinery was successful in continuing to operate while others in the PNW shut down. We provided replacement fuels

(propane, diesel) to key customers under curtailment. This reinforces the criticality of having local, reliable refinery capacity in the Lower Mainland.

Fuel Modernization & Facility Planning

- Parkland is committed to investing in the Burnaby Refinery.
- We are evolving our facility to manufacture lower sulphur gasoline and are an industry leader in adapting to produce new lower-carbon fuels. We are evaluating what changes we will need to make to produce these new fuels.
- Minimizing our impact on the community remains top-of-mind during all phases of facility planning.
- We are considering what equipment will need to be updated, where any additional staff would be placed, and how we will bring in these new renewable feedstocks.
- We are aware that there are ongoing traffic issues near our facility and are working to implement solutions to improve traffic flow. We are continuing to educate our staff and contractors about the importance of safety both on and off our property.
- Thank you to our neighbours for their patience as we work to improve traffic flows
- As part of mitigating our impact on the community, we will be moving staff who are non-essential to the onsite operation of the refinery to another office space nearby in the Brentwood area. We are finalizing the details for this offsite space and anticipate moving non-operations staff in 2019.

Co-processing Test Run Update

- Last week we completed a co-processing test run using tallow.
- The run was successful and we produced approximately 400,000 L of renewable fuel, both gasoline and diesel, which is enough to drive a car 100 times around the world!
- We have now commercially produced low carbon fuels from two at-scale renewable feedstocks at the refinery (Canola in May 2017). This gives us confidence that our industry can help achieve Greenhouse Gas (GHG) reduction policy objectives.

Crude Receipts

- Due to limited availability of crude oil from the existing Trans Mountain Pipeline, we are evaluating alternative options for receiving crude oil to meet our commitments.
- One option we are exploring is to resume receiving a modest amount of crude oil via rail cars. We are not currently receiving crude by rail but have the infrastructure in place to do so.
- Another option could be to resume receiving crude oil via truck.
- Our main supply of crude oil will remain from the pipeline.

Filld

- Parkland Fuel Corporation has partnered with, Filld, Inc. in a strategic initiative to bring Filld's mobile fueling service to consumers across Canada, starting in Vancouver.

- As the operator of the Chevron stations in British Columbia, this innovative fuel delivery solution allows our customers the opportunity to have quality fuel delivered to them in a safe and reliable manner in addition to filling up at one of our Chevron locations.
- Filled trucks – which are smaller than fuel trucks – will fill their portable tanks at our truck terminal on Eton Street. They will then deliver this product to customers in Vancouver.

2019 Turnaround

- Turnarounds are the refinery's opportunity to complete strategic maintenance on equipment within the facility.
- Our next turnaround will take place in Q1 2019, and it has a significantly smaller scope than the 2018 turnaround. The 2019 turnaround will see approximately 150 people per shift (whereas there were approximately 600 people per shift in 2018).
- We are working to minimize any added impact on the community during this time and thank our neighbours for their patience in Q1 2018 as we completed our largest turnaround to date.

There were no comments or questions about the update.

3. Presentation: Fuel Building Blocks - Mack Atkinson (Attachment Two)

A presentation on the molecular makeup of current and new fuels.

Comments and questions about the presentation:

Q1: Did you sell the product you produced in the test?

A1: Yes, the product was integrated with other feedstocks at the point of production. It was a commercial scale test to help identify impacts on equipment, logistics and plant. The product from two tests met all industry and government specs.

Q2: Will this new green fuel replace older crude feedstocks?

A2: There is currently a limit of how much renewable feedstock we can input through the refinery. We have tested canola and tallow, and are looking at second generation feedstocks such as sewage sludge or forest residue to supplement our feedstock at-scale.

Q3: How did the refining process change during the test run?

A3: We complete test runs to examine how our equipment was affected and how much renewable fuel we can produce. We also look at impacts on metallurgy, catalyst and other potential long-term impacts.

Q4: Are you making the results of the co-processing test runs public?

A4: Renewable gasoline is a new competitive environment. Since this information is commercially sensitive we are not sharing the results publicly at this time.

4. **Presentation:** Shipping (Marine, Rail and Trucking) at Parkland Burnaby Refinery
Davy Campardo & Richard Spence (Attachment Three)

A presentation on the various shipping methods at the Burnaby Refinery.

Comments and questions about the presentation:

Q5: What do you mean when you say safe overfill system?

A5: It is a proactive protection system with a sensor that shuts down the pumps to avoid truck overfilling with product.

Q6: When you say ships are double hulled, does that mean there is fuel inside both an outer and inner hull?

A6: Double hulled ships are vessels with double layers of watertight hull surface. The product resides in the inner hull and the outer hull is there for added protection.

Q7: What is a rail rack?

A7: A train rail rack is an automated loading and offloading station for rail cars.

Q8: What is a rail spur?

A8: A rail spur is a secondary piece of track that allows railcars to be loaded and offloaded off the main rail line.

Q9: Why do you ship and receive isobutane?

A9: We only receive isobutane, we do not send it out. The refinery does not produce enough isobutane for the amount we need to feed certain processing units to create our finished products.

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

Reporting Period: October 2018 through November 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
2016 Total		3 Level One notifications
2017 Total		6 Level One notifications
January 26, 2018	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.
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.
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.
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.
May 5, 2018		Sulphur Recover Unit (SRU) Exceedance of Permit Limit for SO₂ 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.
May 19, 2018		Sulphur Recover Unit (SRU) Exceedance of Permit Limit for SO₂ 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 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.
June 26 – 28, 2018		Routing of acid gas to flare to accommodate maintenance of sour water stripper
October 10, 2018	One	Fortis BC Natural Gas Curtailment Notification.

b. Air Quality Complaints

Month/Year	Complaints	Confirmed	Comments
Total 2016	53	45	Total received by Parkland 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 2017	35	27	Analysis – January highest month (25% - 9 complaints)
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	
September 2018	0	0	
October 2018	0	0	
November 2018	0	0	
Total to Date	17	16	

c. Odour Surveys

Date	Activity
2016 Total	Eight odour surveys.
2017 Total	Eight odour surveys.
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.
August 2018	None
September 2018	None
October 2018	None
November 2018	None

d. Site Inspections/Meetings

Date	Activity
2016	9 inspections
2017	8 inspections, 3 meetings with Parkland staff.
February 14, 2018	Meeting with Parkland staff to discuss permit amendment.
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.
June 18, 2018	Area 1 inspection of Tank 26 PVRV vapour leak causing off-site gasoline odours.
August 1, 2018	Audit VRU testing
August 22, 2018	Particle Sizing testing on FCCU discussion
September 6, 2018	Audit FCCU Particulate/Metals testing for Q2
October 4, 2018	Meeting with Parkland staff to discuss Ambient Monitoring plan and discuss new ambient monitoring station location
November 6, 2018	Meeting with Parkland staff to discuss co-processing trial and audit FCCU feed system for co-processing trial.

e. Liquid Waste Permit

Date	Activity
2016	Metro Vancouver audit sampling of wastewater. No exceedance for any of the monitored wastewater parameters. 4 non-compliance issues reported from quarterly monitoring reports.

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 1 st 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.
2018 2 nd Quarter (Apr – Jun)	No exceedances.
Jan, Feb, Aug - 2018	Three Metro Vancouver audit sampling of wastewater. No exceedance for any of the monitored wastewater parameters.
2018 3 rd Quarter (Jul – Sept)	No exceedances

f. SOx Curtailment Events

Date	Activity
2016	No SCE reported
2017	Five SCE triggered based on SO2 readings above 190 ppb permit set point.
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. No other SCE recorded

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. Re-submission currently under review.
- Ambient Monitoring Station to be installed & operational by December 31, 2018. Under review.

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.
- 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:

Q10: What is a Level One Advisory?

A10: (Parkland) The refinery advises our regulators of issues where there is no immediate risk. An example would be the recent natural gas curtailment by Fortis BC.

Q11: Did the turnaround (meaning the refinery not operating at full capacity) have anything to do with the decreased odour complaints?

A11: (Parkland) This is unlikely; refineries operate best during periods of normal operations. Turnarounds actually have the potential to increase odours due to the variable operating conditions.

Q12: Has the location of the new ambient air quality monitoring station been decided upon?

A12: The candidate sites are identified. We are working with Parkland to identify the best location.

6. 2018 CAP Review & 2019 Agenda Review – Catherine Rockandel, Facilitator

- The CAP's role is to engage and connect with the neighbourhood. Eight members participated in four regular meetings over the past year.
- CAP is a collaborative, transparent process with minutes posted on website. The meetings focused on the following topics:
 - February Meeting: CAP Q&A responses to a number of questions raised by CAP
 - May Meeting: CAP Q&A responses to a number of questions raised by CAP and Update on Co-Processing Initiatives
 - September Meeting: Marine Shipping and Low Carbon Fuels Regulations
 - November: Fuel Building Blocks and Shipping (Marine, Rail and Trucking) at the Parkland Burnaby Refinery

CAP and the public suggested that a continued focus on the usual updates and discussion topics including:

- Environment
- Emergency notification
- Plant and process safety
- Security and traffic
- Specific neighbourhood interests included learning more about seismic testing of buildings and units at the refinery

CAP communications available at:

- CAP Web Site: www.parklandcap.ca
- Parkland contact: prbcrefineryinfo@parkland.ca

7. Facilitated Q&A

CAP and members of the public were invited to ask additional questions about the updates and presentations.

Q13: I am wondering if Metro Vancouver complaints are down because I sometimes experience odours at night, usually around 2am. I do not call the refinery because it's so late. Do you test air quality at night when there is not much breeze?

A13: (Metro Vancouver) Monitoring stations run 24/7, we can take a closer look at statistics even if you call next day letting us know when you smelled the odour.

(Parkland) We encourage the public to call our Community Contact Line at the time they are experiencing issues such as odours or noise; that way, we can investigate in real-time.

Q14: Do you have the same loading and offloading safeguards for rail as you do for marine shipping?

A14: Yes, there are extensive safety procedures for all of our shipping methods.

Q15: Does Parkland complete seismic testing on the refinery units and buildings? What has been done and how up to date are the tests?

A15: We don't have this information on hand but can provide some information in the next CAP meeting's minutes.

C16: Seismic testing at refinery would be a good presentation topic for an upcoming CAP meeting.

Q17: If you do this presentation can you also provide seismic standard information for tank farm as part of this presentation?

A17: We can definitely look into this information.

Q18: Can you comment on your success at containment during high tide?

A18: A third party consultant inspects this every few weeks. Parkland uses booms for heavier products as a proactive measure. We do not use booms for gasoline since it is light and would evaporate quickly. The September 2018 CAP presentation attachment has detailed information.

Q19: Does Parkland have Emergency Response Plans? If so, can you share more about them?

A19: Yes, emergency response is part of normal planning at the refinery. The November 22, 2017 CAP public meeting included a presentation by Western Canada Marine Response Corporation (Attachment Two) and Parkland Emergency Notification (Attachment Three).

Q20: Which of your products float in water?

A20: All liquid products we produce float in salt and fresh water.

Q21: Is the current capacity pressure on the existing Trans Mountain Pipeline reducing the amount of crude you receive from the pipeline?

A21: There is a shrinking of capacity on the pipeline due to heavier products being shipped. It moves slower and thus this reduces capacity for other product.

Q22: What do you use natural gas for?

A22: To heat our furnaces.

Q23: How much tax does Parkland pay?

A23: The refinery pays several taxes including municipal tax and carbon tax. We don't have the exact number on hand.

Q24: Do you anticipate the twinning of the pipeline will increase your product availability?

A24: There may be implications to the refinery if the Trans Mountain Expansion Project moves forward but at this point it's too early to know.

ADJOURNMENT: Meeting adjourned at 9:00 pm