

**Minutes of the Chevron Burnaby Refinery  
Community Advisory Panel Meeting  
Wednesday, May 28<sup>th</sup> 2014  
6:30pm – 9:00pm**

**Burnaby Refinery Area Tour**

**PRESENT**

Pat Connell, Maziar Kazemi, Kathy Mezei, Rob Maclean, Eileen Luongo, Al Mytkowicz, Helen Ward, Joanne Smith, Cathy Argue, Robert Bowes, Michael Coyle

**Chevron representatives:**

Steve Parker, Chevron, Refinery Manager, Jill Donnelly, Health Environment & Safety Manager; Jorge Marcó, Policy, Government & Public Affairs Manager; Chris Haswell, Operations Manager; Nick Middleton, Supervisor, Area 1 Operations; Chris Boys, Environmental Specialist; Mike Ward, Emergency Response Safety Security Lead (Fire Chief).

**Facilitator:**

Catherine Rockandel, Rockandel & Associates

**Regrets:** Art Quan, Larry Avanthay, Regulatory Representative, Metro Vancouver  
Darrell Wakelin, Regulatory Representative, Metro Vancouver

**Guest:** Rich Baerg

**CAP BUSINESS**

• **Opening Remarks**

- Jorge Marcó welcomed participants and provided a brief overview of the tour process. He thanked CAP for arriving early at the Area 2 Media Conference Room to put on PPE (personal protective equipment, i.e. hard hats, coveralls, safety glasses, steel-toed boots).
- To familiarize new members, each of those present was asked to provide a brief introduction to the group.
- Mike Ward shared Chevron's safety policy and a few house rules to ensure a safe and informative tour for all.
- Steve Parker also welcomed the CAP members and, with the aid of an aerial photo, described the features of Areas 1 and 2 of the Chevron facilities and explained the general route the group would take on the tour.

- **The Tour**

- **Area 1 - General Questions**

**Q1:** How does the vapour recovery system work? How do the vapours get in the system?

A1: Petroleum products naturally give off vapours. As volume is loaded into a vessel, rail car, or truck, the rise in level displaces air. That displaced air and any vapours are collected into our closed vapour recovery system, which prevents any emission of vapours into the atmosphere. It the opposite when vessels, rail cars, or trucks are off-loaded. As the liquid level goes down in the vessel, air is brought into the system and no vapours are released.

**Q2:** When was the vapour recovery system installed?

A2: The Tank Truck Loading Rack VRU (Vapour Recovery Unit) was installed sometime in 1991 and the Marine VRU in 1999.

**Q3:** What are the trucks that we see here in area 1 carrying?

A3: We have trucks coming in delivering crude oil and liquefied petroleum gas (LPG), and we also have trucks that pick up finished product for delivery to customers.

**Q4:** Are they Chevron trucks or outsourced?

A4: They are leased trucks.

**Q5:** What are those pipes coming in to the refinery and where do they come from?

A5: Those are the pipes that connect Area 1 and Area 2 and run underneath the park. They are used to transport crude oil and finished product between the two facilities.

**Q6:** When did the refinery get built?

A6: Area 1 was built in 1934 and Area 2 was built in 1954. More information about the refinery history is on the CAP website.

- **Area 1 - Control Room Questions**

**Q1:** What is the alarm on Friday at noon that we always hear?

A2: The audible alarm that is heard across the refinery lasting 10-15 seconds each week is the H2S and fire alarm being tested. This is a test to ensure that the safety systems are working as per design.

**Q2:** What are the most common things you do in the control room?

A2: In the Area 1 control room, which the tour visited, most systems are automated so we are able to monitor and control operations such as the blending of fuel products, offloading of rail cars, dock operations, etc. We can start and

stop a majority of the operating equipment as needed from the control room. The other control rooms in the refinery are similar in nature.

- **Area 1 - Rail Offloading Facility**

**Q1:** Are trains required to go at a special speed limit?

A1: Yes, there is a speed limit that the trains must not exceed.

**Q2:** What is the wind sock for?

A2: The wind sock provides information on the direction of the wind at various places in the facility.

**Q3:** Where does the rail spur go?

A3: The rail spur connects to the CP main line.

**Q4:** Does Chevron own rail cars and are these the latest cars?

A4: The majority of the crude cars are the latest CPC 232 DOT 111 cars. We lease the cars and, as leases expire, we update the leases to require cars that comply with the latest safety design standards.

**Q5:** What is the turnaround time once rail cars arrive at Chevron?

A5: The turnaround happens in one shift. The rail cars full of crude arrive the night before they are offloaded. The offloading happens during the day and takes approximately 9 hours to complete.

**Q6:** Why do the rail cars stop at the CP Coquitlam yard?

A6: Chevron can manage 14 crude cars maximum in Area 1 at any one time, so additional cars are kept at the Coquitlam yard until Chevron can accept them.

**Q7:** Where does the crude come from? And where does it go.

A7: Crude is sourced from Northern BC, Alberta and Saskatchewan. It is processed at the Refinery and transformed into finished products -- gasoline, diesel, jet fuel, asphalt, heating fuel, heavy fuel oil, butane and propane -- which are then distributed to our customers. We supply about 25% of BC's fuel needs and about 40% of YVR's jet fuel requirements.

**Q8:** Do you accept other products besides crude into the facility?

A8: Yes, there is a separate area for Butane, Isobutane and Liquefied Petroleum Gas (LPG).

**Q9:** I understand that you had a rail line here before. What updates did you have to do for this new crude by rail facility?

A9: Chevron designed the crude by rail system to offload crude with both personal and process safety in mind. Chevron installed aluminum safety railings to protect operators, an automated valve system, a grounding system for static electricity, hydrogen sulfide (H<sub>2</sub>S; a gas associate with crude) detectors, and

foam dispensers. We have emergency showers that are linked to the control room so that if an operator uses one Chevron can investigate. The offloading system is designed with specialty valves that are leak proof to ensure we do not spill even a drop of crude during the offloading process.

**Q10:** Is there any crude left in the rail cars after they are emptied?

A10: A minimal amount of crude residue is left on the walls of the rail car, estimated to be about a bucket full.

**Q11:** What is the consistency of crude?

A11: The crude processed at Burnaby is considered a light crude with low viscosity. It would flow easily through the fingers of your hand, much like water.

**Q12:** What do the dates on the rail cars mean?

A12: Each rail car has the date that they are taken out of service and inspected and tested for structural integrity. Beyond those inspections, Chevron has a safety process whereby the operator completes a check sheet to inspect the integrity of the rail car each and every time prior to offloading. They will visually check general items such as valves, brakes, wheels, etc. They also clean the safety stickers to make sure they are readable.

**Q13:** Do you need vapour recovery for offloading?

A13: No. Offloading draws vapours (air) into the vessel and does not send any out of the vessel. Vapour recovery is only needed during the loading process.

- **Area 2 – New Fire Hall**

**Q1:** How many trucks are in the fire hall?

A2: There are two ladder trucks, a self-contained breathing apparatus trailer, a hazmat trailer, and a foam trailer in the Fire Hall. In both Area 1 and Area 2 we have a quick response vehicle for fire and rescue.

**Q2:** How many operators are there?

A2: There are 95 brigade members – they are all operators. On each crew there are four fire specialists that go for a week-long training course every three years. All operators are trained at our fire training grounds annually.

**Q3:** How many operators are fire-trained? What about on night shift?

A3: All operators are trained. Chevron also can call out others on pagers in case of emergency. On the night shift there are approximately 14 operators in Area 2 and 4 in Area 1.

**Q4:** How many times have you used ladder trucks for fire?

A4: We have never used the ladder trucks for any real fire. Each week we drill our operators on emergency response, and this is how we test our trucks and equipment.

- **Area 2 – Refinery Processing Units**

**Q1:** Why is there such a big flare?

A1: The purpose of the flare is for gas balancing and purging of compressors. Steve Parker shared that one of his goals is to reduce the size of the flare.

**Q2:** Where does the H<sub>2</sub>S come from and where does it go?

A2: Sulfur that exists in the crude is processed into H<sub>2</sub>S during the refining process. H<sub>2</sub>S is then further transformed in the unit to molten sulfur and is sold as a product.

**Q3:** What are all the columns?

A3: These are large pieces of equipment that are in every refinery. There are three types: the distillation columns, the furnaces, and the reactors.

**Q4:** What is an FCC stack?

A4: FCC stands for Fluid Catalytic Cracker, which is a part of the refinery that produces components to make gasoline.

**Q5:** Why do some columns and pieces of equipment have circular platforms around them?

A5: These platforms are observation areas for operators, with ladders or stairs leading to those platforms

**C1:** One of the things we hear from our neighbours is about noise that comes from refinery operations. I would like to see that added to the CAP agenda for discussion.

- **Area 2 – Tour of Perimeter Monitoring & Extraction Wells**

**Q1:** What are the blue drums for?

A1: These are used when we want to measure the amount of hydrocarbon and water being extracted.

**Q2:** How did the seep occur? Why?

A2: The seep was the result of historical contamination and leakage from the refinery's sewer line that carried mostly water and some hydrocarbon as part of the refinery manufacturing process. The sewer was of concrete bell-and-spigot construction and over time the seals broke down.

**Q3:** Where does the sewer go?

A3: It goes to the oil/water separator, after which the water is treated in the wastewater treatment plant through a biological process with the use of organisms that consume the dissolved hydrocarbons

**ADJOURNMENT:**

Meeting adjourned at 9:00 pm. Next Meeting: September 24, 2014, at Confederation Centre.