THE BURNABY REFINERY'S

# Neighbourhood News

A NEWSLETTER FOR OUR NEIGHBOURS

**WINTER 2016 - ISSUE 49**

Chevron

## 2016 Alky Turnaround

Over the last month, the refinery underwent a small, but challenging turnaround of the Alkylation (Alky) Unit and the Crude Unit in Area 2. These turnarounds align with Burnaby's 15-year turnaround plan and are part of the refinery's scheduled maintenance program.

As many of you know, a shutdown of regular operations such as this does not mean that activity decreased at the refinery. Work was ongoing 24/7 with many additional Chevron and Contractor employees on site to ensure a safe and reliable shutdown.

### Planning Process

Gord Bruce, IMPACT Team Lead, led the planning and execution of this event. With the support of many employees and contractors, the IMPACT team started planning this shutdown in the fall of 2014. All shutdown activities are planned down to the hour. This ensures workers are allocated appropriately and shutdown events are completed in the proper sequence. The goal, as with all activity at the refinery, was to execute all the work safely and prepare the units for a reliable run until the next scheduled maintenance shutdown.

### Scope Review

Two major units underwent a reliability maintenance shutdown at the Burnaby refinery: the Alky Unit and the Crude Unit. "Shutdown maintenance activities on these units will reduce the long-term cost of each unit and ensure they run reliably in the future" said Gord Bruce. The Alky Unit Improvement Project replaced several end-of-life vessels, and also made process improvements designed to increase the run length of the Alky. "This will allow us to reduce the frequency of pit stops and maximize operational availability between major turnarounds".

Additional scope included the completion of the alkylate water wash project, which will improve the alkylate quality into our gasoline pool and thus further improving our finished product to our customers. In the Crude Unit, a project team replaced the atmospheric furnace convection box, a component that was approaching the end of its usable life. The new convection box was built using upgraded metallurgy to improve the reliability and longevity of this critical furnace.

### Turnaround Stats

- 33 day duration
- 45000 hrs of work completed
- 0 Recordable Injuries
- 0 Loss of Containment
- 0 Environmental Incidents

### Impact on Neighbours

The goal of all shutdowns is to minimize the impact on neighbours as well as consumers. Gord and his team worked closely with the Chevron Value Chain Optimization department to ensure there was adequate supply of product available during the shutdown. With the addition of hundreds of workers on each shift, there was increased traffic through the neighbourhood during the shutdown as well. To manage this, all personnel employed were required to respect current rules and regulations, including adhering to speed limits as they drove through the community.

As part of the planning process, any work that could potentially result in excess noise was scheduled only during daytime shifts. Regular testing for noise levels was also completed during the shutdown.

"It is always our goal to minimize the impact to our neighbours during any activity at the refinery" said Gord. "We are constantly looking for ways to improve our performance and feedback from our neighbours is important to us."

Ensuring turnarounds are executed well and without incident is a key part of Chevron's business. This means countless hours planning events to safeguard against environmental incidents or serious injuries. Because of the safety culture that is fostered at the refinery on a daily basis, the turnaround of the Alky Unit and the Crude Unit was a success. "We are proud of our employee and contractor workforce and of the efforts they make on a daily basis to ensure the refinery stays safe and reliable. During turnarounds the demands on this group are significant, but our team has shown that they are up to the challenge" said Pete Turner, Maintenance and Reliability Manager. This was the third Burnaby Refinery turnaround in a row without a recordable injury.

# Manager's Message

**Steve Parker, General Manager**

As we have previously discussed before, a safe and reliable supply of fuel is one of the things that keeps BC's economy running smoothly and it is a responsibility Chevron takes very seriously. It is something we often take for granted, as we pull into our local service station and fill up our gas tanks. In order for us to fulfill this duty, the refinery also needs to run safely and reliably. To ensure this, we conduct "turnarounds" on major equipment on a regular basis.

As you can read in this issue's cover story, the refinery took a number of its critical units offline in February in order to conduct regular maintenance. Turnarounds are more than a routine service check. It's like taking your car in for a major overhaul. This would require pulling apart your vehicle, inspecting every part of it, refurbishing it, and returning it to mint condition. That's pretty much what we just did with our alkylation unit, a crude distillation unit, and a gas hydro-treating unit. The work that was undertaken will ensure these units run safely and reliably for the next five years.

Chevron puts a strong emphasis on performance excellence when it comes to turnarounds. These are intense periods with many additional workers on site 24/7 and a lot of physical work happening. Situations like this can increase the risks of injury, yet there have been no injuries whatsoever in all the turnarounds we have conducted over the past three years. In industry terms, this is a remarkable achievement and is something that I and my colleagues are very proud of.

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Another critical focus of turnarounds is that they take no longer than they are scheduled to. These events are planned years in advance and part of the process is ensuring we have an adequate supply of fuel to take us through the weeks when we are not refining new product. This also means that units, like those that were maintained in February, must be available when we expect them to be. If anything unforeseen happens, such as a part not arriving on time, there could be a problem in keeping our customers reliably supplied. Here again, the Burnaby Refinery has demonstrated its capability to be both safe and predictable.

Elsewhere in this issue, you can read about the technology we are investing in to manage vapour recovery at the refinery. Our Vapour Recovery Units (VRUs) are important pieces of equipment that are part of the refinery's ongoing effort to prevent odours and volatile organic compounds (VOCs) from escaping into the atmosphere. You can also learn about the refinery's emergency response mechanisms. Communities are expecting industry to be well prepared in the event of a natural or manufactured disaster. Regulatory authorities are becoming more active in auditing places like the refinery and we welcome this input.

# Safety Matters

## The Refinery's Emergency Response System

Members of the Community Advisory Panel represent the interests and concerns of the neighbours and they will often request information on specific topics. It was at their request that Chevron's Fire Chief, Mike Ward, make a special presentation at a recent CAP meeting on how the refinery prepares for possible emergencies.

"We all see images of disasters unfolding from around the world and naturally our neighbours want to know what Chevron is doing to ensure something similar won't happen here," said Mike. "We take the potential impact of all emergencies very seriously and we have systems and protocols in place to mitigate such incidents. We practice and train for emergency situations with annual tabletop drills and deployment. Staff is sent for specialized training in areas such as rope rescue and small space confinement rescue. We also invest in state-of-the-art equipment so we can respond quickly and effectively. Our primary goal is to protect citizens, including both our neighbours and our workers."

### Incident Response Guide

The Burnaby Refinery developed a custom Incident Response Guide about 25 years ago. The guide, which is reviewed and updated every year, is how Chevron manages incidents. This is in addition to extensive safety training programs provided for employees as well as annual emergency and safety drills executed with our regulators.

The guide has six sections:

- fires and explosions
- earthquakes
- releases (ground; air borne; hazardous materials – liquid or solid)
- emergency medical
- emergency rescue (confined spaces; high angle)
- security

Step-by-step processes make it easier for staff to act effectively in the event of an emergency explained Mike. "Neighbours should know that we are ready; we are prepared," he said.

An Incident Command System is used to ensure a safe, comprehensive and effective response. This is a standardized on-scene emergency management system designed to control emergency incidents and planned events. It provides the framework for standard incident management response and improves interoperability between all response organizations.

### Chevron Emergency Response Philosophy

During an incident, Chevron follows a standard protocol:

- Non-essential personnel are evacuated, while the safety of the responding personnel is uppermost in our minds.
- Initial responders conduct an assessment. Where safe, the Emergency Response Team engages.
- Initial control procedures are undertaken to minimize the impact of the incident.
- An Incident Command Post is established.
- If other stakeholders are involved (e.g., RCMP, City of Burnaby), a Unified Command Post is created.

Incidents are divided into three levels based on potential risks and the level of assistance required to respond.

Level 1: Anticipated/planned activities or events with no external impact or potential to escalate are handled by the Incident Response Team.

Level 2: An incident that requires external reporting (to a government or regulatory agency) is handled by the Emergency Response Team.

Level 3: An incident that requires the activation of the Emergency Response Team and will involve some external response resources.

In the event of an incident that poses a risk to people outside of the refinery, the City of Burnaby would be notified immediately in order for municipal staff to determine how best to alert citizens. Chevron would provide suggestions on best practices to follow for the particular situation.

# Tech Talk Vapour Recovery Unit (VRU)

The Burnaby Refinery has two Vapour Recovery Units (VRUs), one for the tank truck loading rack on Eton Street and the other at the marine loading dock located in the blending and shipping facility in Area 1. These important pieces of equipment are part of the refinery's ongoing effort to prevent odours and volatile organic compounds (VOCs) from escaping into the atmosphere.

The VRU's are used when gasoline products are loaded onto trucks, barges, and ships. When the liquids are loaded into the truck tanks or marine vessels for transportation, vapours are displaced. Without the VRU, the emitted vapours would result in VOC air emissions and potentially unpleasant odours.

**VRU – How it Works**

Each VRU has special charcoal beds that act as sponges that capture hydrocarbons. During the loading procedure, vapours are contained, collected, and captured in the VRU's charcoal beds and recovered back into the refinery's processing system.

These large, fixed pieces of equipment require quite a bit of space, 100 ft x 50 ft in fact. The marine VRU is designed to handle 11,000 barrels per hour (BPH) and the tank truck loading rack VRU has the ability to accommodate a loading rate of approximately 8,000 BPH.

VRUs are used when loading volatile gasoline products.  But heavier materials, such as diesel, are not as volatile and do not emit any significant amounts of vapour. VRUs can only work with required deck fittings and vessels that are VRU compatible. Over the past few years, the refinery has been working with shipping companies to upgrade vessels that visit the Chevron wharf.

**VRU Leaders**

Chevron installed the Burnaby Refinery's tank truck loading rack VRU in the late 1990s and the marine VRU in the early 2000's and is still the first and only petroleum product loading facility on Burrard Inlet with a marine loading vapour recovery unit. In fact, all vessels that currently load at our dock loading facility have the ability to recover vapours.

The original design and requirement was set in motion by Chevron's ongoing effort to reduce both emissions and odour. "Reducing emissions is not only good for the environment, but it is also an important aspect of being a responsible and proactive neighbour in the Burnaby Heights community" said Chad Groves, Facilities Planning Manager. "Safety of our workers is also always top of mind and the VRUs protect them from potentially harmful exposure levels as well."

# Across the Fence


**Truck Loading Rack Operations**
The trucks that travel through the neighbourhood on a daily basis on the way to refinery often have our truck loading rack as their ultimate destination. An average throughput at the rack is 80 loads a day.

Ten employees work at the loading rack, which has been a part of the refinery's operations since the 1950s. The area has three finished product-loading lanes and one biofuels off-loading rack. It's here that the terminal receives gasoline, diesel, B100 biodiesel, and ethanol from the refinery via pipeline. The loading rack also receives B100 biodiesel and ethanol by truck that is off-loaded and pumped into holding tanks. Additional products that are received at the rack and stored in underground additive tanks are Techron gasoline additive, generic additive, and red dye.

Workers follow strict guidelines to ensure safe operations at the site:

- Overfill protection systems guard against product spills.
- All trucks must use vapour recovery systems. Fuel vapours are collected as required by Metro Vancouver regulations.
- The three product-loading lanes all use bottom loading and load gasoline and diesel only.
- The loading rack has recorded over 1,746 safe working days, during which time there were zero recordable injuries and zero loss of containment.

Product meters at the loading rack are checked numerous times throughout the year to ensure they are meeting Weights and Measures regulations.

Chevron truck loading rack customers include Chevron retail stations, Chevron card lock stations, commercial customers, and exchange customers: Husky Oil; Suncor; Esso; and Shell. At the end of the day, the fuel you fill up your car with likely came from the refinery's truck loading rack.

**Confederation Park Pipeline Maintenance Update**
The next phase in the routine maintenance of the underground pipeline that runs along the refinery's right of way in Confederation Park is expected to start up again in early summer. Access to the park will be much the same as it was in summer 2015, with residents able to again use the park for recreational use. Signage will be posted at the two park entrances along Penzance Drive and full-time security personnel will be onsite to ensure public safety. The temporary fencing that has been in place for the past few months will remain as work is continuing behind the fence line.

# Community Corner

**CAP – What is it and What does it Do?**
Working with our community is a key part of the way we do business. In 1996, Chevron collaborated with neighbours to create a Community Advisory Panel (CAP). Its purpose is to facilitate dialogue and foster understanding between the Burnaby Refinery and residents of the adjacent community – an area bounded by Kensington Avenue to the east, Parker Street to the south, Boundary Road to the west, and Burrard Inlet to the north.

CAP members work to identify and address issues of mutual importance and concern. CAP discussions focus primarily on refinery operations, safety and emergency responses, environmental issues, and noise and odours.

CAP members meet a number of times each year. In 2015, the topics discussed included:

- Metro Vancouver interim sulphur dioxide objectives
- The BC fuel market
- Confederation Park updates
- Economics of the refinery: taxes and community benefit
- Emergency notification and preparedness

Want to learn more? CAP has its own website with lots of information. Check it out: **www.chevroncap.com.**

# Community Corner


**Go Bananas at the 2016 Hats Off Day**

Prepare for a walk on the wild side Saturday, June 4th with the community's annual Hats off Day taking on a Jungle Fever theme.

Bring your monkeys and participate in the family fun dash – a three-block race down Hastings Street for a good cause. Find a spot for the parade to watch the colourful floats and performers – a tradition since 1989. And join in all the festival's events and activities including at our own Chevron Town Pump where there will be live entertainment, activities for the kids, and giveaways.

Burnaby's favourite festival runs from 9:30 am to 4 pm on June 4, shutting down Hastings Street between Boundary and Gamma.

For more information: **www.hatsoffday.com.**

**Looking Back** Chevron Burnaby Refinery Site on Penzance Drive, Prior to Construction, Circa 1952

## Community Contact Line

## (604) 257-4040

Chevron's Burnaby Refinery welcomes your calls and feedback. If you have any comments or concerns, please do not hesitate to call our Community Contact Line: 604-257-4040.

This line is staffed on weekdays between 8 am and 4:30 pm. Your call will be directed to the most appropriate person who can respond quickly. In the event of an emergency, or significant maintenance work underway that may contribute to unusual operating conditions, information and regular updates for the public are made available.

If you are calling after hours or on a weekend, please follow the paging instructions. Your call will be forwarded to our on-duty shift supervisors. If you would like to report an odour or if you notice anything that you think is unusual, please let us know. Your calls are very important to us and we will respond as quickly as possible.

To contact the Metro Vancouver air quality officer **604-436-6777**

For the refinery website, visit **www.chevron.ca/operations/refining**

For information about the Chevron/ North Burnaby Community Advisory Panel, visit **www.chevroncap.com**

**Neighbourhood News** is a quarterly newsletter produced by Chevron's Burnaby Refinery for residents of the Heights, Capitol Hill and surrounding areas of North Burnaby.

We invite your comments, questions or suggestions for future articles.

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