

THE BURNABY REFINERY'S

# Neighbourhood News

A NEWSLETTER FOR OUR NEIGHBOURS  
SUMMER 2014 - ISSUE 43



## Refinery Reliability

Safety, Reliability  
and Profitability

The Burnaby Refinery's vision statement sees three keys to success: safety; reliability; and profitability. Reliability is a key part of this vision as it ensures that the plant continues to operate optimally.



# Refinery Reliability

## Safety, Reliability and Profitability

“Reliability is a large part of our focus. It means avoiding environmental incidents, personnel incidents, and process incidents,” said Maintenance and Reliability Manager Pete Turner. “By being a reliable, dependable source of fuels, our customers know they can count on us for the critical resource they need to do their own work.”

### Key Benefits of Reliability

Reliable operations mean fewer safety and environmental concerns, less stress for employees, enhanced shareholder value, and recognition as

a reliable market supplier. There are important benefits to the community as well: reliable operations mean safe operations.

“Neighbours can rest assured that we take reliability very seriously,” said Pete. “That means process safety and complying with environmental regulations are a priority. Reliable operations mean things operate in a predictable manner which means fewer disruptions.”

With fewer disruptions, there is less flaring, less potential for odours, and less after-hours repairs.

### Ensuring Reliability

Critical equipment is monitored to ensure it is performing properly. Regular “health checks” create greater awareness of early signs of trouble.

Data collected about the condition of equipment allows refinery staff to plan on when it may need repairing or replacing in a safe, controlled manner.

Pete also speaks of the refinery’s extensive inspection programs. “We put tremendous effort into these and taking action before something can lead to an incident.”

The refinery follows a workflow control process, a system that identifies what work needs to be done and how to prioritize, plan, schedule and execute the work.

“Many staff also participate in Business Improvement Networks, which are a Chevron-wide initiative where staff share information and learn from other sites,” said Pete. “This is a way for us to learn best practices for each of our areas of expertise.”

# Manager's Message

## Steve Parker, General Manager

Refining oil is part of a complex business with a long supply chain that begins with acquiring crude, transporting it, turning it into products, and then distributing it to customers. The longer a supply chain is the more exposed customers are to disruption. That's one of the reasons Chevron Canada and the Burnaby Refinery take reliability so seriously. The more reliable our operations are - and that of our entire supply chain - the more customers like you can count on the products you need being available when you fill up at the pump.

The Burnaby Refinery's location, so close to where much of our product is distributed, is one of the factors that increase your assurance of a reliable supply. Elsewhere in this issue of Neighbourhood News we talk more about why reliability is a cornerstone of the refinery's vision. We also take a closer look at the refinery's lab and our equipment maintenance protocols that also ensure our reliability. We work hard every day to ensure this and our performance indicators demonstrate that our mechanical availability is world class. The industry also looks at how often processing plants go offline for unscheduled repairs; the Burnaby Refinery also ranks best in class when it comes to this performance measure. We're also proud of the work we put into planning our plant turnarounds. During our February turnaround we did all our scheduled work on time and without incident and were back on line when we planned to be. This is vital to reliability as longer than anticipated turnarounds can create a shortage of supply at the retail level.

A refinery is very expensive to build and maintain and it only makes sense to take good care of it. I liken it to how you treat your car: you make sure it is inspected and maintained regularly with the knowledge that investing in it now will prolong its life and ensure it runs efficiently and safely. Proactive planning and scheduling allows us to avoid spending money on unexpected repairs.

With summer upon us, I imagine many neighbours are enjoying all the opportunities the warmer weather presents. Hats Off Day was a great chance for the Burnaby Refinery to join others in our community in celebrating our neighbourhood. And, I hope you are looking forward to our annual Movie in the Park as much as I am... this has grown to be a wonderfully popular event and we hope to continue offering it as long as the neighbours continue to enjoy it.



The Burnaby Refinery ranks best in class when it comes to performance measure

# Safety Matters



## Inspection Program

The Burnaby Refinery follows a stringent inspection program that is carried out by the plant's five certified inspectors. Any onsite equipment that contains product is part of this program including the approximately 630 pressure vessels, the dozens of tanks, and the several kilometres of piping systems that tie the refinery equipment together.

"We have a scheduled program for the various inspections we conduct," said Fixed Equipment Integrity Lead Ed Hurd. "We do visual inspections where we're looking to see if there's any damage to the external parts of equipment. During internal inspections, we'll take equipment out of service, empty it, and go in to see if there's any thinning, corroding or cracking. And, we have thickness monitoring locations which we examine on a regular basis to check for thinning or corrosion."

Pipelines are also inspected internally using ultrasonics, radiography (X-rays),

and smart pig technology. The underground 12-kilometre pipeline from Kinder Morgan's terminal to the refinery is "pigged" on a regular basis as is the underground line that runs between the refinery's two areas.

The smart pig is an inspection device that is inserted into a pipeline to record information about its internal conditions and is the most accurate way to inspect a buried pipe.

"Internal inspections are conducted every one to 10 years with external ones running every one to eight years, depending on the equipment," added Ed. "We use industry standards for risk-based inspection to determine frequency. Results from inspections at our thickness monitoring stations, for instance, are used to calculate corrosion rates. If one piece of equipment appears to be corroding more quickly than expected, we increase the frequency of inspections."

The refinery also takes advantage of regularly scheduled turnarounds to inspect equipment that cannot

otherwise be taken out of service without shutting down major operations. As Ed says, it makes sense to conduct these inspections as these ensure that equipment is running efficiently and reliably.

All the refinery's pressure vessels and piping systems are regulated by the BC Safety Standards Act and the plant also adheres to American Petroleum Industry (API) standards. The refinery submits its quality control manual to the BC Safety Authority, which reviews and approves its inspection plans. All five of the refinery's inspectors are API certified and must meet a minimum level for qualification. The process requires inspectors to renew their certification every three years.

"It comes down to making sure our equipment will not suffer leaks or failures," said Ed. "Our job is to prevent loss of containment from the equipment to keep everything where it should be and under control. This increases safety of the plant and reduces the risk of environmental spills or leaks."

# Tech Talk

## The Refinery Lab

In an unassuming building just north of the refinery office is the plant's lab. Here technicians monitor quality by testing and analyzing various refinery product streams, oversee environmental testing of various samples taken from around the plant to ensure compliance with permits and regulations, and certify finished products for sale. The technicians are overseen by Lab Supervisor Brian Cudby, who has worked in the refinery's lab for 35 years.

The lab is divided into four main areas: the environmental section; the octane room; the gas chromatography section; and the physical section.

## The Environmental Section

Here samples of treated waste water streams used in the refining process are taken to make sure they meet the permit requirements for discharging into Burrard Inlet and the Metro Vancouver municipal sewer system.

## The Octane Room

Staff test both research and motor octane ratings in gasoline in this room. The average of these two ratings is the octane value you see at the gas pump. (The octane rating of gasoline is an indicator of how much the fuel-air mixture can be compressed before it

spontaneously ignites or detonates in an engine's combustion chamber.) The lab's technicians use Raman technology to predict octane.

## The Gas Chromatography Section

In this area, technicians test a wide variety of gases and liquid samples. Detailed hydrocarbon analysis is performed on the various gasoline blends. This allows for the identification of key components of the gasoline you buy at the pump. These steps are required to satisfy federal regulations governing the manufacture of gasoline sold in Canada.

## The Physical Section

Technicians perform various tests in this part of the lab including distillations,

flash point, density, vapour pressure, sulphur analysis, and mercaptans (sulphur compounds) analysis. These tests are conducted both on refinery streams coming from the processing units and finished blends before they are released for sale.

"All data from the samples the lab technicians study are entered into a lab information management system called StarLIMS," said Brian. "Tests are done from the product streams on a regular basis to ensure that products meet required specifications when they arrive in the blending tanks. There are lots of variables that can affect production; if we detect something that is off-spec, it is rechecked and, if need be, re-blended until it is correct. We don't want finished product leaving the gate if it's not on spec."



# Across the Fence



## **New Firehall Operational**

There were plenty of reasons for refinery staff and contractors to celebrate this past July 17 with the opening of the facility's first custom-built firehall on Penzance Drive.

"We are thrilled with our new firehall and its location right next to our Incident Command Post," said Mike Ward, Emergency Response, Safety and Security Lead. "There are some great advantages to having all our emergency response capability in one location and we'll be able to respond quickly to situations in both parts of the refinery."

The former firehall was located in Area 1, in a converted maintenance building from 1935. The new structure is large enough to house all the refinery's emergency vehicles and equipment and has space inside for rescue training and outside for driver and pump training.

"It's really nice to have all this space," added Mike, "and to know that the equipment is all there if we need it."

## **CAP Members Tour Refinery**

Members of the Community Advisory Panel were given a special tour of the Burnaby Refinery in May. Outfitted from head to toe in personal protective equipment, panel members were led through Areas 1 and 2 of the refinery by the plant's senior managers who answered a wide variety of questions about the history of the facility, its various process units and safety measures. The tour made visits to a control room, the crude rail off-loading facility, the new firehall, and the processing units in Area 2, and stopped by the perimeter monitoring and extraction wells.

We'd like to thank the CAP members for coming on the tour and familiarizing themselves with our operations. We were pleased to be able to answer the many questions members had about what we do here and the steps we take to make sure our operations are safe and reliable.

Minutes from this and other CAP meetings are posted on the Chevron Burnaby Refinery Community Advisory Panel website: [www.chevroncap.com](http://www.chevroncap.com).

## **Pipeline Maintenance in Confederation Park**

The refinery has been doing some pipeline excavations in area 1 to confirm data received from a smart pig inspection conducted recently. (Smart pigs are inspection devices that are inserted into a pipeline to record information about its internal conditions.) If the data proves to be accurate, maintenance may need to be performed on other sections of the pipeline including parts running through the lower part of Confederation Park.

"We're hoping to do the work during the dry season as it will be easier to excavate then," said Maurizio Osualdini, the refinery's Control Maintenance Field Rep. "How long it takes will depend on the number of excavation sites. We're hoping to do this with as little interruption to park users as possible. This is part of our regular maintenance in ensuring the integrity of the pipeline."

Much of the work will require hand digging with hydro vacuum excavating trucks being used only when necessary.

# Community Corner

## New Operations Manager

Christine Haswell joined the Burnaby Refinery at the end of April as the new Operations Manager. Chris, a chemical engineer by trade, has a 16-year career with Chevron beginning in its Richmond Refinery in California.

“My role here is to oversee all the operators – the personnel who are out there in the field working 24/7, 365 days of the year, turning valves and running the systems that control refinery production,” said Chris. “I also supervise the training department, as well as the operations planning department that puts together our weekly plans for what products the refinery will make at what time to supply our customer needs.”

Chris will be a regular at the Community Advisory Panel meetings and enjoyed meeting the CAP members during the May tour of the plant.

“The Burnaby Refinery is in a stunning setting and I certainly join my colleagues in respecting the need to protect this beautiful environment,” added Chris. “I’m also glad to be working in a smaller facility where everyone knows everyone... we’re a very family-oriented and friendly place.”

Chris’ husband, Steve Zuk, a 32-year Chevron employee, has joined her in working at the refinery in its Health, Environment and Safety Division. Chris and Steve’s twin boys are four years old.



## Movie in the Park - August 24

Let yourselves go! Frozen, the Oscar-winning film, is this year’s Movie in the Park feature, Sunday, August 24 in the oval at Confederation Park. Activities get underway at 5 pm with the movie set to roll on the giant outdoor screen at sunset. Bring your picnic blankets and plan to arrive early to stake out your spot... Movie in the Park is one of the neighbourhood’s most anticipated events, with the numbers growing every year.

Bouncy castles, face painting, crazy caricaturists are part of the pre-movie fun, as is all the great food. This year, watch for a food truck to be on site cooking up all kinds of tasty items. All proceeds will benefit Burnaby Community Services and its many social service programs like the Christmas Bureau.

“The Heights Merchants Association and Burnaby Community Services are back this year as our loyal partners in the event,” said Chevron’s Joanne Jamieson, Community Affairs Representative. “And, this year, we’re welcoming Burnaby Hospital Foundation which will have an information booth as well as some great activities. We’re really looking forward to it.”

# Community Corner

## 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, 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 general information about the refinery visit **[www.chevron.ca/operations/refining](http://www.chevron.ca/operations/refining)**

For information about the Chevron/ North Burnaby Community Advisory Panel, visit **[www.chevroncap.com](http://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.

Please contact us at Neighbourhood News, Chevron Canada Limited, Burnaby Refinery, 355 North Willingdon Avenue, Burnaby, BC, V5C 1X4.

Joanne Jamieson, COMMUNITY AFFAIRS REPRESENTATIVE, **604-257-5030**

Fax: **604-257-4093**  
E-mail: **[cclrefineryinfo@chevron.com](mailto:cclrefineryinfo@chevron.com)**  
**[www.chevron.ca](http://www.chevron.ca)**



### Hats Off Day Celebrates 30 Years

Splendid sunshine greeted visitors to this year's Hats Off Day held June 7. The community came out in full force to celebrate this special 30th anniversary wherein the area's merchants take their "hats off" to their neighbours and customers.

The Chevron service station at Hastings and Willingdon was a hip-hop-happening place from beginning to end with a live band, manic mad scientists, and caricaturists whipping up loads of fun.

Mark your calendars for next year... the 2015 Hats Off Day is set for Saturday, June 6.



### Another Great Giro di Burnaby

Cycling enthusiasts took over the neighbourhood for the always exciting Giro di Burnaby event on July 10. The race now draws attention from athletic and promotional circuits around the world, with the number of spectators also hitting new "Heights." This is an event that has to be experienced to be truly appreciated and who better to grab the best seats than the neighbours themselves! Tires hiss; cowbells clang; crowds cheer... it's always an amazing race to the finish line and one Chevron is proud to support.

### Looking Back Chevron Burnaby Refinery's Ground Breaking Ceremony: 1935

