

Neighbourhood News

WINTER 11

A NEWSLETTER FOR OUR NEIGHBOURS



Process Safety A New Way of Looking at Safety



A New Way of Looking at Safety

Six years ago this March, a refinery in Texas City, Texas experienced a major workplace disaster. Fifteen workers died; more than 170 were injured; and the company suffered serious economic losses. On the heels of that tragedy, a panel was convened to conduct a review of the company's corporate safety culture, safety management systems, and corporate safety oversight. The panel issued a report, commonly referred to as the Baker Report. The report had a fundamental effect on the refining industry and Chevron. Its key recommendations have all been adopted by Chevron's refineries including the Burnaby facility.

"The Baker Report led to a significant change in the way the refining industry looks at safety by shifting the focus from personal safety to process safety," said Operations Manager Hugh Hemphill. "Personal safety is easy to measure and

communicate to workers. Today though, more and more industrial sites are focusing on process safety."

Personal vs. Process Safety

Personal safety management focuses on preventing incidents that affect an individual or team. It generally involves physical work that can put people at risk. Process safety looks at how a plant is operating and the broader potential impacts of

an accident. It involves a larger area of the plant, many teams of workers, and has the potential to result in larger consequences. Process safety is about the prevention of leaks, spills, equipment malfunctions, over-pressures, over-temperature, corrosion, metal fatigue, and other similar conditions.

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Manager's Message

JIM GABLE
GENERAL MANAGER



Personal safety refers to our never-ending efforts to avoid injuring workers at Burnaby as they perform their daily activities. It is something we talk a lot about and is critical to do well. However, our refinery and our industry are putting increasing emphasis on process safety, as well (see this issue's cover story). It's a subject that is harder to understand as hopefully few of us will ever experience a catastrophic incident that affects many people in our homes or workplaces. Events like these have a low probability of occurring, but when they do, they can have grave and widespread consequences. Process safety works to

prevent such catastrophic incidents.

Before I was transferred to the Burnaby Refinery, I worked at a Chevron chemical plant in Louisiana. On the morning of April 21, 2010 I had an appointment at a local medical clinic to get a required physical check-up before moving to my new position at Burnaby.

When I arrived at the clinic, it was in chaos, with long delays and a great deal of activity. A nurse explained that this same clinic

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THIS DOCUMENT CONTAINS IMPORTANT INFORMATION.
PLEASE HAVE SOMEONE TRANSLATE IT FOR YOU.

這份文件包含重要資料，請找人為您翻譯。

이 문서에는 중요한 정보가 담겨있습니다.
다른 사람에게 번역을 부탁하십시오.

此文件包含重要信息，希望請人為您翻譯。

ਇਸ ਦਸਤਾਵੇਜ਼ ਵਿਚ ਮਹੱਤਵਪੂਰਨ ਜਾਣਕਾਰੀ ਹੈ। ਕਿਰਪਾ
ਕਰਕੇ ਕਿਸੇ ਨੂੰ ਕਹੋ ਕਿ ਉਹ ਤੁਹਾਡੇ ਲਈ ਤਰਜਮਾ ਕਰ ਦੇਵੇ।

PROCESS SAFETY

How Process Safety Applies to the Refinery

“Process safety is about keeping the materials we handle and process in the pipes and in the tanks where they belong,” said Manager of Health, Environment and Safety Jill Donnelly, recalling process safety failures at both Union Carbide’s Bhopal plant in India as well as BP’s 2010 Deepwater Horizon oil spill in the Gulf of Mexico.

The Burnaby Refinery has always had rigorous operating procedures, but looking at these through a process safety lens means we’re revising them so they’re all similar in format. We’re also being more systematic about how they are accessed and updated. “We’re building on systems already in place and making sure we’re doing them well,” said Hugh.

MANAGER’S MESSAGE CONTINUED

was contracted by British Petroleum to assist during certain medical emergencies, and all the activity that morning was in response to the explosion on a drilling rig at a BP offshore oil field in the Gulf of Mexico the night before. Witnessing the response that morning drove home the impact process safety failures can have on families and communities.

Here at the Burnaby Refinery, we take preventative measures very seriously and work hard to ensure our process safety. But regardless of how long we spend on prevention, it is also critical to be prepared to respond to a significant process safety incident, no matter how unlikely.

As you will read in this issue, the refinery recently undertook its annual emergency response drill. Our specially-trained team simulated how we would respond over a 24-hour period should a lightning strike cause a tank fire. The drill was a great opportunity to practice our specific roles should an emergency ever occur and to build our experience working together as a response team.

And finally, my family and I are looking forward to the onset of the spectacular spring weather we’ve heard so much about and to experiencing all the activities this beautiful part of the world has to offer!

Hugh points to facility design as a key factor in process safety. “We do this to eliminate risk by ensuring equipment does not operate outside of normal conditions. We also ensure that we have a good management of change process in place so changes made after the plant was originally built are properly documented. And then there’s the people factor. We train our employees so they understand the work that’s going on and the levels of risk. Every employee has what we call ‘Stop Work Authority.’ If they see a personal or process safety risk, they can stop the work and have their concerns investigated and mitigated before work resumes.”

Chevron Canada Ahead of the Curve

Process safety is now regulated in the United States but not yet in Canada. “We’ve taken it upon ourselves to follow the US regulation which demonstrates that we believe in it,” added Jill. “We want to do everything in our power to prevent a process safety incident from happening here.”



▲ CHEVRON INCIDENT COMMAND TEAM MEMBERS
(L-R) RAY LORD, MIKE EDWARDS AND DAVE SHARPE
AT RECENT RESPONSE DRILL



Safety First



Last January 27th, neighbours passing by the refinery fence near the tank farm in Area 1 may have noticed a fire truck spraying large volumes of water at one of the tanks. Thanks to signage posted around the perimeter, these passersby would also have noticed that this was part of an exercise drill at the refinery being conducted as part of its ongoing emergency response preparations.

“We regularly conduct table-top and field simulations in order to be ready for an emergency at all times,” said Mike Ward, who is the Emergency Response, Safety and Security Lead for the Burnaby Refinery. “This training is one facet of our emergency preparedness program which also includes ensuring the refinery uses the proper equipment and procedures to respond in the unlikely event of an incident”

Fire in a Tank!

The late January drill simulated what actions would need to be taken should a fire break out in one of the refinery’s storage tanks.

“The most effective simulation exercises are the ones that unfold in front of the participants,” said Mike. “The less participants know about the drill ahead of time, the more it resembles a real event and the more we can learn.”

For this exercise, field workers knew the emergency would involve a tank fire, but they didn’t know which specific tank was involved or if there were any injuries. Likewise, officials in the refinery’s Incident Command Centre were kept on their toes with Mike, as drill organizer, throwing new information at them every few minutes: running out of fire-retardant foam; a truck breaking down; the need to evacuate workers.



Chevron Refinery Tech Talk

ONE IN A SERIES OF ARTICLES THAT WILL HELP YOU UNDERSTAND WHAT GOES ON AT THE REFINERY.

“These are the types of unexpected roadblocks that can distract response teams during a real event and are just the kind of thing that would happen in real life,” said Mike.

Emergencies Require a Team Response

Because a real emergency at the refinery would require the involvement of many other external organizations, these groups also participate in Chevron’s drills.

“Our partners participate in the roles they would actually fill,” said Mike. “For this latest drill, representatives from Metro Vancouver, Port Metro Vancouver, the Burnaby Fire Dept., RCMP, Environment Canada, the Provincial Ministry of Environment, and the environmental protection group at the City of Burnaby’s Engineering Department were all in attendance in addition to the refinery’s specially trained responders.”

As always, there were a few new faces at this drill and the refinery has used their feedback to fine-tune and further improve on its emergency preparedness procedures. “If you don’t learn anything from a drill,” added Mike, “you’re not doing it right.”

Prepared for any Emergency

The refinery’s Incident Response Guide outlines procedures for a variety of emergencies including fires, explosions, earthquakes or other natural disasters, land or water oil spills, chemical releases, medical emergencies, and high angle or confined space rescues.

“Our Response Team Call-In systems are tested weekly so we know they will work when needed. Our Incident Command staff is trained and participates in all our simulations and our dedicated Incident Command Centre facility has all the latest communications tools ready to be deployed at any time.”

The Cooling Tower and the Big White Cloud

The refinery’s cooling tower, located in Area 2 near the foot of Penzance Drive, plays a vital role in the plant’s manufacturing processes. While the facility could not run without it, the thing most neighbours may notice most about this unit is the white water vapour cloud it makes, which is especially visible on cold clear days.

The primary purpose of the cooling tower is to transfer excess heat generated in the refining process to the atmosphere. “We use heat to separate crude oil into other products. When that process is completed, we then need to remove heat from the products in order to store them,” said Technical Manager Eric Butler.

That’s where the cooling tower comes in. It uses water to cool down products so they will not be too hot when they are shipped to storage tanks. Cold water passes through tubes in heat exchangers and picks up heat from the refining process. The warm water then goes to the top of the cooling tower where it “rains” down through a plastic grating. Giant fans at the top of the tower cause some of the water to evaporate and this creates water vapour.

“Think of a hot summer day and standing in front of a large fan in your wet bathing suit. That’s similar to what the cooling tower does,” added Eric.

The current cooling tower was commissioned at the Burnaby Refinery in spring 2008. “The new tower has five cells compared to the previous tower’s seven” said Area 2 First Operator Craig Jacob. “The cells have variable speed fans that allow for better control over water temperature using less electricity. The tower is also equipped with steam-driven turbine pumps that are very efficient. The new tower was built with excess cooling capacity so we can take a portion of it out of service without disrupting plant processes. It’s also built with low maintenance, decay-resistant materials and all these features add up to more reliable refinery operations.”

And what about that cloud you notice hanging over the refinery from time to time? It’s completely harmless. “It’s simply water vapour caused by evaporation - just like you see when you boil your kettle,” added Craig.

- ▼ WATER VAPOUR
- REFINERY COOLING TOWER



Across the Fence



REFINERY
ALKYLATION UNIT

Partial Shutdown now under way

Two of the refinery's units in Area 2 near the foot of Penzance Drive are currently undergoing regular maintenance. The refinery's alkylation unit is shutdown for approximately three weeks undergoing a full cleaning and scheduled maintenance. Another important piece of equipment, the splitter, will be out of operation for about one week for cleaning of the unit's furnace. This partial facility shutdown will last from late February until mid March.

"We don't anticipate any neighbourhood impacts during this work," said Nick Middleton, Impact Team Lead. "There is the potential for elevated flaring during shutdown and start up. There will also be a little more traffic, but this should be limited. And, if any noisy activity needs to happen overnight, we'll make sure we put hoarding up or we won't do it at night. If we know something will be very loud, we will also put up hoarding during the daytime."

Refinery Area 2 Seepage Update

Chevron is continuing its efforts to respond to the detection in late April 2010 of an oily substance in a gravel trench along a CP rail right-of-way and at the rocky foreshore at Burrard Inlet below the Area 2 processing section. The area of the refinery involved in this seepage has been the focus of a perimeter monitoring program since 2004. Refinery engineers and environmental specialists believe the problem may be the result of an historic accumulation of

subsurface contamination on the refinery site over an extended period of time and subsequent migration offsite through groundwater movement.

The BC Ministry of The Environment's Land Remediation Section continues to oversee interception, containment and recovery measures that have been put in place to reduce further migration of this material from Chevron's property. A network of extraction wells designed to prevent further offsite migration along the refinery's north perimeter is now in operation. An interception system has been installed along the CP Rail right of way below the refinery to recover any accumulated material. Site investigation work has been completed at the Burrard Inlet foreshore and installation of absorption mats to prevent further migration of material at the beach is expected to be completed by late February. Source identification efforts are currently focused near a section of the refinery's process storm and effluent water sewer system where further extraction and mitigative measures are being developed.

Chevron is as concerned as the public and regulatory agencies with the mitigation of any impacts resulting from this seepage and is committed to conducting the necessary clean-up. For more information please contact the Refinery's Community Contact line at 604-257-4040.

Volunteers requested for the Chevron/North Burnaby Community Advisory Panel

Chevron recognizes that it operates in a residential community and that its operations can affect that community. It's vital that refinery staff keep an open dialogue with neighbours. The Community Advisory Panel (CAP) plays an important role in this regard by identifying and resolving issues of mutual concern.

If you would like to participate on CAP, we'd like to hear from you. Meetings are held four times a year on a weeknight from 7 to 9pm at Confederation Seniors' Centre. An independent public consultation consultant facilitates these meetings. Discussions focus primarily on safety, environmental issues, refinery operations, emergency response, odour mitigation, and noise reduction.

Regulatory agency participation at CAP includes representatives from Metro Vancouver. Senior Chevron management attend every meeting and special presentations are occasionally made by technical experts to help committee members better understand pertinent issues.

If you would like to volunteer for CAP or attend a meeting as an observer, please contact:

Kim Barbero, CAP facilitator,
Carah Worldwide Consulting, 778-989-7045
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INTERIM MITIGATION MEASURES HAVE BEEN
INSTALLED AT THE BURRARD INLET FORESHORE
BELOW THE REFINERY

Staff Profile

MEET
DAN BEEGER



If there's one person every worker needs to know when problems pop up with computers it's the company's Help Desk Analyst. At Chevron Canada, Dan Beeger is one of a team of three Helpdesk and Remote Support analysts. He's a well-known face throughout the refinery as well as in Chevron's downtown Vancouver marketing office.

"We support over 700 Chevron employees and contractors, so there's never a dull moment," said Dan. "We work with issues related to computer functionality, troubleshooting both hardware and software issues. We also provide support for Chevron's IPT Cisco Network (IP Phones), Smart-Cards for network access, Chevron's Commercial and Industrial Agencies, and we manage the hand-held equipment monitoring devices that are used by refinery operators in the field. It's a lot more than Outlook and Office programs."

Dan started at Chevron about two years ago in an entry level position. "It was a real eye opener to be working for a company that has such an extensive infrastructure. Chevron's Global IT Network has hundreds of applications that are used by employees around the world. That means there are hundreds of unique and different issues for us IT folks."

In addition to his IT expertise, Dan is also known at the refinery for his passion for fishing and for teaching colleagues how to snowboard. "I've outgrown computer games," said the active 26-year-old, "but I do enjoy upgrading and repairing desktop PCs. "

Community Corner

Seton Villa Raising Funds for New Bus

Seton Villa has been part of The Heights community since 1974, providing supportive housing and assisted living to low-income seniors.

The non-profit society that manages Seton Villa is raising money for a new bus so its residents can continue to enjoy field trips and outings. The existing bus has reached the end of its service life and is no longer suitable for residents' needs. The new bus will provide easy access with a power lift, wheelchair space, and more storage for walkers.

Seton Villa has already raised \$70,000 of the \$90,000 needed to purchase the new bus and hopes members of the community will help put its fundraising efforts over the top. Please join Chevron and others in supporting this endeavour. Tax receipts will be issued for all donations over \$20.

To support Seton Villa's fundraising campaign, please send or drop off a cheque made out to Seton Villa Society, 3755 McGill Street, Burnaby, BC V5C 1M2. For more information: 604-291-0607.

Dan has lived in North Burnaby, just 10 minutes from the refinery, for the past five years and he appreciates the quiet neighbourhood as well as its central location. He stops regularly at Eileen Dailly Fitness Centre to work out in the gym on his way home and also enjoys running the trails around Burnaby Lake a couple of times a week.

"It's an interesting time to be working for Chevron and I'm proud of how professional our Help Desk is," Dan added. "We're the guys who tie up the loose ends and make it technically possible for everyone to get their work done."



YOU NEVER KNOW WHAT YOU'LL FIND
AT A FLEA MARKET



Community Corner

Community Contact Line



What's Happening at Confederation Centre!

The Confederation Seniors Community Centre is a “hive of activity” offering a wide variety of popular programs geared to the 55+ age group. Here's an overview of some of the upcoming events....

Flea Markets

March 26 & June 11 from 9:30am to 2pm
Clean out your cupboards or find yourself a bargain. More than 50 tables of pre-loved items will be on display to comb through at these two lively flea markets. Note to vendors: Please register in person at Confederation Centre and choose your table (maximum of one table per person plus one table for a friend). Tables are limited so register today!

Italian Celebration Tea

Sunday, May 1 from 1 to 3pm.
Join us for a lovely, Italian-themed afternoon including an exceptional musical performance by Johnny Fuocco. Tasty treats and great company complete the afternoon!

Oil Painting

7 sessions; Thursdays from 10am to noon
New artists learn basic painting skills, explore techniques and develop their abilities. Experienced painters also welcome. Supplies extra.

Indian Weddings

May 15 from noon to 3pm
Experience the magic of an Indian Wedding. Through dance, skits, and slides, feel the excitement of this colourful event. Delicious lunch included.

Call to register for any of these great activities or visit for more information:
4585 Albert St., Burnaby. 604-294-1936.

(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.



BURNABY
REFINERY,
NEAR ROSSER
AND MCGILL
STREET, 1939



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.

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