Chemtrade North Vancouver Community Update

August 1, 2024 *Issue 2*

Chemtrade's North Vancouver chlor-alkali facility is one of Canada's largest providers of liquid chlorine – accounting for 40 per cent of all liquid chlorine available in Canada. Regionally, this equates to over 70 per cent of the liquid chlorine available in BC and Alberta. Why is this important? A study conducted by Statistics Canada in 2015 found that 96 per cent of Canadian communities relied on chlorine to treat its municipal water supply, which equates to over 30.7 million Canadians. Knowing the significant role that Chemtrade liquid chlorine plays is supporting safe drinking water for millions of Canadians, we need to start having conversations now regarding our potential future operations.

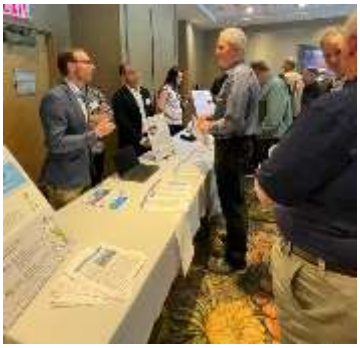
Thank you for attending the Chemtrade June open house sessions!

On June 6, we hosted two Open House sessions at the Holiday Inn in North Vancouver. We were happy to have over 65 residents attend the sessions, where we shared information about our facility, the importance we place on safety, our role in securing drinking water for Canada, and proposed further improvements to reduce risk and increase safety at the plant.

During the session, we had information stations set up around the room – from operations, to safety, rail transport, water protection and risk mapping and reduction where attendees would learn more and ask questions. We had a team of subject matter experts from Chemtrade on hand, including two members of our executive team – our President and CEO Scott Rook, and our Group Vice President, Commercial Alan Robinson. We also had representatives from BakerRisk, the company hired to review and update the facilities quantitative risk assessments (QRA), and the Chemistry Industry Association of Canada (CIAC) to speak to rail safety.

Following the information stations, we shared a presentation which touched on all of the topics covered in the information stations, and closed with open questions from the floor.

Above and right: We were pleased to welcome over 65 attendees, mostly North Vancouver residents, to our June 6 Open House sessions.



Below: the team from Chemtrade, BakerRisk and CIAC.

We were impressed at the level of knowledge residents have about the plant and pleased to see how engaged the community is. We received a lot of positive feedback and some great questions, and we are looking forward to continuing to work with the community as we continue to provide safe drinking water for millions of Canadians, while continuing to operate safely and responsibly.

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Come and see our facility for yourself! Our tour program is up and running

MLA Susie Chant and Minister George Chow tour the Chemtrade North Vancouver facility, April 2024

As part of the Open House sessions, we launched a facility tour program to give people the chance to come and see our facility firsthand. We will be running the program seasonally (summer months) moving forward and are offering tours on Thursday mornings, and they must be pre-booked. We are able to facilitate groups of up to 10, and we will provide a full safety briefing and personal protective gear (PPE) to all participants before heading out for a walking tour of the facility. We ask participants to wear close toed shoes, along with long sleeve shirts and pants. If you are interested in learning more, or to book a tour for yourself, please reach out to Amy Jonsson at ajonsson@chemtradelogistics.com.

Taking a closer look at our production process and site safety precautions

The two areas we received the most questions and interest in at our Open House sessions and through our website – askchemtrade.ca – are questions about overall site safety precautions and procedures, and the actual production process for the products we manufacture at the facility. Understandably so! We live and operate in one of the most beautiful communities in Canada and agree that we need to ensure the protection of the community, our employees and the environment in all that we do. Below we are sharing the questions we have received, along with the answers, which you can also find on our updated FAQ section on askchemtrade.ca. If you have a questions you would like to see answered, please send it to us, either through www.askchemtrade.ca/frequently-asked-questions-faq or by email to Amy Jonsson at ajonsson@chemtradelogistics.com.

Is the production process for chlorine harmful to the environment?

The environmental impact from the production process for chlorine is minimal and does not generate any hazardous waste material or pollution. The overall carbon footprint of the site is very low due to the fact we use green hydroelectricity (BC Hydro supplied), and the salt used in the manufacturing process is solar dried sea salt. Overall, the facility is one of the greenest chlor-alkali facilities in the world.

What specific safety measures are in place to prevent chlorine leaks?

At all of our sites, including our North Vancouver facility, we have strict safety protocols in place that start with production and continue through to our products reaching our customers. These safety protocols include comprehensive training for employees, rigorous safety protocols and procedures at all stages of production, facility safety drills, and emergency response planning.

On a facility level in North Vancouver, we are fully automated, and the system is continuously monitored by a state-of-the-art system that can both automatically notify operators while also

shutting down and isolating areas within the plant should something outside of the normal operating ranges be detected. This significantly reduces the chance of an accidental release. Currently, there are 72 sensors located throughout the facility site, including along the perimeter and in the railcar loading area. These sensors are capable of detecting chlorine as low as 0.1 parts per million. Once the sensors are triggered, automated shut down processes to isolate the area are initiated, and site operators are notified. In the case of a power outage, the facility is equipped with several safety mechanisms that are immediately deployed and do not require operator support. Valves are immediately closed once the facility loses power, securing chlorine within the system.

In North Vancouver, we work closely and collaboratively with first responders, including North Shore Emergency Management. We also provide support for other emergency response initiatives.

How often are safety drills and emergency response exercises conducted?

The site runs several different levels of safety drills on a monthly and annual basis. The facilities safety siren is tested monthly to ensure it is operational. Neighbors, first responders and other agencies are notified in advance of the testing. On an annual basis, the site runs large-scale safety exercises, where the full emergency response program is put into effect and tested. Each year a different emergency response scenario is developed and used as an exercise to ensure the team remains refreshed on all appropriate responses.

Why doesn't Chemtrade make bleach instead of liquid chlorine for water treatment?

Bleach as a product is very rarely, if ever, used in large-scale water treatment and comes with its own challenges – such as very limited shelf life (depending on the dilution ratio, the product can break down within hours, or last as long as six months), and due to the diluted but still hazardous nature, requires special transportation via secure rail car, and less commonly, transport trailer. The diluted nature also presents challenges in terms of volumes – requiring significantly more available transport methods to ship the product to achieve the same level of protection provided by liquid chlorine. This not only adds to the cost for municipalities, but also increases the carbon footprint of the product.

Given all of these limitations, using bleach is not a reasonable or practical solution for large-scale water treatment.

We know that 96 percent of municipalities in Canada use chlorine to treat their domestic water supplies. Although the actual product used by municipalities to treat varies, but we do know it is some form of chlorine, chloramine, or chlorine dioxide. All three of these products can be easily created using liquid chlorine. As it stands, safe and responsible liquid chlorine remains the most responsible and safest method of securing drinking water for millions of Canadians.

Learn more about water treatment in BC: https://www.healthlinkbc.ca/healthlinkbc-files/drinking-water-chlorination-facts. The need for chlorine in securing safe drinking water supplies was also just highlighted in a recent Vancouver Sun article, which you can find here: Water has flowed from our taps for 100 years. What about the next 100? | Vancouver Sun

How does the plant ensure compliance with all levels of safety regulations?

At our facility, as a member of Responsible Care®, the Chemistry Industry Association of Canada (CIAC), and The Chlorine Institute, we meet or exceed all regulatory requirements, and safety association guidelines, while also being committed to reducing the environmental impact of our

activities and improving the health & safety of our employees and the communities in which we operate. We have standard operating procedures (SOPs) in place to ensure the safety of our employees, contractors on site and the surrounding community. In terms of safety in regard to our rail operations, we follow all Canadian and US federal regulations and ensure that our employees receive training and follow all industry and railroad-specific procedures related to the manufacturing, handling, loading, and shipping of liquid chlorine and other products. This includes following strict speed limits, thorough inspections, rail yard practices, and using identified shipping routes for materials deemed hazardous. We maintain and operate a fleet of leased railcars, all of which have been specifically designed for the transport of our various products – like liquid chlorine and meeting all of the required regulatory specifications.

What steps have been taken to mitigate risk for the surrounding community?

Along with all of the onsite safety mechanisms outlined above and also available on our website (www.askchemtrade.ca), we know that the on-site stored liquid chlorine is the largest potential risk to the surrounding community. Since the year 2000, onsite liquid chlorine storage has been reduced by over 94 per cent – from 1,600 tonnes of storage, down to the current onsite storage of 93 tonnes. Moving forward, we would look to reduce that storage to approximately four tonnes – which would represent the liquid chlorine in the production facility itself, with no onsite storage. We would be able to do this by changing how we operate – moving from a produce and store to a produce and ship system. This would not change the number of railcars on site or leaving the facility as our production amounts won't change. It will simply mean that there will be significantly less storage onsite as we would produce to meet demand.

We are also looking to enclose the liquid chlorine railcar loading area in a sealed building equipped with air scrubbers, which would be able to capture and remove any potentially escaped chlorine. Both of these changes, along with additional plans to install seismically activated safety shutoff valves and the removal of the reboiler from the distillation column – would achieve significant risk reduction for the surrounding community.

What information and resources are provided to the local community regarding plant safety and emergency procedures?

Chemtrade participates in a Community Advisory Panel, at which it shares updates on its operations, safety plans, procedures, and planned upcoming work or projects. The Panel is free to ask questions, request information, and have been provided with tours of the facility. As a company, we work closely with our neighbours, first responders - specifically North Shore Emergency Management. Any potential incident would be shared with first responders and through the Alertable system. If the public have concerns, they are asked to contact Chemtrade, either through www.askchemtrade.ca, our Facebook page, or by reaching out to Amy Jonsson at ajonsson@chemtradelogistics.com.

How does the plant communicate with local authorities and residents in case of an emergency

The community and first responders would be notified of any potential risk through the use of the Alterable program, and direct outreach to North Shore Emergency Management. Communication updates would continue to be provided as needed through the system. Updates to local elected officials, First Nations, and the media would also be discussed, and if deemed appropriate, direct communications with those organizations and Nations would begin via email and phone calls.

Are there any recent upgrades or planned improvements to enhance plant safety?

The plant typically spends $10 million - $20 million a year on capital investments to sustain the condition of the site and fund improvement projects. Many of these are focused on enhancing the sites' safety systems. The most recent project was completed in 2024 and saw the installation of a new, improved chlorine evacuation system to sweep the piping system of chlorine and run it through a scrubbing system for plant shutdown and rail car evacuation.

The facility also just completed its bi-annual maintenance shutdown, during which all systems within the facility are inspected, and planned maintenance work and improvement projects are completed. The next maintenance shut down is scheduled for 2026.

The proposed additional safety projects suggested as part of the risk reduction work (enclosed rail car loading area, seismically activated shut off valves, removal of some equipment, etc.) through would be scheduled to be completed over the next two turnarounds (2026 and 2028) should we secure a long-term lease renewal.

How does the plant handle chlorine waste and byproducts?

There is very little waste, none of it hazardous, generated by the production of chlorine. There are only three byproducts of the process: hydrogen gas, a calcium/magnesium solid material that comes from the purification of the sea salt, and brine sludge. Again, none of these are hazardous, and in fact we do sell a portion of the hydrogen produced as a clean energy source. The brine sludge and the calcium/magnesium solid material are both safely disposed of at the local landfill. It should be noted that the facility is one of the lowest carbon facilities, using green hydro-electric power (from BC Hydro).

What safety training programs are in place for employees?

All employees are provided with safety training which includes on-the-job demonstrations and training, on-line learning, and when required, classroom training. Every employee on site is provided with the required safety equipment for their specific role and can include items such as protective eye wear and clothing, respirators, and high visibility vests. The training is logged, and employees are provided with updates about upcoming expiring training so they can rebook and ensure their training remains current.

Ways to get in touch with us

We would love to hear from you, and there are several ways to contact us. The first is by visiting www.AskChemtrade.ca where you will be able to submit questions, find up-to-date information, and send us a message directly. The second is by reaching out directly to our Director, Corporate Communications Amy Jonsson at ajonsson@chemtradelogistics.com who will be able to answer questions or connect you with someone who can. Or you can visit our Facebook page (https://www.facebook.com/chemtrade) and send us a message that way.

Visit www.AskChemtrade.ca