Chemtrade North Vancouver Community Update

October 2024 *Issue 3*

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 to everyone who joined our public facility tours!

Our public tour program has just wrapped up for the season, and we want to thank the dozens of people who took the time to attend one of the tours offered. In total, we had over 40 people go through our facility, learn more about what we do, and see firsthand how we do it.

Our facility team were happy to seethe level of interest from the community and are excited to look at ways we can improve the program for next year. "There is nothing that can compare to the experience of coming to site and seeing our operations for yourself. There can be a lot of mystery around what we do, as from the outside, we look like a large industrial operation. Once you get into the facility, see all of our technology in place, understand the level of safety built into all of our systems, the care taken by our team, and our commitment to ensuring we are operating responsibility, it helps to build confidence in the community and an understanding of what we do here every day," says Dave Gosse, Director, North Vancouver Operations. "We are looking forward to the program next year and welcoming more residents onsite."

If you are interested in learning more about the tour program, or want to provide feedback on ways we can improve the program for next year, please reach out to Amy Jonsson at ajonsson@chemtradelogistics.com.

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

Community members tour the facility on October 9, 2024

Taking questions from the community

We have continued to receive questions through our engagement website, www.AskChemtrade.ca, and are happy to share the answers to those questions below, and also post them on our website.

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.

If there were to be a large release of chlorine from the Chemtrade North Vancouver facility, would the chlorine liquid or gas travel uphill into surrounding communities?

The facility is equipped with several layers of automated safety equipment, including backup systems which would help to prevent or greatly minimize the impact of any potential accidental release of chlorine from the facility.

The system includes 72 sensors, located around the site, that can detect chlorine at less than 1 part per million. If detected the system will automatically notify operators and begin to shut down and isolate the system. The site also has negative pressure tanks that are capable of capturing all of the chlorine on site if required, and safely storing it for proper disposal. There have also been significant changes in how liquid chlorine is stored, reducing onsite storage of liquid chlorine by over 94 per cent using the year 2000 as the benchmark (onsite storage in the year 2000 was up to 1,600 tonnes, while today's storage is up to 93 tonnes) which greatly reduces the impact and risk from a potential release incident.

All of this being said, in the unlikely event that an accidental release occurred, it is highly unlikely that the chlorine would travel uphill to higher elevations. The liquid chlorine would immediately change from a liquid to a gas as it will not remain as a liquid under ambient conditions (needs to be chilled to -32C to convert to a liquid). Once in its gaseous form, chlorine is two and a half times heavier than air and tends to sink rapidly to ground level and flow downhill, pooling in lower areas. Once exposed to the elements – wind, water, rain, temperature, and sunlight - it will begin to quickly break down. Given the right circumstances, chlorine can be moved by strong wind, but that action would help to further dilute and breakdown the chlorine. In water, like the ocean, which is directly to the south of the facility, the gas would dissolve, converting to chloride and hypochlorous acid – both of which are not harmful to the environment.

With the removal of the majority of liquid-chlorine storage from the facility, do you anticipate an increase in railcar traffic to and from site? Will you just store liquid chlorine on site in the railcars?

In short, the answer to both questions is no. We are ***not*** increasing our production so would not require any additional rail car transport. We currently operate with a very limited amount of liquid chlorine stored onsite (our maximum storage is up to 93 tonnes, down from 1,600 tonnes stored onsite in the year 2000), so the further change to a "produce and ship" operating model, will not

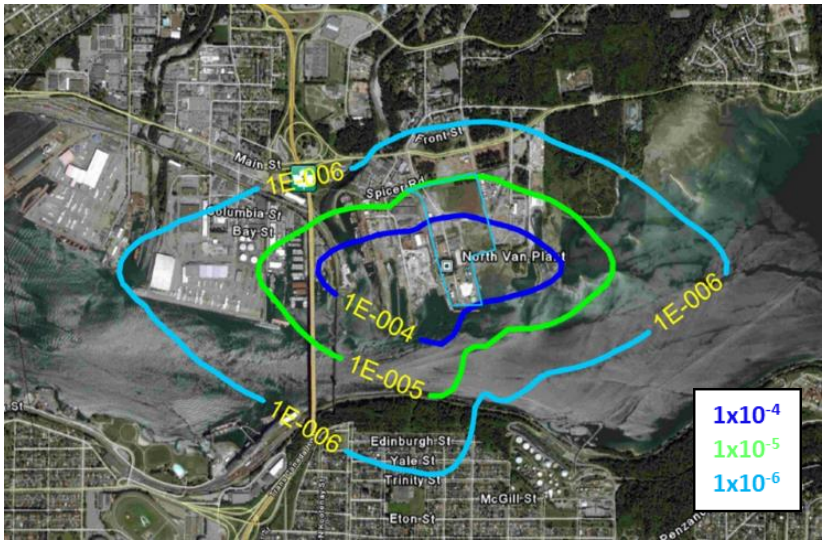
impact or create additional railcar traffic. Currently we have an average of four rail cars arriving and leaving our site on a daily basis. We do not anticipate that this will change. This would also mean that we do not anticipate an increase in the amount of switching or shunting of onsite railcars.

The movement and storage of liquid chlorine is highly regulated, including caps on the number of cars that can be stored onsite. We would continue as we operate now, which is to securely load our products and then ship at the earliest possible opportunity.

If you proceed with the safety improvements projects you are proposing, what is the risk to the community outside of the larges risk curve?

The risk curves have been developed for us by an independent company, BakerRisk, using the latest in software and data to develop updated quantitative risk curves, known as the QRA curves, which signify the level of risk presented to an individual, as well as restrictions on types of development allowed within each level of risk, or curve.

The current QRA maps that both we, and the District of North Vancouver use for planning purposes, show the rings extended across the Dollarton Highway and to the east and west of the facility. Although this map is slightly dated thanks to new and emerging technology, it still provides a snapshot of areas we need to be aware of should we have an accidental release.



Right: QRA curves developed for the facility in 2006 reflecting current operations

The risk within each curve is defined as:

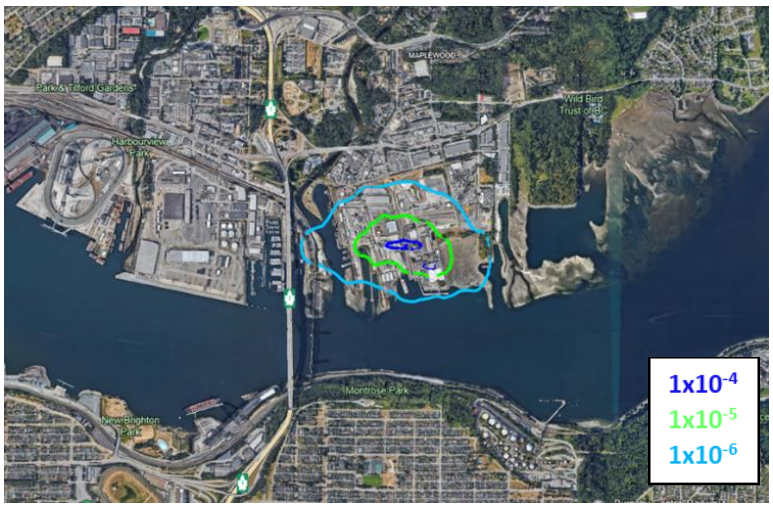
- Within the **10^{-4} curve**, the risk is described as one fatality within 10,000 years, and is comparable, or presents the same risk as working in a manufacturing plant.
- Within the **10^{-5} curve**, the risk is described as one fatality in a hundred thousand years, and is comparable, or presents the same risk as a pedestrian being fatally struck by a car.
- Within the **10^{-6} curve**, the risk is described as one fatality in a million years, and is comparable, or presents the same risk as travelling on a commercial airplane.
- *It should be noted, that **outside of the 10^{-6} curve**, there are no restrictions on allowable developments or land uses and the risk to an individual is the same as if the facility wasn't in place.

If we secure the ability to continue to operate for the long-term, we will proceed with several projects aimed at reducing risk to the community and even further improving safety.

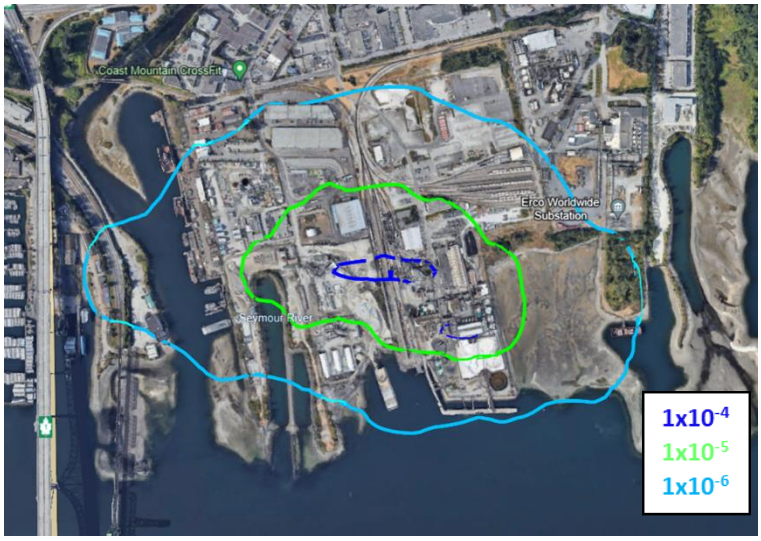
The largest of these projects would be the construction of a building around the rail loading area, which would be equipped with air scrubber technology. In the remote possibility of a leak or accidental release, the building would be able to capture the air, run it through a scrubbing process, and remove the chemical from the air.

BakerRisk developed updated modeling for us, based on the completion of our proposed safety projects, which show the impact the projects would have on the QRA curves for the facility. The overall reduction in the curves is dramatic and eliminates the majority of risk for the community at, or near, our facility property line.

All of this information, plus more, can be found on our website as www.AskChemtrade.ca/safety



Above: QRA curves developed reflecting the completion of our proposed risk mitigation projects.
Below: A closer look at the updated risk curves, reflecting the greatly reduced risk to the community



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

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