



100 Amherst Avenue
North Vancouver, BC V7H 1T9

Dan Milburn
Director, Planning and Development
District of North Vancouver
355 West Queens Road
North Vancouver, BC V7N 4N5
milburnd@dnv.org

May 15, 2026

Dear Mr. Milburn,

Re: Rezoning Application Reconsideration – Bylaw 8778 100 Amherst Avenue

We would like to acknowledge and thank His Worship, Mayor Mike Little, for exercising his authority under section 131 of the Community Charter to bring forward a notice of reconsideration, related to Council's earlier decision on Bylaw 8778 for 100 Amherst Avenue.

As a team, we want to provide information on both the changes we are proposing to our application, in direct response to concerns raised by Council at the April 13 Regular Council meeting, as well as provide additional information to address misinformation that is being shared about our operations, our application, and liquid chlorine itself, along with follow up questions received from District of North Vancouver planning staff.

We would welcome the opportunity to provide further information about our application, our proposed safety projects, or tours of our facility and the location of these planned improvements. We are also happy to connect you with any of the independent third-party organizations and subject matter experts who have been engaged throughout this process to develop detailed and thorough reports based on science, best practices, and unbiased independent research.

I can be reached by email at alrobinson@chemtradelogistics.com, or by phone at 989-423-9913.

Sincerely,

Alan Robinson
Group Vice President, Commercial
Chemtrade

CC: Yan Zeng, zengy@dnv.org, Manager, Development Planning, District of North Vancouver
Attachments: *May 15 Report to District of North Vancouver Council*





May 15, 2026 Report to the District of North Vancouver Council

Revised Rezoning Application Amendments

During the April 13 Regular Council meeting, Mayor Little and Councillors Pope, Forbes and Muri raised concerns regarding Chemtrade's ongoing operations. The following three concerns were specifically named in the Mayor's decision to move for reconsideration of Bylaw 8778:

1. *Site security (page 2)*
2. *Public safety and training (page 4)*
3. *Permanent nature of the rezoning application (page 5)*

As an organization, we understand the responsibility of Council to ensure the safety of its residents, and that there are concerns about potential future operations and the lack of a mechanism for future Councils to ensure that Chemtrade continues to operate in a responsible manner. To address these concerns, we have proposed the following additions to our existing rezoning application.

Also included in this report is additional information aimed at clarifying the misinformation that was put before to Council and in other forums during the rezoning application process (*page 6*).

1. Understanding site security measures:

Chemtrade has significant safety processes – physical and cyber – in place to ensure the safety of our employees, the community, and our operations. While we can't detail all the site security measures in place in this document (as it will become public information), we can provide the below high-level information and extend the offer to meet in person and walk through existing plans and the result of recent safety and cyber safety audits with all members of Council.

Physical site safety:

Our facility operates 24 hours a day, seven days a week. To ensure the security of the site, we have a team of security employees who constantly monitor the site using our monitoring and surveillance system, which includes dozens of security cameras located at various points across the site – allowing our security team to be able to see all areas of our property in real time. The site is enclosed by a 10-foot metal fence, which is regularly inspected and maintained to ensure its integrity.

These measures extend to and include the rail portion of our operations to ensure the safety of rail operations.

The site is regulated under Transport Canada Marine Transportation Security regulations, holds a certificate of compliance, and undergoes regular inspections and assessments. The security assessments are conducted by Transport Canada and cover the entire footprint of the facility with a focus on security management, physical security, emergency management, and business continuity. **The**





most recent security assessment was conducted in 2024, at which time the site security measures were deemed to be effective with no major findings or deficiencies.

To further support site security and safety, our employees take annual safety training to ensure there is awareness of the proper procedures to address the physical safety of the site, as well as confirm that employees are aware of the processes and procedures to enact security measures should they feel the site security is at risk.

Our overall physical site safety measures are regularly audited as part of our insurance review, and we are happy to meet and walk through the results in person – providing a detailed look at the security measures in place for all the areas of our operation.

Site security audits are completed every five years. Moving forward, we would be happy to share (on a confidential basis) the high-level summary of the findings with the District of North Vancouver.

Cybersecurity measures:

We have several layers of cybersecurity protection in place to ensure our process and infrastructure control systems remain secure. The site was also the focus of an independent third-party cyber security assessment conducted by Marsh (www.marsh.com) earlier in 2026 which provides a maturity analysis of our cybersecurity program. The assessment is built using key elements from multiple cybersecurity frameworks, including the National Institute of Standards and Technology (NIST), the Centre for Internet Security (CIS) Critical Security Controls, and the International Organization for Standardization (ISO) 27001. The results are broken into five areas, identified and used by NIST: 1.) *Identify*; 2.) *Protect*; 3.) *Detect*; 4.) *Respond*; and 5.) *Recover*.

While we can't share the results and the processes we have in place in a public document, ***we can confirm that the results of the assessment are ranked by maturity on a scale of one (least mature) to four (most mature) - our efforts received a ranking of 3.5 – indicating a mature cybersecurity program with resilient characteristics.***

We are working with Marsh and our internal cybersecurity team to ensure we continue to meet all standards and address any potential areas highlighted as an opportunity for improvement.

To support this work, our employees complete annual safety training, which includes cybersecurity components to ensure employees are aware cybersecurity measures and practices, as well as isolating the site from potential cyberattacks.

While we need to ensure our security processes remain confidential for the continued safety of our operations and facility, moving forward, we would be happy to meet and review (on a confidential basis) the results of the independent cybersecurity audit and provide a tour of our physical safety measures and plans.





2. Public safety and training

At the April 13 Regular Council meeting, there were concerns raised regarding available shelter-in-place training for the public, as well as education into how the public should respond in the unlikely event of an emergency at our facility.

Safety processes in place:

We partner closely with local first responders, like the District of North Vancouver Fire Department and NorthShore Emergency Management, to coordinate training and share our emergency response plans to ensure that there is broad awareness of how to respond to our site should there be an incident.

We practice annual response scenarios, which include training on the use of “Alertable”¹, to ensure that all area residents would be able to access required emergency response information in the unlikely event of an emergency at our facility.

We also follow all regulatory requirements – ensuring our operations, including the shipment of our products, meet stringent Transport Canada and U.S. Department of Transportation regulations. In March 2026, Transport Canada conducted a site inspection to ensure we are operating in compliance with all requirements under the *Transportation of Dangerous Goods by Rails Security Regulations*, and the inspection passed with no areas of noncompliance noted. Transport Canada will continue to conduct inspections to ensure that Chemtrade remains compliant with applicable regulatory requirements.

As a member of the Chlorine Institute, we also support their CHLOREP (Chlorine Emergency Plan) program and have several local employees who have volunteered to be part of the emergency response team and received highly specialized training to assist in an emergency.

Launched in 1972, CHLOREP is the Chlorine Institute’s mutual aid program that provides a rapid and effective response to chlorine emergencies across Canada, the U.S. and Mexico by ensuring that transportation service providers, end-users, first responders, hazmat teams and others have quick access to accurate information and industry expertise. The program is supported by chlorine producers, like Chemtrade, and includes specially trained emergency response contractors. The CHLOREP team provides emergency responders with expert support via telephone within minutes of an incident being reported, and if needed, will rapidly deploy emergency equipment and personnel to the scene of any chlorine emergency in North America. The CHLOREP network includes more than 88 response teams from 25 Chlorine Institute member companies, as well as 13 emergency response contractors who meet the Chlorine Institute’s stringent performance requirements.

CHLOREP assistance during a chlorine emergency is available 24 hours a day, seven days a week. You can learn more about this sophisticated and elite team of first responders here (<https://www.chlorineinstitute.org/chlorep>).

¹ Alertable is a Canadian-hosted emergency notification solution.





Proposed public shelter-in-place training:

In response to concerns heard regarding shelter-in-place training for area residents, Chemtrade is **proposing** a four-pronged approach to ensure that area residents are aware of the proper process should they be advised to shelter-in-place, as well as where to turn for more information.

1. **Development of an educational brochure providing instructions on how to properly shelter-in-place**, along with directions on where residents can go to find more information, including online resources and instructions on how to register for Alertable notifications and annual training. These brochures are in development and would be sent to the District of North Vancouver Planning staff as well as Council for review and approval before being distributed to all residents and businesses with a 350-metre radius of our facility. These brochures would also be available for distribution at community events, and through the new resident package currently shared by the District of North Vancouver Fire Department.
2. **Working in partnership with local first responders (potentially the District of North Vancouver Fire Department, NorthShore Emergency Management, CHLOREP, etc.) to develop and sponsor annual shelter-in-place training.** If supported by Council, we would move forward with solidifying the program. The goal of the annual training would provide the opportunity for area residents and businesses to learn firsthand what to do in case of a shelter-in-place notification, as well as be able to ask questions specific to their residence or place of business.
3. **Use our Community Advisory Panel to host shelter-in-place “train the trainer” workshops, so members can effectively work with their communities to ensure there is awareness on how to respond.** By partnering again with the District of North Vancouver Fire Department and CHLOREP team members, we propose to offer more detailed training on shelter-in-place procedures and where to find more information, so these members can share this information back with their respective organizations and communities. This will ensure neighboring businesses are aware of the process.
4. **Offer emergency response and preparedness training to the Tsleil-Waututh Nation, helping to ensure the community is prepared and educated on how to respond to any potential emergency.** This training could be completed in partnership with the District of North Vancouver Fire Department and CHLOREP team members, and could extend beyond shelter-in-place, to include general emergency response preparedness.

3. Permanent nature of the rezoning application

During the April 13 Regular Council meeting, there were concerns voiced regarding the lack of processes or controls in place which would allow the District of North Vancouver and future Councils to be able to review and have oversight into Chemtrade’s continued operations. Specifically, we heard that there is a need to ensure Chemtrade continues to invest in best achievable technologies and continues to review





and upgrade our security practices and equipment, which can be achieved through a mechanism for ongoing Council review and oversight, including the ability to revisit the rezoning status.

As further detailed in Chemtrade letter to Mayor Mike Little dated April 28, 2026, a summary of the key components of our revised application are as follows:

- **Proposed time-limit on permitted industrial production of liquid chlorine:** the by-law amendment would be paired with the duration of the lease agreement with Vancouver Fraser Port Authority (Port). At the end of the term, there would be opportunity for Council to review land use. The duration would be tied to the lease agreement with the Port, with a term of 20 years starting with the signing of the new lease.
- **Completion of an updated baseline Quantitative Risk Assessment (QRA), with a mandatory QRA update, with review by the District:** to be completed following the completion of safety improvements and other defined milestones as agreed to by the District and Chemtrade.
- **Independent Best Achievable Technology (BAT) review:** to be completed by a qualified third-party engineering firm at defined and agreed upon milestones.
- **Further development with the Council for appropriate shelter-in-place training:** to be built in partnership with local first responders and supported by Chemtrade.

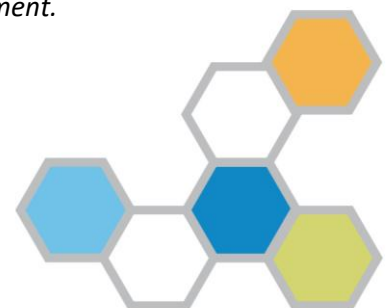
Clarifying misinformation

The operation of a chlor-alkali facility is very complex and requires a high-level of expertise, oversight, and levels of process. Chemtrade’s North Vancouver chlor-alkali facility has been safely operating in the same location since 1957, and plays a significant economic role at a local, provincial, and national level. The facility itself is a significant contributor to several industries critical for British Columbia and Canada’s economic sovereignty and the health of millions through securing safe drinking water. Further, the facility supplies critical materials to support key British Columbia and Canadian industries such as the energy sector (oil and gas) to support investments such as LNG Canada, and the pulp and paper industry.

Starting in 2023, Chemtrade launched a transparent and comprehensive engagement strategy aimed at raising awareness of our operations and the products we produce, while also engaging with all levels of government and local communities to secure long-term operations.



Above: An information panel which has been used at all of our public information meetings and at Community Day in September 2025, sharing information on how our product is used in water treatment.





Throughout the process, we have held ourselves, and the information we have shared, to the highest standards to ensure we are behaving in an ethical manner and remain accountable and forthright.

We admit we have made a misstep or two along way. During the rezoning process, it was asserted by our competitor K2 Pure Solutions and their supporters that we had erroneously stated in an FAQ on our website (www.askchemtrade.ca) that liquid chlorine is directly used for water treatment in Canada, rather than bleach (a derivative of liquid chlorine) that is most commonly used for water treatment. Once this concern was identified, we reviewed the website and immediately corrected it. We also reviewed our other public information and are happy to share that in all other communications, we have been very clear that bleach, a derivative of liquid chlorine, is most used for water treatment.

On the following pages, we would like to take the opportunity to clarify some of the misinformation, or partial truths, which were raised by other parties during the rezoning process and place such information in the appropriate context of our operations and markets in which we operate in.

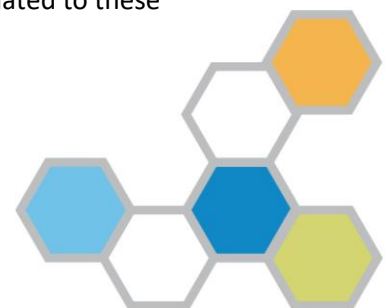
In 2024, we were disappointed to learn of the covert information campaign launched by one of our direct competitors in California, K2 Pure Solutions. <https://www.cbc.ca/news/canada/british-columbia/north-van-chlorine-plant-campaign-1.7319259>. While it was disappointing for us to witness the launch of this misinformation campaign against our application, it is also, in our view, dangerous due to the safety-critical nature of our application for millions of Canadians and is not in line with Canadian values.

It is our view that certain submissions made to Council and certain accusations that Chemtrade furnished misrepresentations or misleading information to Council in its rezoning application may be a continuation of that campaign.

We strongly dispute any suggestion that our application materials are inaccurate or misleading.

The allegations raised reflect, in large part, differences in interpretation, the selective use of data, and a misinformation campaign deliberately put forth to undermine our application for a competitor's commercial benefit.

We summarize below the principal allegations or "myths" and wish to respectively provide context and further information for Council's consideration to address any lingering concerns related to these allegations.





Myth busting: Only five per cent of the liquid chlorine produced at the facility stays in Canada

During the rezoning process, it was stated that only five percent of our liquid chlorine we produce stays in Canada. While this assertion is directionally accurate, approximately five to 10 per cent of the liquid chlorine we produce stays in Canada, it creates a very unbalanced view of our facility. The good news, it creates an opportunity for us to tell the story of our facility, all the products we produce, and where they ultimately end up and the industries they support. When you look at the three primary products produced at our facility (liquid chlorine, caustic, and hydrochloric acid (HCl), approximately **60 per cent of our total plant capacity stays in Canada**. The other 40 per cent is shipped to customers in the U.S. The three products we produce play a critical role in serving key industries such as **safe drinking water treatment, pulp and paper production, and energy (oil and gas) sector**.

Fact: we represent 40 per cent of Canadian chlorine capacity

Fact: we supply 70 per cent of chlorine used to treat drinking water in BC and Alberta

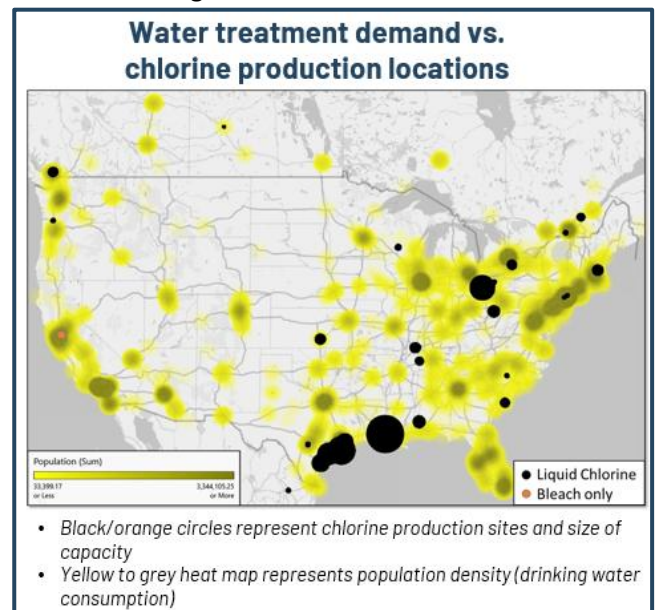
Fact: we supply 60 per cent of the liquid chlorine used in Western U.S.

The liquid chlorine from our facility reflects 40 per cent of the liquid chlorine manufacturing capacity in Canada. We supply over 70 per cent of the liquid chlorine used for water treatment in BC and Alberta. We also ship up to 90 per cent of the liquid chlorine we produce to customers in the Western United States. We supply about 60 per cent of the liquid chlorine used for drinking water treatment in the Western US. We share this information openly on our website. We are a major supplier in California for instance, a market that K2 Pure Solutions is looking to expand and grow its market share in.

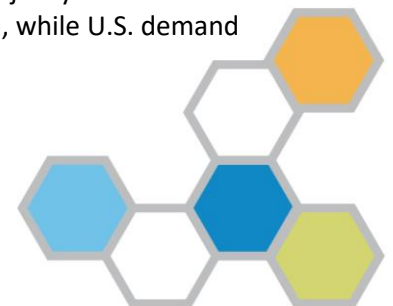
How can those two statements be true? That between five and 10 per cent of the facility's liquid chlorine remains in Canada, but it represents 70 per cent of the drinking water protected in Western Canada?

This is true simply by virtue of the relative population sizes of Canada and the United States. Canada has a population of approximately 41.5 million, while just the state of California alone has a population of 39.5 million.

The map to the right reflects chlorine production (black circles) by size and capacity. The orange dot represents bleach production (K2 Pure Solutions). The yellow to grey heat map represents population density.



As you can see, Chemtrade is the largest producer in Canada, and the only producer in Canada west of Saskatchewan. However, when you look at population density, it is clear that the majority of demand is in Canada's major western regions like the Lower Mainland, Calgary, and Edmonton, while U.S. demand is significant along the entire west coast, similar to the Northeastern U.S.





As the largest producer in Canada, the certainty and availability of liquid chlorine for use in water treatment in Western Canada would come into question if we were to shut down or significantly reduce our production. Canada would need to either try and increase production at the remaining three facilities or look to secure imports from the U.S. – making Western Canada reliant on a trading partner for a product critical to health of millions of Canadians. It would also create challenges in terms of transport and delivery, as the liquid chlorine would still need to be delivered via rail to BC-based bleach manufactures.

Caustic Soda (Sodium Hydroxide): is used in many applications but largest consumption is in the pulp and paper industry, a key industry for BC and Canada and supportive of the forestry sector. Approximately 90 per cent of our caustic soda stays in Canada to supply these industries. The predominant alternate source for caustic soda in Western Canada is primarily through imports from Asia (who currently hold about 50 per cent of the market share).

Caustic Soda alternatives if Chemtrade site closes or reduced production: As stated, approximately 50 per cent of caustic soda is supplied from Asia and would be the likely source for the additional supply should our facility close. Under current geopolitical uncertainty causing instability in the energy sector, many caustic soda producers in Asian countries like Taiwan, Korea, Japan, Thailand have declared force majeure – meaning they cannot meet their contracts. Governments in those countries are implementing energy rationing programs for citizens and asking large energy consumers like chlor-alkali facilities to run lower rates to conserve energy consumption, thereby limiting supply available for export to Western Canada or elsewhere.

Hydrochloric Acid (HCl): A majority of our HCl production stays in Canada. While some is used in water treatment, the vast majority is used by the energy sector (oil and gas) in Western Canada to help extract oil and gas. The current expansions of LNG Canada and the Trans Mountain Pipeline targeting further oil and gas export capabilities and increasing Canadian GDP, all are fed from energy projects that have HCl as a key material consumable material.

HCl Alternatives if Chemtrade site closes: other Canadian chlor-alkali facilities could add HCl burner capacity, albeit they are smaller in overall capacity to Chemtrade's facility. We represent 40 per cent of chlor-alkali capacity in Canada.

Myth Busting: Chemtrade could simply produce bleach to meet Canada's water treatment needs

The main disinfectant in bleach is chlorine. Bleach is what is used at municipalities to treat drinking water. Only one large municipality (Los Angeles) that we are aware of in the U.S. still uses liquid chlorine directly due to the size of population). You cannot create bleach without chlorine. Bleach, also known as sodium hypochlorite, is created when you combine liquid or gas chlorine, caustic soda, and water. This resulting product is significantly less shelf stable and breaks down quickly – making it unfeasible to ship long distances.



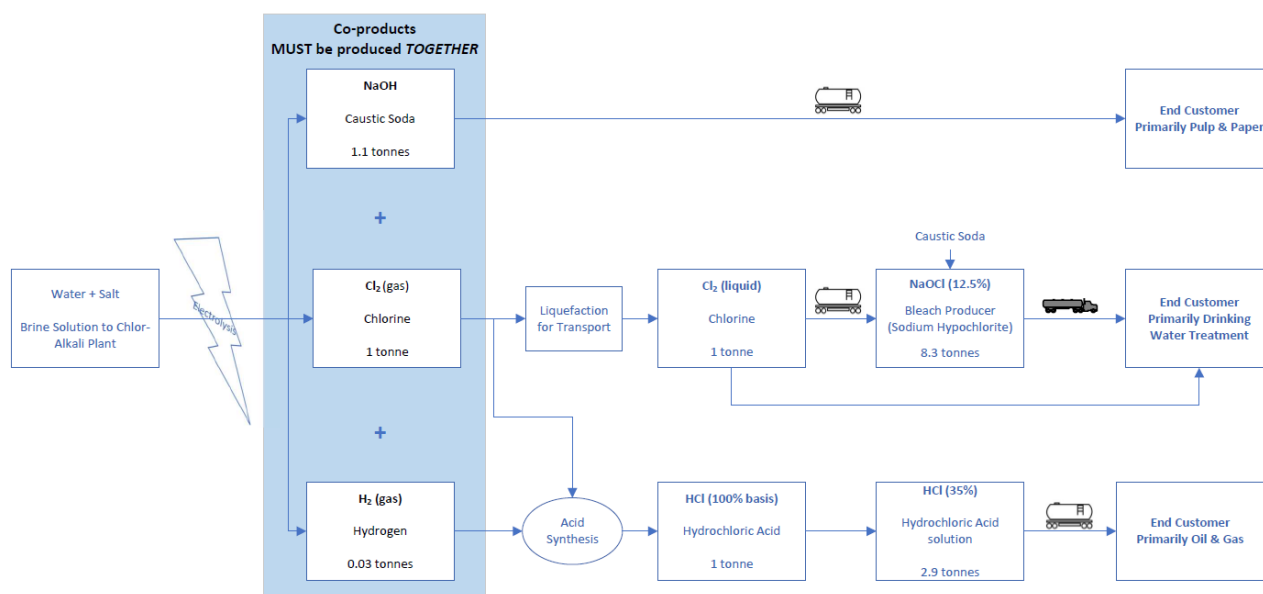


It also has a significantly higher water content, making it difficult and more expensive to transport – requiring approximately 34 transport trucks to deliver the equivalent of one rail car of liquid chlorine. As a result, it would be unrealistic and unfeasible to transport and supply communities and areas outside of the immediate Lower Mainland and southwest British Columbia, meaning current customers in Northern BC, Alberta, California, Washington, and Oregon would need to identify alternate sources.

For areas that have bleach production, like K2 Pure Solutions in California, and the chlor-alkali facility of Westlake in Washington state, this would be feasible. But, for rural and remote communities in Western Canada, this is not an easy task – making them reliant on potentially increased production from other Canadian producers, or for imports from the U.S. Given the increasing geopolitical uncertainty, and lessons learned during the Covid-19 pandemic, Canada does not want to find itself reliant on others or fragile supply chains for materials critical for the health of our citizens and economic sovereignty.

Myth busting: Chemtrade could continue to operate without the production of liquid chlorine

There has been an assumption made that Chemtrade's facility could continue to operate with reduced or no production of liquid chlorine. While it may be possible in theory, the business case to support this is limited; not only would it reduce the amount of available liquid chlorine, but it would also significantly impact the production of our other products – caustic soda and hydrochloric acid (HCl).



Above: A closer look at chlor-alkali products

As shown above, chlorine and caustic soda are coproducts, meaning they are dependent on each other for production, so reducing the production of one – such as chlorine – will have significant impacts on the production of caustic. It is a reality of the chemistry involved in the chlor-alkali process that for every metric tonne of chlorine produced, 1.1 metric tonnes of caustic needs to be produced.





If we were to reduce or eliminate our production of liquid chlorine, there would be significant knock-on effects to the other products we produce, creating uncertainty in the supply chain of several key Canadian industries. Adding a bleach facility to our plant would consume approximately five per cent of our capacity due to the limitations of shipping bleach long distances.

Technology exists to make a higher purity bleach with higher chlorine content to extend the shipping radius, however, this requires significant changes to handling and equipment for both manufacturers and end-users, such as municipalities.

In full transparency, this would also put the site at a huge economic disadvantage for participation in Western U.S. K2 Pure Solutions and their supporters understand this and is likely the driving motive to make statements in regards to not wanting Chemtrade to shut down, but look for safer production options, such as bleach production. Ultimately, K2 Pure Solutions and their supporters understand the limitations and competitive disadvantage this would create leading to an economically unfeasible plant – which would ultimately be forced to shut down.

Myth busting: The QRA does not include rail shipments or rail car containment, and that the safety benefits are being overstated, or are simply not enough

K2 Pure Solutions and its supporters are asserting that the QRA is not comprehensive as it does not include off-site transportation of our products.

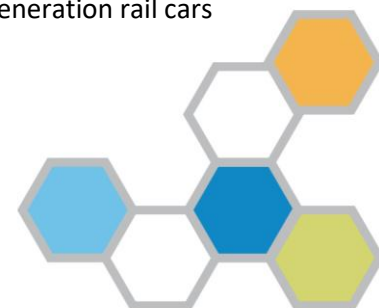
The scope of the risk assessment is aligned with the land use decision under consideration by the District of North Vancouver, as transportation of our products falls under the regulatory guidance and framework of Transport Canada. Broader rail network considerations fall within federal jurisdiction and are subject to separate, robust, and mature regulatory frameworks.

To clarify – the presence of liquid chlorine rail cars at site awaiting shipment *was* included in the QRA study, and is accounted for in the results, showing that following the completion of the safety improvements, the risk will be reduced to either at, or near our property line.

Contrary to the above theory, that our QRA was not thorough enough, there is also the assertion by some that our QRA is overstated, and that the benefits associated with the planned safety improvements have been overstated.

In developing the QRA, the BakerRisk team struggled to find current data to support release scenarios from a chlorine rail car, as modern next generation rail cars, such as Chemtrade uses, have not been involved in any significant release events so assigning probabilities becomes difficult. This makes both the risk and likelihood portion of determining a release from a rail car very hard to accurately calculate.

In fact, the QRA is conservative in nature due to the fact that the rail car release probability was based on historical release data that would have reflected older rail car design. The next generation rail cars












are significantly safer but limited data is available for releases from them because there has never been a release from a next generation car during transport.

It needs to be highlighted that a QRA evaluates three core components:

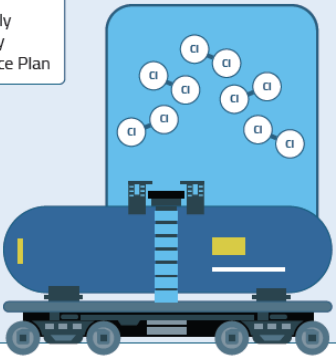
- **Consequence** (the severity of the outcome of an incident): using receptor or occupancy data to convert consequences into exposure vulnerabilities
- **Risk** (there is an element of risk to all human activities): risk is calculated based on frequency estimates (likelihood) and consequence results
- **Likelihood** (how likely is the event to occur): the team estimates release frequencies and conditional probabilities for weather conditions, wind direction, ignition probability, and time of day

We stand by the thoroughness of our QRA completed by BakerRisk. It was developed using internationally recognized standards and techniques, and was peer reviewed as part of the formal rezoning application process by Risktec.

 <p>Robust engineering and inspection programs</p>	 <p>Extensively trained, experienced workforce</p>	 <p>Routine audits for regulatory compliance</p>
 <p>Regulatory requirements for volumes, train speed, and car placement</p>	 <p>Utilize existing routes for hazardous materials</p>	
 <p>Comprehensive rail car maintenance</p>	 <p>Maintains a regularly updated Emergency Response Assistance Plan</p>	

Next-generation chlorine cars

Chemtrade maintains and operates a fleet of leased railcars, all designed for transporting our products, with the latest regulatory specifications and industry standards.

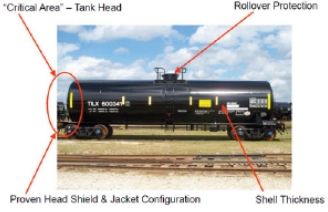


Significant design improvements for safety and regulatory requirements

Chlorine cars are specifically designed to prevent accidental release of liquid chlorine. The cars are inspected four times while on our site - when they first arrive at site, before loading, after loading and before they depart our site to ensure they are functioning properly.

To help ensure the safety of these cars, there are several layers of safety built into the design to ensure they meet or exceed safety and regulatory requirements:

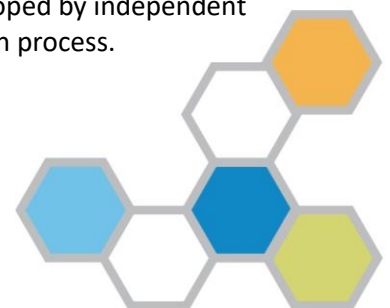
- Pressure tested cars approved to transport products up to 600 PSI pressure rating (10 times higher than the normal pressure inside the car - which is loaded to 60 PSI)
- Minimum tank shell thickness is 25 millimetres
- Minimum tank head thickness is 29 millimetres
- Protective Housing thickness (rollover protection) is 32 millimetres



Above: Information panel sharing rail safety information, used at all of our public house meetings and at Community Day in September 2025

Myth busting: Even with the proposed improvements, the site will not be able to withstand extreme events like earthquake and flood.

During the public hearing process, questions were raised regarding the ability of the facility and rail cars to withstand an earthquake, as well as a flood. Below is information that was developed by independent consultants engaged to complete studies as part of the rigorous rezoning application process.





Flood impacts:

The Flood Hazard Study completed by Northwest Hydraulic Consultants in 2025 identified a range of Flood Construction Levels (FCLs) between 4.3 and 4.7 metres elevation, reflecting the higher of the riverine and coastal flood levels. In the region of the East Rail Yard identified, the FCL is 4.3-4.4 metres, which is approximately 0.65 metres above the current grade.

Using these elevations, and the fact current rail lines sit about 0.2 metres (20 centimeters) above grade – this means that in either worst case scenario – a river flood or an ocean event, the water levels in the rail area would rise to no more than 0.45 metres above grade.

Diving further into this, rail car wheels are 0.9 metres (90 centimeters) in diameter, and the bottom of the tank sits at the same elevation as the top of the wheels. In either case (river or ocean event) the flood waters would rise to about halfway up the wheels, and below the tank level – meaning there is a very low potential for any type of significant impact to rail cars. Even if these water levels were capable of dislodging a rail car, the tank shell and rollover protection would help to prevent any potential release.

Earthquake risk:

In developing the QRA, the experts looked at the impact of every potential release point of liquid chlorine across the full scope of our operations – including releases from the production process, the loading of rail cars, and the release from a loaded rail car, regardless of the cause, whether it be from an earthquake, human error, or equipment failure. The cause is irrelevant as the modeling is based on what would happen in a worst-case scenario release from the various areas of risk.

Earthquake effects were addressed in the QRA by incorporating their potential impacts within conservative, standard release scenarios, rather than modeling earthquakes as separate events. The assessment evaluates worst-case loss-of-containment scenarios using assumptions that bound damage to equipment and infrastructure, including impacts that could result from seismic activity. This approach ensures earthquake-related risks are appropriately captured without overstating or duplicating scenarios and is consistent with standard QRA methodology.

It should also be noted that following the planned capital improvements, all of the liquid chlorine-containing equipment and piping will be new – all of the piping, vessels, and even the rail cars will be newly built to the most current design standards, including the latest earthquake standards of the BC Building Code. As an added safety measure, the entire liquid chlorine process will be enclosed in buildings that will not only contain any potential release but will also be connected to an emergency vent scrubber designed to neutralize that release.





Myth busting: We are misrepresenting the reduction in inventory because we do not include the 32 rail cars in the calculation.

The largest release risk for a potential chlorine release is at the plant level. A rail car sitting in the yard has an extremely low probability of releasing chlorine. The site has not had a single loss of chlorine from a rail car in the yard in the known history of the plant.

It is true that we do not count rail cars in our onsite inventory calculation for reducing storage, however rail cars are not actual storage, they are how we ship our finished product to market. Storage inventory is considered what is held in storage tanks and within the process. Once the liquid chlorine is loaded into rail cars, it is shipped as quickly as possible to the end user.

At times, loaded rail car storage will be low as cars are shipped as quickly as they are loaded, other times more rail cars may be sitting in the yard for several days or even weeks before they are shipped to customers. On average, rail car storage is limited to 32 loaded cars, but this number will fluctuate from month to month. From a risk perspective, the focus is on reducing storage inventory within the process because this is where the greatest chance of a release to occur exists.

Concerns have also been voiced about product chlorine remnants (called a heel) which is left in tanks after unloading. While it is true you can't fully unload all product from any rail car, in order for these small amounts to be potentially released, it would require multiple failure points, in multiple cars. Again, the safest place for liquid chlorine to be is in liquid chlorine rail cars which have been purpose designed and built to eliminate the risk of accidental release.

Myth busting: Chemtrade isn't responding to questions or issues raised in a public forum.

Since mid-2023, Chemtrade has been actively engaging the community and has hosted three public information open houses, presented to several community associations and special interest groups, attended dozens of meetings, launched a public tour program, launched a public website open for comments, and hosted a Community Day in September 2025 where we invited to community to come and see our facility, ask questions, and learn more about what we do, and our commitment to safe and responsible production. Throughout this process, we have heard very few concerns, and instead received overwhelming support for our continued operations, and planned safety improvements.

During the February public hearing, there was a very small number of North Vancouver residents who spoke, many of which were in support of our continued operations.

Of the speakers who did speak against our application, there were concerns raised, which we feel we have addressed through our proposed changes to our rezoning application.





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