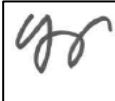


AGENDA INFORMATION	
☒ Regular Meeting	Date: July 6, 2026
☐ Other:	Date: _____



Dept.
Manager



GM/
Director



CAO

The District of North Vancouver REPORT TO COUNCIL

June 23, 2026

Case: PLN2025-00042

File: 08.3060.20/042.25

AUTHOR: Yan Zeng, Manager of Development Planning

SUBJECT: Bylaw 8778 - Chemtrade Rezoning - 100 Amherst Avenue

RECOMMENDATION

THAT "District of North Vancouver Rezoning Bylaw 1462 (Bylaw 8778)" is given THIRD reading.

REASON FOR REPORT

Council gave second reading to the bylaw on May 25, 2026, and referred it to a new Public Hearing, which was held on June 16 and 17, 2026. The minutes of the closed Public Hearing are not available at the time of report publication but will be provided to Council by addendum prior to consideration of this application.

This report provides clarification information on a question that was raised during the Public Hearing. It does not introduce new information.

CLARIFICATION INFORMATION

A question was raised during the Public Hearing regarding the drinking-water treatment supply chain, specifically whether Metro Vancouver's drinking-water treatment would be at risk if Chemtrade ceased liquid chlorine operations. Metro Vancouver's response to this question was provided during the Public Hearing.

Metro Vancouver's supplier of sodium hypochlorite, Brenntag, has the following publicly available information to share:

1. Chemtrade is a long-time supplier to Brenntag, for Brenntag's manufacture of sodium hypochlorite in their Langley facility;
2. Chemtrade's liquid chlorine and caustic soda are key feedstock to sodium hypochlorite; Through the chlor-alkali production process, chlorine and caustic soda are produced

together. Caustic soda is therefore a byproduct of liquid chlorine production, meaning it cannot be produced without also producing chlorine.

3. Chemtrade's North Vancouver facility is the closest chlor-alkali facility to Brenntag's operation in Langley and is an important local upstream source. Chemical Market Analytics identifies Chemtrade as Canada's largest listed liquid chlorine producer, with approximately 228,000 metric tonnes of chlorine capacity, representing about 45% of the listed Canadian total;
4. As already stated during the Public Hearing, alternative supply sources in Canada include Erco in Saskatchewan, Olin and Westlake in Quebec. Erco is a smaller facility. Olin and Westlake, while larger, pose significant supply risks due to time consideration and distance of transportation – long-distance rail car transportation will mean increase in delivery times, additional fleet capacity, extra logistics planning, and substantial increase in overall costs;
5. Potential sources outside Canada include the United States or Mexico. They are significantly riskier than domestic suppliers due to tariff and geopolitical uncertainty;
6. Overall, replacing Chemtrade supply would not be a simple or immediate substitution. Supply availability depends on production capacity, existing customer commitments, transportation logistics, lead times, and market conditions. Brenntag indicated that some potential alternative sources are already operating at or near capacity and may not be able to accept new customers or new orders;
7. In the event Chemtrade ceases liquid chlorine production, replacement supply would likely need to come from plants in Québec, that is, if they have the capacity to accept new orders. This is not only a significant pivot for the supply chain, which likely involves demand forecast, volume calculation and business investment, but also comes with a substantial price increase for the final product to the local municipalities here.

In addition to Brenntag's statements, the Public Hearing record includes government official communication from Premier David Eby, Ravi Kahlon, Minister of Jobs and Economic Growth, and Susie Chant, MLA for North Vancouver-Seymour.

Premier Eby's letter states that the facility is "critical for securing safe drinking water for millions of Canadians and Americans." Minister Kahlon's letter states that the facility "supplies chlorine for water treatment across approximately 70 percent of BC and Alberta" and that disruption "would materially affect local supply chains for critical inputs and pose risks to essential services, businesses, and the public." MLA Chant's letter identifies Chemtrade as "the main provider of liquid chlorine for water purification in Western Canada."

OPTIONS

The following options are available for Council's consideration:

1. Give Bylaw 8778, Third reading (staff recommendation); or
2. Give no further readings to the Bylaw and abandon the bylaw at Second Reading.

Respectfully submitted,

Yan Zeng, Manager of Development Planning

ATTACHMENTS

1. Rezoning Bylaw 8778
2. Staff public hearing presentation
3. Applicant public hearing presentation
4. Public Hearing Minutes – June 16 and 17, 2026 *(to be provided by addendum prior to Council consideration)*

REVIEWED WITH:		
☐ Community Planning	_____	☐ Clerk's Office
☐ Development Planning	_____	☐ Communications
☐ Development Engineering	_____	☐ Finance
☐ Utilities	_____	☐ Fire Services
☐ Engineering Operations	_____	☐ ITS
☐ Parks	_____	☐ Solicitor
☐ Environment	_____	☐ GIS
☐ Facilities	_____	☐ Real Estate
☐ Human Resources	_____	☐ Bylaw Services
☐ Review and Compliance	_____	☐ Development Services
		External Agencies:
		☐ Library Board
		☐ NS Health
		☐ RCMP
		☐ NVRC
		☐ Museum & Arch.
		☐ Other:

The Corporation of the District of North Vancouver

Bylaw 8778

A bylaw to amend District of North Vancouver Zoning Bylaw 3210, 1965

The Council for The Corporation of the District of North Vancouver enacts as follows:

1. Citation

This bylaw may be cited as “District of North Vancouver Rezoning Bylaw 1462 (Bylaw 8778)”.

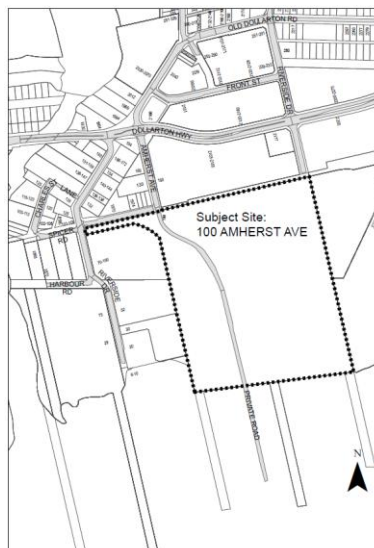
2. Amendments

2.1 District of North Vancouver Zoning Bylaw 3210, 1965 is amended as follows:

- a) Section 403A Uses Prohibited in All Zones, (1) (f) “the manufacture of hazardous substances except:” is amended as follows:

After (i), add the following:

- (ii) for the manufacturing, processing, liquefaction, handling, storage, loading and shipping of chlorine, on the lands located at 100 Amherst Avenue identified on the plan attached hereto.



READ a first time January 12, 2026

PUBLIC HEARING held February 24, 2026 and February 25, 2026

READ a second time May 25, 2026

PUBLIC HEARING held June 16, 2026 and June 17, 2026

READ a third time

ADOPTED

Mayor

Corporate Officer

100 Amherst Avenue

Public Hearing – June 16, 2026

Application to amend the Zoning Bylaw to allow the continued use of the site for the manufacturing, processing, liquefaction, handling, storage, loading and shipping of chlorine, subject to conditions.

Rezoning Bylaw 8778





Summary of Key Concerns from Last Public Hearing

- Public safety
- Rail transportation related off-site risk
- Risks related to seismic & flooding
- Emergency preparedness including shelter-in-place
- Questions around alternatives to liquid chlorine
- Land use compatibility and permanence nature of the proposal

Add - New Pre-Liquefier & Condenser Tower (~80 ft)

Add - Enclosed Rail Loading Building (with EVS)

Add - EVS Waste Hypo Tank Farm

Remove - Old Cell House (unused since 2007)

Remove - 60-tonne Bulk Chlorine Tank

Keep - Rail Yard

Keep - Retaining Wall

Keep - Salt Storage

Keep - Pipe Bridge & Upgrades

District Land
Port Land

What Has Changed?

In the revised application, the applicant proposes the following key changes:

- ☐ Time-limited and conditional approval framework
- ☐ Future QRA reviews and Best Achievable Technology review
- ☐ Additional public shelter-in-place training

Lastly, the applicant provides clarifications for security, emergency preparedness, and other matters.



Revised Application: Time-Limited Approval

- ☐ Chlorine operations would be time-limited and tied to the Vancouver Fraser Port Authority lease.
- ☐ Proposed end date: earlier of December 31, 2046 or termination of the Port lease.



Revised Application: Future QRA and BAT Review Requirements

☐ **Validation QRA prior to Building Permit issuance**

- ❖ Prepared by BakerRisk based on detailed project plans and specifications.

☐ **Baseline QRA following completion of safety upgrades**

- ❖ Prior to occupancy permit or final inspection, confirming the Facility, including Chlorine Operations, as constructed meets MIACC Standards and validation QRA.

☐ **Periodic QRA reviews**

- ❖ Updated QRA 8 years after the Baseline QRA, and a further updated QRA 10 years after the Baseline QRA.

☐ **Independent Best Achievable Technology (BAT) review**

- ❖ Approximately 15 years after bylaw approval to assess whether the Facility continues to reflect BAT for risk mitigation and operational safety.

☐ **Security vulnerability assessment**

- ❖ Prepared by an independent qualified professional and provided to the District on a confidential basis.

Revised Application: Proposed Timeline



DNV Staff Response to the Revised Application: Section 219 Covenant and QRA Oversight

☐ Staff rely on professional reports such as the QRA and peer review

- BakerRisk QRA indicates a significant improvement of risk contours based on the applicant's proposed safety-oriented capital improvements.

☐ Section 219 Covenant

- Secure completion of proposed safety upgrades according to the reduced level of risks in the BakeRisk QRA.
- Secure validation QRA before Building Permit issuance.
- Secure Baseline QRA before occupancy/final inspection.
- Secure future QRA reviews after Baseline QRA is established.
- Secure related safety, reporting, review, and compliance obligations.
- Others such as additional confidential security study and commitment to fund and support public safety education

☐ Next Step

- If Council gives Third Reading, staff would begin preparing the covenant, to be fully in force prior to final adoption.



Figure 3 from BakerRisk QRA: LSIR Geographical Risk Contours

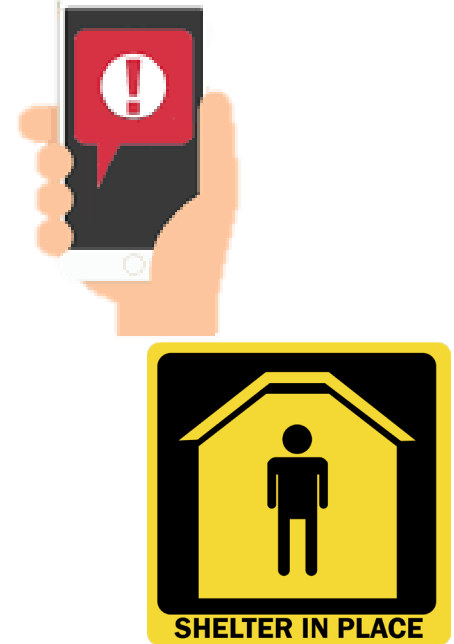
Applicant Revised Application: Emergency Preparedness and Public Education

☐ Applicant proposes a four-pronged approach:

- Educational brochure with shelter-in-place instructions
- Annual shelter-in-place training in partnership with local first responders
- Community Advisory Panel “train-the-trainer” workshops
- Emergency response and preparedness training for Tsleil-Waututh Nation

☐ Applicant also clarifies safety processes already in place:

- Continued coordination with DNVFRS and North Shore Emergency Management
- Support for the Chlorine Institute’s CHLOREP emergency response program



DNVFRS Role in a Chemtrade Emergency

DNVFRS responsibilities – life safety focus

- Initial incident assessment, scene control, and life safety
- Evacuation or shelter-in-place support and public safety coordination
- Integration with NSEM, NVCFD, RCMP, BCEHS, CANUTEC, CHLOREP, and other specialized agencies

Chemtrade responsibilities

- Facility operations, internal emergency response plan, and technical product information
- Containment, employee safety, and specialized resources such as plume modelling

Hazardous materials capability

- DNVFRS no longer maintains a technician or operations-level hazmat response capability; the role is now awareness-based
 - defensive and coordination focused (hazard recognition, isolation, exposure protection, water cooling where appropriate)
- Offensive actions (leak control, product transfer, plugging, patching, or entry into contaminated areas) require specialized responders such as NUCOR Environmental Solutions or NVCFD

Risk, Preparedness, and Key Actions

Why this matters

- Chlorine release near surrounding industrial and residential areas makes ongoing coordination and preparedness a priority
- A major chlorine release is rare, but its consequences could be significant and will quickly exceed fire department and municipal resources

If a release occurs

- Early activation of the Emergency Operations Centre (EOC), coordinated public notification, and engagement of external specialized resources
- Preparedness must extend beyond operational response to public awareness, education, and clear pre-incident communication with residents, businesses, and neighbouring industry

Key actions

- Keep emergency plans current
- Confirm public notification and shelter-in-place procedures
- Continue joint training and exercises
- Consider neighbouring industrial operations and cascading risks
- Identify any staffing or funding support required to sustain this work

Chemtrade Touchpoints: Training & Inspections

Training

- **2026** – Chemtrade ERT attended SCBA and extrication training at the Maplewood Fire Facility with DNVFRS instructors, four times (Jan 13, Jan 23, Feb 10, Mar 16).
- **2025** – DNVFRS Training Captains and Technical Rescue instructors completed an on-site rescue assessment for the chlorine line repair project.
- **2024** – 40 firefighters (engine crews) toured several areas of operation, including the chlorine loading rack, reviewing plant staff and CHLOREP response capability and the support needed in the event of a release.
- COVID limited regular training through 2022; joint activities have been resumed since.

Inspections

Our inspectors were on site at least once a year.

- **2021 – 3:** Inspection 3/11/2021, plus two follow-ups.
- **2022 – 2:** Inspections
- **2023 – 1:** Reinspection
- **2024 – 1:** Updated the preplan.
- **2025 – 2:** Inspection 2/28/2025
- **2026 – 2:** Reinspection 6/8/2026; Inspection 6/9/2026.

Chemtrade Touchpoints: Incidents (2021–2025)

Year	Total Incidents	Breakdown by Call Type
2021	2	Fire Miscellaneous
2022	3	Alarms Ringing ×1, Medical Aid ×1, Public Assistance ×1
2023	9	Structure Fire ×1, Alarms Ringing ×6, Medical Aid × 2
2024	5	Alarms Ringing ×4, Medical Aid ×1
2025	7	Structure Fire ×1, Alarms Ringing ×3, Medical Aid × 3

26 incidents recorded across five years (2021–2025); most were alarm activations and medical aid calls, not chlorine releases.

NSEM Response: Emergency response procedures

- ✓ Established NSEM–Chemtrade emergency response procedures are in place
- ✓ Chemtrade’s designated technical representative confirms the incident level and provides technical information to support public safety messaging
- ✓ NSEM uses this information to coordinate public notifications (including Alertable) and response coordination with emergency partners as required
- ✓ Where protective action is required, Shelter-in-Place instructions are included in public messaging

Public Hearing Records

- Full Public Hearing package available to Council and the public
- Includes staff reports, technical studies, QRA/peer review, referral comments, and public input
- Consolidated Q&A prepared for questions received after the February Public Hearing

Rezoning Bylaw 8778

Staff

- Dan Millburn, GM, Planning, Properties & Permits
- Mike Danks, Fire Chief
- Gunter Kramer, Deputy Fire Chief
- Yan Zeng, Manager, Development Planning

Vancouver Fraser Port Authority

- Shaun Govender, Director, Government and Stakeholder Relations
- Claudia Leung, Manager, Real Estate

Applicant Team

- Alan Robinson, Group Vice President Commercial
- Blair Hetherington, Emergency Response System Manager
- Dr. J. Kelly Thomas, Ph.D., Vice President & Blast Effects Section Manager, BakerRisk

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**Securing safe drinking water for Canadians
and reducing potential risk to the community**

Our rezoning application – what has changed?

Unchanged commitments:

- Reduce liquid chlorine storage onsite
- All rail loading activities in a sealed building with air scrubbing
- Install seismically activated safety shutoff valves
- Continued engagement with local first responders, the community, Council, and First Nations



No change

Added commitments & opportunity for oversight:

- **Time-limit on permitted industrial uses:** Aligned to Port Lease timing
- **Enforceable conditions governing continued operations, reporting, and compliance of our facility:**
 - Reviews of site safety measures
 - *Development/partnership for shelter in place education and training*
- **Mandatory QRA update, with review by the District, following the completion of safety improvements** and other defined milestones : 2038
- **Independent Best Achievable Technology (BAT) review at defined milestone**, to be completed by a qualified third-party engineering firm

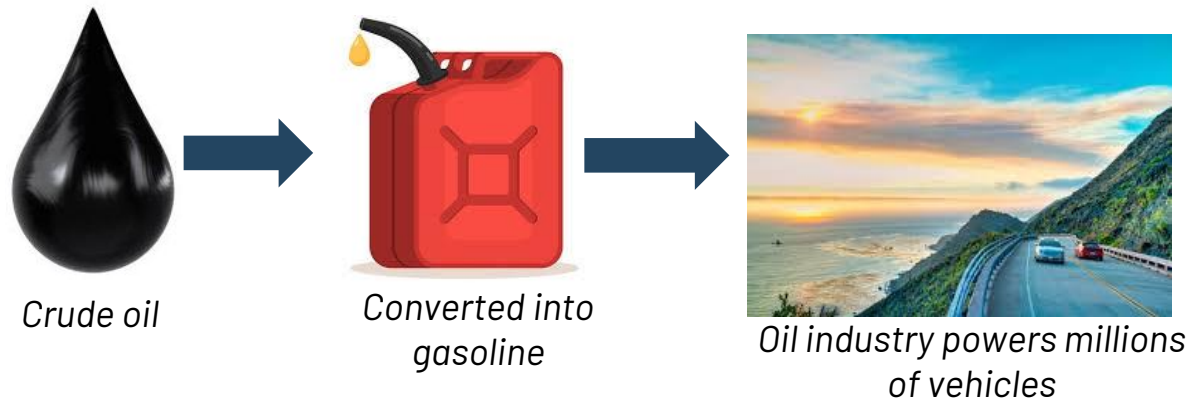


New Commitments

Summary of what you've heard so far

- **Operating safely for almost 70 years**
- Safety improvements will **significantly improve the safety of the community and reduce potential risk**
- **Rail is the safest way to ship liquid chlorine and is strictly regulated and monitored by Transport Canada**
- Chemtrade supplies liquid chlorine to **treat 70 per cent of the drinking water in BC and Alberta**
- Chlorine is the critical disinfectant in bleach – **you need chlorine to produce bleach**
- Our facility's products are critical to **drinking water, the energy sector, pulp and paper, manufacturing, technology and innovation, and the mining sector in Canada**
- 118 direct, full-time employees with annual **payroll of over \$24.5 million**
- We inject over **\$150 million into the BC and Canadian economy** through spending with suppliers, contractors, and businesses
- In 2025, Chemtrade paid the District of North Vancouver over **\$6.7 million in taxes and fees**

Chlorine is critical to the safety of drinking water



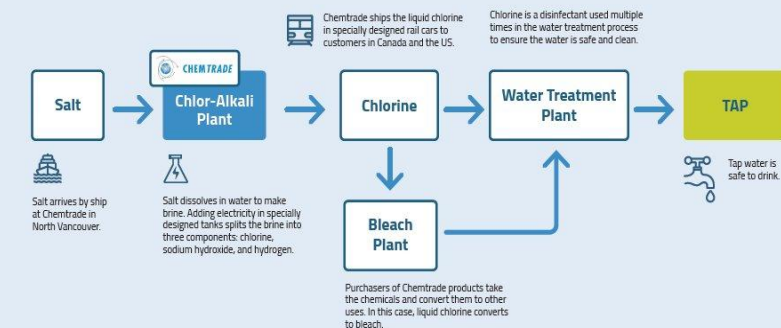
Consistency in messaging



Above: Aug 2024 CBC coverage of rail strike – explaining the process of **moving our chlorine to bleach producers** for water treatment
<https://www.youtube.com/watch?v=rTmspGjr5X0>

Below: information shared on our website and all public engagements

Safe drinking water starts at Chemtrade



Why Chlorine is the important factor in water protection

- **Water chlorination** is the process of adding chlorine or chlorine compounds, such as sodium hypochlorite (bleach), to water.
- **Chlorination is used to prevent cholera, dysentery, and typhoid.**
- You can include other treatment options, like filtration, UV, and Ozone **but you still need chlorination (the chlorine in the bleach) to provide safe drinking water throughout the distribution (Metro Vancouver document to right clarifies this)**

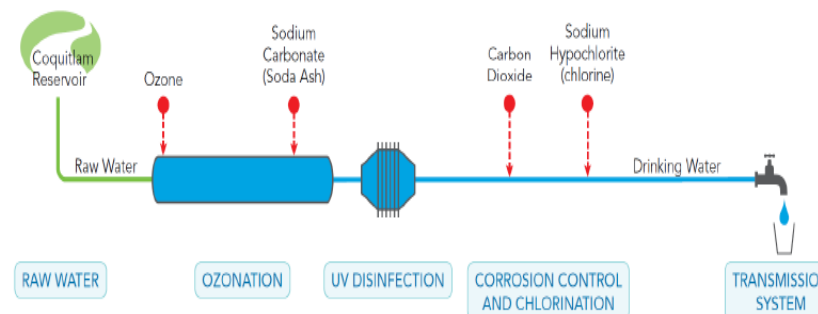
2.1.3. Chlorination

Chlorination is used for disinfection at the SCFP, as well as at downstream secondary disinfection stations to minimize bacterial regrowth in the GVWD transmission and GVWD supplied distribution systems. Chlorination provides 4-log virus inactivation with liquid sodium hypochlorite. The chlorination system was operational 100% of the time in 2025.

2.2. Coquitlam Water Treatment Plant

The CWTP treats Coquitlam source water using multiple disinfection barriers, specifically, ozone, UV and chlorine, and provides corrosion control as shown in Figure 7. The Coquitlam source water is not filtered. Ozone contact is achieved in a stainless steel contactor water main that connects the Ozonation facility with the Corrosion Control and Chlorination facility. The primary function of ozone is to improve the ultraviolet transmittance (UVT) of the water to improve its clarity for subsequent UV light treatment and oxidize organic precursors responsible for the formation of disinfection by-products (DBPs) following chlorination.

Figure 7: Coquitlam Water Treatment Plant Treatment Process



BENEFITS OF ULTRAVIOLET LIGHT
Chlorine has been successfully used in drinking water treatment for decades. However, there are chlorine-resistant organisms, such as *Cryptosporidium* and *Giardia*, which are harmful to humans.

Ultraviolet light is highly effective at treating these chlorine-resistant micro-organisms and produces no disinfection by-products.

UV light, which is invisible to the human eye, provides rapid, effective inactivation of micro-organisms through a physical process.

Ultraviolet light also has the benefit of not altering the taste, colour or odour of water.

ULTRAVIOLET, OZONE AND CHLORINATION DISINFECTION PROCESSES

Water from the Coquitlam Reservoir is pre-treated by the existing ozonation system before it enters the Coquitlam UV Disinfection Facility. Ozone, a form of oxygen, helps remove micro-organisms from the water, improves water quality and reduces disinfection by-products. Ozone also helps to improve water clarity, which increases the efficiency of the subsequent ultraviolet process. The result is less energy use and a smaller sized UV plant.

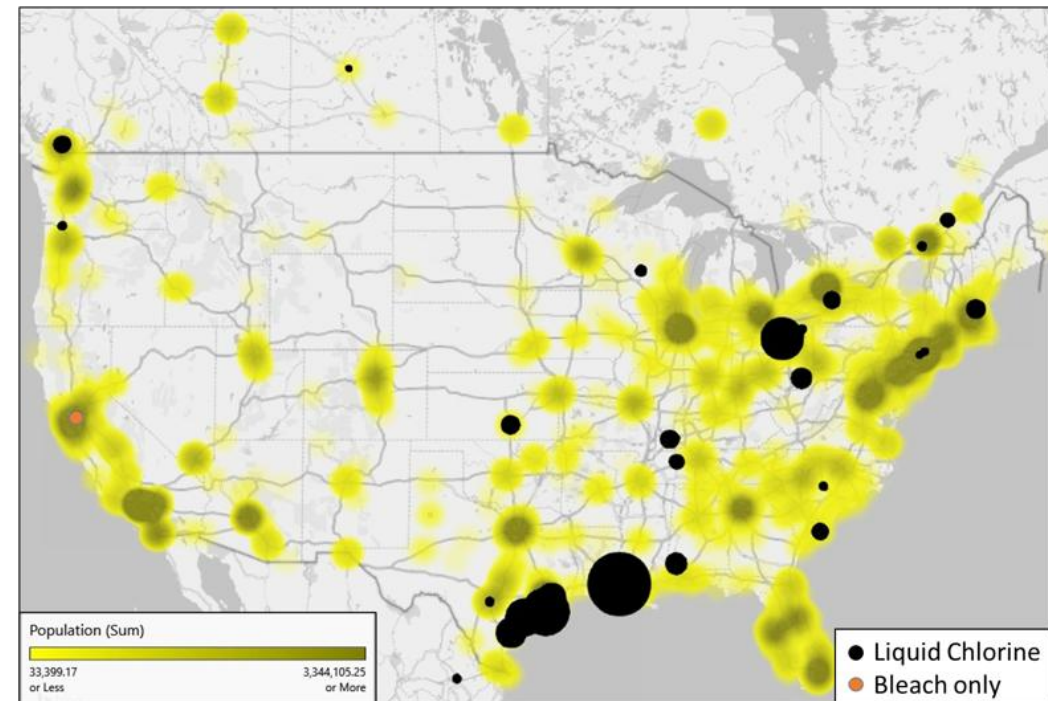
The water is directed into eight ultraviolet units, each containing 40 ultraviolet lamps enclosed in protective sleeves. As water flows through the units, ultraviolet light emitted from the lamps passes through the water, killing the micro-organisms. As a result, the water will be safer without additional chemicals being added at the treatment plant. Lastly, chlorine is added as a disinfectant to safeguard the water from bacterial regrowth in the water distribution system.

The products made here support Canadian industry

Over 60% of plant's production stays in Canada for critical industries like drinking water, the energy sector, pulp and paper, technology and innovation, and mining

- About 10 per cent of the liquid chlorine we produce stays in Canada
 - *Treats 70 per cent of the drinking water in BC and Alberta*
 - *Largest producer of liquid chlorine in Canada*
- Chlorine demand for drinking water treatment is a function of population:
 - **Canada:** **41.6 million** (*Stats Can*)
 - **BC and Alberta:** **10.7 million** (*Stats Can*)
 - **State of California:** **39.3 million** (*U.S. Census*)
- 90% of the liquid chlorine we produce exports to US - which is based on demand
- **Local value: rail strike emergency rail released for Metro Vancouver**

Water treatment demand vs. chlorine production locations



- *Black/orange circles represent chlorine production sites and size of capacity*
- *Yellow to grey heat map represents population density (drinking water consumption)*

Understanding the full impact across Canada

Caustic soda and hydrochloric acid have critical roles in supporting key industries in Canada like **the energy sector (oil and gas), pulp and paper, mining manufacturing and technology and innovation (renewable battery production)**

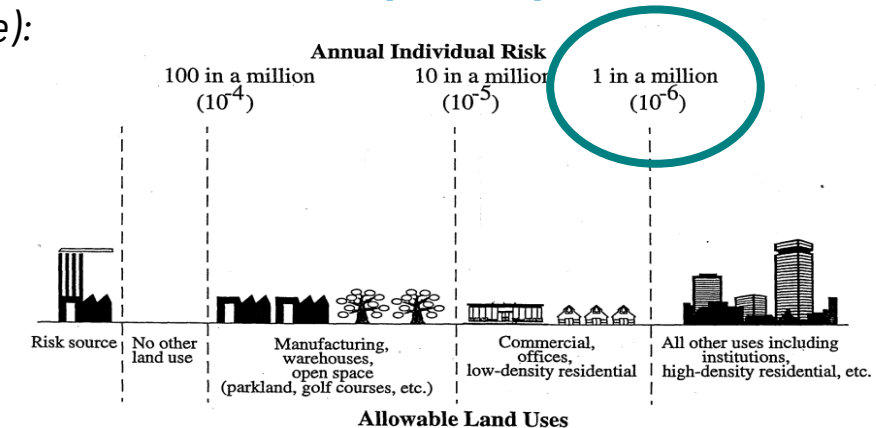
- **Caustic Soda (Sodium Hydroxide)** is used in the **pulp and paper industry**
 - ~90 per cent of our caustic soda stays in Canada
 - Alternate source: today is Asia (50% Asian import/50% Chemtrade)
- **Hydrochloric Acid (HCl)** is used in **water treatment** and the **mining industry**, but the majority of our HCL is used by Canada's **energy sector (oil and gas)**.
 - The majority of our HCl production stays in Canada
 - Alternate source: could be Canada if investments were made (pulls from any chlorine production), or likely US



Understanding risk

- Chemtrade's operations and the operations involving rail movement of hazardous materials are designed with multiple layers of prevention, monitoring, and emergency response
- When the industry or regulators assess risk, both the potential **likelihood** and **severity** of events are considered
- Likelihood of serious industrial accident at Chemtrade is low due to the focus on prevention and the highly regulated nature of Chemtrade's industrial operations
- Context for individual risk in Canada:**
 - Intersection of Spicer Road & Amherst Ave. (if you don't shelter or evacuate):*
 - 0.0001% chance of fatality per year
 - Motor vehicle accident:*
 - 0.004% chance of fatality per year (40X higher)
 - Food poisoning:*
 - 0.0006% (6X higher)
 - Aircraft accident:*
 - 0.00009% (similar)
- We are not aware of any recorded deaths in Canada from accidental liquid chlorine releases from rail cars, including the 1979 Mississauga derailment**

Major Industrial Accidents Council of Canada (MIACC) Guidelines



Developing the QRA – what was included?

- **Updated QRA performed by BakerRisk & peer reviewed by Risktec**
 - Both qualified to perform industrial facility QRAs
 - Both concluded Chemtrade's planned upgrades will significantly reduce risk
- **Included in Chemtrade's QRA**
 - **Releases due to a range of causes** (e.g., human error, mechanical failure, external events, etc.)
 - **Railcar releases** included as hazard scenarios, both loading and in rail yard
 - **Seismic events** - Design per British Columbia Building Code (peak ground acceleration for once per 2,500 year event) and incorporate additional recommendations (e.g., automatic isolation valves)
- **Including loaded railcars, or rail cars in transit, in a QRA is above and beyond normal approach adopted by industry**
 - **Chemtrade directed that railcars stored onsite be included in the risk analysis.**
 - Provides direct comparison with 2006 QRA, as updated review completed using older model rail cars (not next gen)
 - **Rail cars in transit are under the jurisdiction of Transport Canada**



Chemtrade's emergency response process

- **Chemtrade works closely with local first responders, including Northshore Emergency Management (NSEM)**
 - *Annual safety drills and tabletop exercises*
 - *Emergency response plans shared and are part of the Alertable notification system*
 - *If an incident occurred, we would immediately notify NSEM and first responders and activate the Alertable system to ensure area residents received timely information on how to properly respond*
- **Working with both the District of North Vancouver Fire Department and the Tsleil Waututh Nation Community Safety Officer to understand existing safety training programs, and how Chemtrade can support or augment** to ensure there is broad understanding within the community of what to do if a shelter-in-place were to be ordered. Options include:
 - *Chemtrade provided or supported training*
 - *Videos available on DNV FD website, Chemtrade website, potentially other industrial manufacturers' websites*
 - *Information mailed to nearby addresses with regular cadence*
 - *Shelter in place booths at Chemtrade community day and FD Pumpkin Drop*
 - *Support for community resources*
- **We have strict safety protocols in place that start with production and continue through to our products being delivered**
 - *We follow all regulatory protocols and processes to ensure the safety of our operations at site, but this extends through to the shipment of our products – whether that be by rail, transport trailer or vessel*

Emergency preparedness, real life example



On June 3, 2026, **a third-party bulk truck carrier delivered aluminum sulphate (alum) from Chemtrade's Toledo facility, to the Akron Water Plant in Kent, Ohio**

- Alum was mistakenly unloaded into **a bleach tank (sodium hypochlorite)**. The alum and bleach reacted, resulting in the release of **chlorine gas**.
- Local first responders responded and a call was placed to Chemtrade's ER line:
 - The Kent Fire department looked to Chemtrade to supply information on the chemical reaction as well as some response tactics. To support the response, Chemtrade dispatched our Emergency Response contractor (Specialized Response Solutions - SRS)
- A shelter-in-place order for a half-mile radius was implemented and rescinded that evening.
- **SRS worked closely with Chemtrade, the City of Akron and local first responders, to stop the release of chlorine gas, and to complete the incident clean up**
- Drinking water supply was not impacted throughout the incident
- Three people hospitalized as precaution and released within hours
- **Throughout the incident – Chemtrade remained committed to the safety of the public, on-site personnel and the emergency responders, as well as supporting the overall response.**



Analysts and others say we can continue to operate without liquid chlorine

- Banks are stating we could continue to operate without liquid chlorine, with financial impacts ranging between **\$0-\$225 million**
 - Extremely broad range
 - Estimates from 3rd party analysts – **not from Chemtrade**
 - Analysts study trends and markets, and cover all businesses and industries ranging from auto repair, to retail shopping, to the chemical industry
 - Assumptions require three specific technology investments at our site, and all three would need to be economically feasible and actionable.
- "Other bleach only business models work" so Chemtrade can do it too
 - Other bleach only models aren't running a world scale Chloralkali plant
 - K2 is – and sits in the heart of California, which has the population density to support – Chemtrade doesn't



What have we heard from the community and others?

NorthShore News Poll as of June 16, 2026 *Over 60% in favor of a rezone for Chemtrade*

Poll results:

What do you think of DNV's decision to reject Chemtrade's chlorine proposal?

[View related story](#)

2224 total votes Added Apr 17, 2026 4:53 PM

I agree with council's decision to reject the proposal. The safety concerns are too great to ignore. An incident there could be catastrophic. 572 votes 25.72%



I'm not sure. I see both sides of the argument. 313 votes 14.07%



I don't support council's decision. Chemtrade has been a good corporate citizen for many years, was set to make safety upgrades, and the chlorine produced is important for the Canadian supply chain. 1339 votes 60.21%



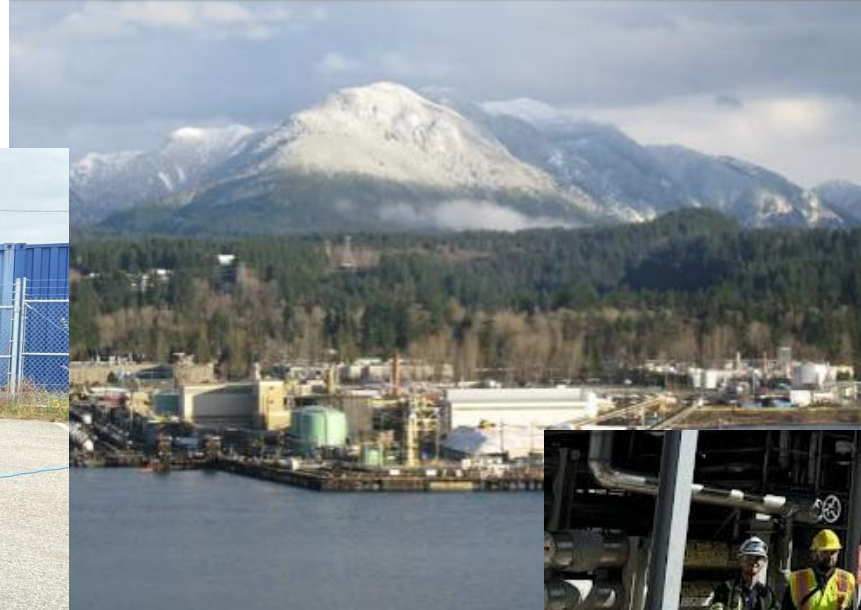
Letters in support of Chemtrade's ongoing operation received from:

- Premier Eby, *Government of BC*
- Federal Pacific Caucus
- Minister Ravi Kahlon, *Minister of Jobs and Economic Growth*
- MLA Susie Chant
- Vancouver Fraser Port Authority
- Area residents
- North Vancouver Chamber of Commerce
- City of Kelowna
- City of Fort St. John
- Unifor – *union representing our employees*
- Chemtrade customers *who rely on our products*
- Industry associations



Chemtrade
Published by Adam Schwartz
July 31, 2024

Chemtrade's site has operated safely in North Vancouver for more than 65 years. Learn more about our facility and our critical role in keeping Canada's drinking water supply safe.



Summary

The growing importance of all of our products

- Since 2024, we have seen a significant shift in our relationship with trading partners, and there is a growing priority from governments of all levels to secure Canadian production and supply chains for products critical for Canadian health or that play a role in supporting Canadian supply chains.
- Along with chlorine, Chemtrade also produces caustic soda and hydrochloric acid (HCL) – which have a critical role to play in supporting industries in Canada that will be key to Canada's economic independence, like the energy sector (oil and gas), technology and innovation (renewable batteries), pulp and paper, and manufacturing.
 - *Over 60 per cent of our facility's capacity stays in Canada, supporting both access to safe drinking water and Canadian industries and supply chains.*
 - *Alternate sources for our products would likely be US or potentially Canada for chlorine, Asia for caustic soda, and the US for HCL – making Canada dependent on trading partners for products critical to Canadian health and significant supply chains*

In 2020 we saw what can happen when our trading partners shut off supply. Growing geopolitical uncertainty makes it critical that we secure our own domestic supply of products that have a role to play in supporting overall health and supply chain.



**TRADE AND INVEST
BRITISH COLUMBIA**



**invest
IN
CANADA**

Questions



**BETTER RISK MANAGEMENT
STARTS HERE**

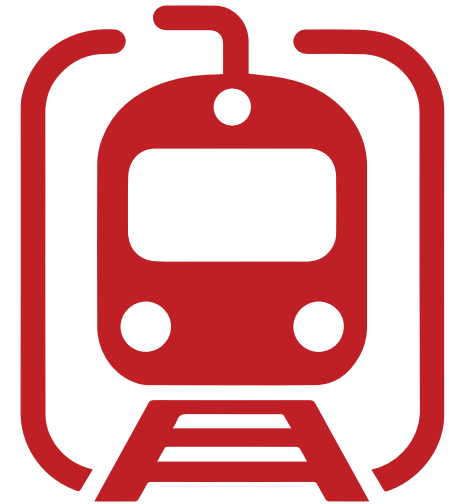


DNV Council Hearing

• J. Kelly Thomas, Ph.D.

RAIL CAR RELEASES

- **Chlorine release from railcars stored in railyard could be caused by a collision, impact, or mechanical failure**
 - Up to 32 full rail cars may be in the railyard
 - Empty rail car could have residual inventory, but expect that release would be gas-phase, and hence not a significant risk contributor
 - Railcar derailment often does not result in a release
 - Derailment history (2015 – 2024) indicates material released from damaged or derailed car carrying hazardous material in approximately 2% of incidents
 - *US Department of Transportation study*
 - Hazardous material railcars are inspected regularly for mechanical issues.
 - Chlorine railcars have connections only on car top, guarded by a protective dome
 - Release rate employed in QRA did not credit enhanced safety features required in newer rail cars



EARTHQUAKE IMPACTS

- **Plant process structures designed per 2024 British Columbia Building Code**
 - Seismic event with frequency once per 2,500 years
 - Seismic failure generally associated with piping, and is addressed through design, engineering, and a thorough inspection program
 - Piping and equipment handling liquid chlorine housed within building built to BC Building Code
 - Selected chlorine piping is double walled, with purge and gas detection in annular space between inner and outer pipe
 - Additional layer of protection to be provided by automatic isolation valves
- **Expected impact on railcars**
 - Require greater than design basis earthquake to displace railcar
 - Railcar displacement similar to a low-speed derailment, which has a low probability of causing a release
 - Access opening only on top of rail car, guarded by a protective dome
 - Historical data indicates low likelihood of material release





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Public Hearing Report - June 16 and 17, 2026

Materials to be circulated via agenda addendum.

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