

**Chemtrade Logistics-ERCO Worldwide-Univar Solutions-GFL Environmental  
North Shore Community Advisory Panel (CAP)  
MEETING SUMMARY NOTES  
ERC Worldwide, 100 Forester Avenue, North Vancouver**

**Tour 4:30pm / Dinner 5:30pm / Meeting 6:00 pm to 8:00 pm  
Tuesday, April 18, 2023**

**Attendance**

Brian Scott, ERCO Worldwide  
Owen Horn, Chemtrade Logistics  
Brian Price, Chemtrade Logistics  
Robin Lee, Univar Solutions  
Meraz Sekhon, Univar Solutions  
Tracey Conrad, GFL Environmental  
Tamsin Guppy, DNV  
John Hawkes, NSEM  
Brian Hutchinson, DNV Fire and Rescue  
Services  
Mark Dear, DNV Fire and Rescue  
Services  
Barbara Rennie, Blueridge Community  
Association  
Alex Adams, Blueridge Community  
Association  
Stuart Porter-Hogan, Maplewood  
Community Association (MACA)  
Stuart Meyer, Miles Industries  
Dave Mair, Resident  
Robert J. Mearns, Resident  
Stuart Spani, Maplewood Area  
Community Association (MACA)

**Regrets**

Steve Spence, GFL Environmental  
Babs Perowne NV Can  
John Miller, Lower Capilano Residents  
Association  
Tina Atva, DNV

**1. Welcome and Introductions**

Members introduced themselves and welcomed new attendees. ERCO Worldwide Plant Manager, Brian Scott was thanked for the informative ERCO tour.

## **2. Review of February CAP meeting minutes**

Members reviewed the February CAP meeting minutes. No edits to the original draft sent out after the meeting were noted. The facilitator will finalize the February meeting minutes and send them to DNV to post on their CAP information webpage.

## **3. Chemtrade Logistics Presentation on Plant Risk Mitigation Strategies**

Plant Manager, Owen Horn, explained that since its inception, the plant has had numerous expansion/upgrade/remediation projects executed from 1957 – 2001. Most of the plant from 2010 onwards is new and meets the current standards for design.

The plant was deliberately built with significant offset from the rest of the community and is in the same location as its original location in 1957. He clarified that any sale of the plant would involve selling all of it or none of it, it is not possible to subdivide it.

Owen explained the Chlor-Alkali Process and clarified that 32% is caustic before it goes to evaporation. He said that exposure to low concentrations of chlorine gas may cause irritation to the nose, respiratory tract, and eyes, but unless you are exposed at a very high frequency and for a long time, it has no chronic impacts. As an oxidizing gas, chlorine dissipates quickly, and once it dissipates, it no longer poses a threat to health and the environment.

When you smell chlorine, it is below the legal airborne permissible exposure limit of 1ppm. The American Conference of Governmental Industrial Hygienists recommends an eight-hour Time Weighted Average (TWA) of 0.5 ppm and 15-minute Short Term Exposure Limit (STEL) of 1 ppm to minimize the potential for eye, mucous membrane, and respiratory irritation.

The highest level of risk mitigation is regular oversight. This includes:

### **1. Air emissions**

These are regulated by the BC Ministry of Environment (BC MOE) under the Environmental Management Act. Permitting is administered by Metro Vancouver.

The permit sets the limits of release amounts and concentrations. Chemtrade has 17 regulated emissions sources.

Releases above threshold quantities are reportable to both Metro Vancouver and BC MOE.

## 2. Effluent emissions

Regulated by the BC MOE under the Environmental Management Act. The permit sets limits as below:

- pH between 6-9 pH units
- Temperature
- Chlorine residual
- Heavy metals
- Bio-assay

Any release outside of the permit is reportable to BC MOE including spills to ground.

## 3. Other Regulatory Bodies

- Federal MOE – regulates the inlet (eg. Port of Vancouver), ocean impacts
- Department of Fisheries
- Port of Vancouver
- Technical Safety BC – regular equipment and pressure vehicle maintenance
- WorkSafe BC
- Transport Canada – regulates shipment of products
- AAR (Association of American Railroads)

Responsible Care was launched by CIAC (Chemical Industry Association of Canada), then known as the Canadian Chemical Producers' Association (CCPA), in 1985 in response to the Bhopal incident. There was a high loss of life (over 3,000 people) in the incident. The root cause was never truly found, it is thought to be an attempt to sabotage the product, which started an unforeseen chain reaction. The incident led to much change in process safety codes. Responsible Care says that "The Canadian chemical industry is committed to taking every practical precaution to ensure that products do not present an unacceptable level of risk to its employees, customers, the public or the environment." The focus is on "Do the Right Thing and Be Seen to Do the Right Thing."

The Canadian system is used worldwide. There is a three-year verification cycle which is publicly available on the website.

Brian Price presented on Process Safety Management (PSM), which is focused on prevention of, preparedness for, mitigation of, response to, and restoration from catastrophic releases of chemicals or energy from a facility. This is differentiated from safety to prevent hazards to workers inside the facility.

PSM is made up of comprehensive sets of policies, procedures, and practices designed to ensure that barriers to incidents are in place, in use, and effective. The idea is "defense

in depth.” The model was put together by the Institute of Chemical Engineers and is the main one used in North America. It has four parts: commit to process safety, understand hazards and risks, manage risk, learn from experience.

For release prevention, the Chlorine Practice Institute publishes guidance on best practices. Equipment and processes are designed to industry standards and codes. Changes to the design must be reviewed and approved. Designs are reviewed periodically (every 5 years) and operators are trained. Computer systems control the operation of equipment and warning alarms alert operators to developing problems.

The Chemtrade plant is broken down into 15 systems, with 3 being reviewed per year. This is HAZOP technology, facilitated by a third party with specialized understanding. Shut down and alarm systems are independent so if one shuts down, the other will still work.

The plant has various measures in place for release mitigation.

The Emergency Response Plan (ERP) for the plant has two governing documents:

- 1) E2 plan – Prepared in compliance with the E2 regulations prepared by a third-party consultant.
- 2) Emergency Response Guideline – Internally prepared to cover the detailed steps required in the event of an emergency.

A drill of the ERP is required every year with a full scale drill every 5 years. The full-scale drill is due this year and will be executed in Q4 in collaboration with DNV Fire and Rescue Services and NSEM. Chemtrade is attempting to see if there are any gaps in the plant or in transportation of materials and will cover both of these aspects in the upcoming drill.

The chlorine response levels are as follows:

1. Assess the extent of the release
2. Assess the control the release
3. Assess public safety
4. Determine the emergency level

These levels will determine who is communicated with and how. The Alertable app will be used to communicate to the broader community.

Owen clarified that the supervisor can see both layers of sophistication on the DCS screen, the one with the map and cloud of chlorine is complex and takes time to engage with.

One of the steps is the SAFER system. They back calculate the amount released and then project forward where it's going. This is used to communicate to outside people.

CHLOREP® (the Chlorine Emergency Plan) is The Chlorine Institute's mutual aid program that provides a rapid and effective response to chlorine emergencies in the U.S. and Canada by ensuring that transportation service providers, end-users, first responders, hazmat teams and others have quick access to accurate information and industry expertise. It provides response outside of the plant.

CHLOREP provides emergency responders with expert support via telephone within minutes, and if needed, will rapidly deploy emergency equipment and personnel to the scene of any chlorine emergency in the U.S. or Canada. The numbers to call in an emergency are stencilled on the side of the railcars.

The CHLOREP network includes more than 80 response teams from 25 Chlorine Institute member companies across the U.S. and Canada, as well as 10 emergency response contractors who meet the Institute's stringent performance requirements. There is a CHLOREP team based in North Vancouver, which also does education with the local fire departments. They are required to do hazmat training first. Please see the CHLOREP brochure attached to the minutes for further information.

Quantitative Risk Assessment (QRA) is a formal and systematic approach to estimating the risk that the facility poses to the public. It considers the various ways in which releases can occur and the probability of them occurring. Computer modeling calculates a chance of fatality in a year at a given location. The model is conservative as it assumes that someone is at that point at all times.

It is prepared by a third-party consultant and then verified by an independent consultant supplied by the District of North Vancouver.

MIACC Risk-Acceptability criteria determines the areas in which development is allowed to take place. Low density development and industry such as Chemtrade is allowed where the risk is 10 in a million. High density and residential development is only allowed where the risk is 1 in a million. E-006 is the acceptable risk for residential buildings. In response to a CAP member's question, Owen clarified that the distance from the center of the plant to the line demarcating the E-006 area is 800 metres.

The 2006 Quantitative Risk Assessment report for the plant is attached to the minutes.

## **CAP member questions**

### **What is your relationship with the Fire Department, is it a regulatory body for the plant?**

Yes, they do a yearly inspection looking at building codes and clearances. They don't look at process related items – these are relevant to the electrical engineers Chemtrade has full time on site. The plant also has insurance with FM Global, whose standards we need to meet.

### **What are your safety performance statistics?**

The measure used is if it's a reportable release. Last time the plant had more than 5kg of release was internal. In 2017, the Cl<sub>2</sub> was released from an acid plant that went out and hit the senses on the east perimeter with no impact to the public. In 2016, there was a 100kg release due to a rupture disc holder in the loading area. It didn't spread beyond the plant. In 2015, there was friction on the inside of a compressor. It resulted in 50kg release in the center of the plant, there was no offsite impact. Two of these incidents were a level 1, so only had impact on site.

The plant has gone 6 years without a process safety incident. Owen said that in the late 80s and 90s, it was a different plant and that a rebuild of the plant was done in 2010. He clarified that any significant incident is independently investigated. Following each event, the plant had mitigating systems put in place as a result of the investigation. For example, a vibration monitoring system was put in place on the compressor and a required review for liquid chlorine parts by an engineer is done before they go into service. The plant has 10 professional engineers who are required to follow the EGBC code of ethics and the site professional practice management plan. The first tenet in the code relates to the protection of the public. Daily staff meetings are held, with the number one item being safety.

Systems help mitigate staff complacency and are part of the broader company. The plant's systems are open and tracked so it is a transparent process.

### **What are your metrics for safety in comparison to your peers?**

The plant is about the same as WorkSafe for manufacturing. Compared to the U.S. Bureau of Labor Statistics for inorganic chemical manufacturing, the facility does considerably better. The facility injury rate is better on average than other Chlor Alkali facilities according to the Chlorine Institute. A measure of performance is injury rates and the facility has injuries that are generally things like trips, pulled muscles backs etc. It is rare to have injuries related to chemical exposure.

### **Are railcar incidents tracked as well? Is the transporter responsible?**

The transport company responds but so do the plants. They have stewardship of the product all the way from production to the end user.

## **4. NSEM Update**

John Hawkes, Manager of Recovery and Partnerships at NSEM, reported that they now have all three managers in place, including the new planning manager. NSEM is currently on standby with being able to provide public information and the hope is that the coordinator for that will come on board by the end of the summer.

NSEM has had good conversations with DNV Fire and Rescue Services, internally, and with Chemtrade and will continue with the communication around Alertable, etc. They have been reviewing old messaging and are working on a strategy of getting current messaging into the community. They will make sure that the public has the basic information including information on sirens. There is now a formal information-sharing agreement in place between NSEM, the DNV Fire and Rescue Services and Chemtrade.

A CAP member asked about the timing for the proposed communication. John responded there was no timeline yet as they are currently having a conversation about who will do this and how. The CAP member suggested that if they do this soon, they should be able to speak to the application process for HTEC that is currently happening as well, which involves applying for a change to hazardous materials.

## **5. Reports from the Companies**

### **a) Chemtrade Logistics**

Owen Horn reported that the plant received the President's award for safety for 2022.

There were no security or process safety incidents. The HAZOP revalidation on the plant's Sulfuric Acid System was completed. A CAP member asked if this was one of the 15 systems Owen had mentioned in tonight's presentation. He responded yes, and that there are a few more systems to review this year.

Owen said they may have had a permit excursion for TSS during our recent TA due to having to turn off our seawater loop. He explained that during the shutdown of the plant, material sometimes gets into the main outflow meter, a real data point, which may be an environmental reportable.

There were no new transportation issues.

The plant just completed a “mini” turnaround to do preventative maintenance. Very high reliability and availability was achieved for the plant in Q1 at 95% and 99% respectively, and it is targeting another record year for production.

In response to a CAP member’s question about supply issues, Owen responded that they have a large stock of inventory on site and less issues with items like bolts and washers this time. However, they have some unusual equipment needs, like a Teflon line acid isolation valve that can cost from a few thousand up to \$20,000. Transformers are a 2-year delivery, and they buy those from all over the world.

## **b) ERCO Worldwide**

Brian Scott reported that ERCO employees and contractors continue to work safely. As of April 11, 2023, NV employees have worked 1015 days since the last Recordable safety incident (July 7/20) and 4486 days since the last Lost Time Accident (Jan. 05/11). Two staff members are currently isolating due to COVID-19.

On March 9 and March 10, the Rotary and FBD Scrubbers were tested as per Air Permit requirements. All parameters tested were within permit limits. On March 16 several reports were submitted to Metro Vancouver, as per Air Permit requirements. These reports included: Particulate Test Results, Operating Period and Raw Materials, Scrubber Maintenance, and a PM Summary.

The BC Ministry of Environment has begun the process of Indigenous Engagement for the renewal of the Outfall Permit PE-395. The engagement will take place from March 16, 2023, to May 17, 2023. On March 29, the Tsleil-Waututh Nation initiated communications regarding the permit renewal.

ERCO NV plant has run well since the last CAP meeting on February 23 with a one-day outage to complete an acid wash on Line 8 on March 8. The plant is currently in the process of hiring two summer students to work in the FIBC packaging department.

At the CAP meeting on February 23, which ERCO hosted, HTEC presented the proposed Hydrogen Liquefaction project to be located on the ERCO NV plant site. An invitation from HTEC to an Open House Discussion they are hosting on April 27 for the rezoning proposal for a Clean Hydrogen Production Facility at 100 Forester St, North Vancouver, as well as some additional information about this process, was sent out to CAP members. There is also a virtual discussion process that starts on April 20 and runs for 2 weeks.



### **c) Univar Solutions**

Meraz Sekhon reported that there have been 703 days since the last personal safety recordable, and 4489 days since the last DAWC (as of end of day April 17, 2023).

There have been no reportable EHS incidents since the previous CAP meeting.

There has been 1 site environmental incident.

- an oil sheen was observed by a ship at the Univar berth on Feb 28, 2023
  - it reported the sheen was visible along the east side of shoreline north of the dolphin/dock structure and Univar investigated immediately
  - Univar's neighbour Western Stevedoring was also informed since stormwater sewers from their site can also affect the area where the sheen was visible
  - Upon joint investigation, however, it was clear that the oil sheen's source was the city storm drain located at the south end of Orwell Street, adjacent to the site's eastern fenceline
    - The site informed the Environmental Department of the District of North Van and also the Provincial Emergency Program (PEP)
  - Given the large number of contributors to this storm drain, DNV advised it would be very difficult to trace
  - Great observation by the vessel and Univar appreciated the timely response and coordination with Western

In March, Transport Canada conducted its midterm check (2.5 year mark) of the site's TC Marine Security Plan. Zero deficiencies were found.

Univar increased its behaviour-based safety observations in the first quarter in response to incidents in January, and to align with its overall corporate Canadian first quarter EHS requirements. A total of 45 field observations were carried out in the first quarter focusing on various operations like product transfer on ship, rail and trucks, rail operations, including rail switching and sampling of products.

The site also conducted a live emergency and security exercise with Transport Canada in March. The exercise was considered a success, and all the learnings were recorded and shared among the staff. In response to a CAP member's question, Robin Lee provided an example of learning related to the case of intruder sabotage on the ethanol rail track. In this scenario, the foreman wanted to go out himself. The learning was for people to make sure to keep themselves safe first. The muster station was usually outside in the parking

lot, so people needed to be prevented from going outside and directed to stay inside instead.

Meraz Sekhon, who is also the Marine Facility Security Officer for the site, attended the Port of Vancouver's Marine security session in March, which focused on Port security & protection.

#### **d) GFL Environmental**

Steve Spence was unable to attend tonight's CAP meeting. A report sent out to CAP members before the meeting indicated that the refinery is currently running at 100% capacity with the semi-annual shutdown scheduled for May 6-18.

The Facility continues to operate within permitted approvals and has operated lost time injury free since the last CAP report, ie. 7497 days. There are no first aid incidents to report since the last CAP meeting.

The focus has been on increasing 'Positive Indicator' reporting since the last CAP report. This means an increased focus on identifying hazards and reporting near misses. There have been dozens of 'PI' reports recently, and the value of this effort is shown by the following: Early in April, one of the Operations Supervisors noted that a narrow passageway that is occasionally transited by forklifts needed an overhead warning sign as there is a pipe way approximately 10 feet off the ground. This was reported as a 'hazard ID'. Upon receipt of the 'Hazard ID', the Facility decided that this passageway should not be used at all for forklift transit and that it would be blocked off with bollards to eliminate the overhead risk.

No audits have taken place over this period. The Facility is working on Emergency Response Plan updates and conversion to GFL formatting.

#### **6. Community Update**

Brian Hutchinson from DNV Fire and Rescue Services thanked CAP members for their ongoing commitment, for being engaged, active and informed and building relationships and partnerships. He said he came to the District from the Vancouver Fire Department in 2015 and was active on the hazardous materials team. He is seeing the effort of industrial partners here and has a sense of calm both as an employee and resident. He said they will be taking control of the new Maplewood Fire and Rescue Centre building on January 25, 2024, and he is looking forward to active engagement with the community from that space.

## **7. Meeting Close**

The meeting ended at 8:00pm.

The next meeting will be held in June 2023, the date will be confirmed. In this meeting, ERCO Worldwide, Univar Solutions and GFL Environmental will be presenting on their facility's risk mitigation strategies.



## **Community Advisory Panel (CAP) February 23rd Briefing Notes**

### **Responsible Care – Safety, Security, Transportation, & Environmental**

#### **Safety**

- We received the President’s award for safety for 2022.

#### **Security**

- No security incidents.

#### **Process Safety**

- No process safety incidents.
- HAZOP revalidation completed on our Sulfuric Acid system.

#### **Environmental**

- We may have had a permit excursion for TSS during our recent TA due to having to turn off our seawater loop.

#### **Transportation**

- No new transportation issues.

#### **Plant Operations**

- We just completed a “mini” turnaround where we performed preventative maintenance.
- The plant is targeting another record year for production.
- We achieved very high reliability and availability for the plant in Q1 at 95% and 99% respectively.



## ERCO Worldwide

**ERCO Worldwide Update** - (since last CAP meeting on February 23, 2022)

### Safety

- ERCO employees and contractors continue to work safely. As of April 11<sup>th</sup>, 2023, NV employees have worked 1015 days since the last Recordable safety incident (July 7/20) & 4486 days since our last Lost Time Accident (Jan. 05/11).
- We have 2 staff members currently self-isolating due to covid-19.

### Environmental

- On March 9 and March 10, the Rotary and FBD Scrubbers were tested as per Air Permit requirements. All parameters tested were within permit limits.
- On March 16<sup>th</sup> several reports were submitted to Metro Vancouver, as per Air Permit requirements. These reports included: Particulate Test Results, Operating Period and Raw Materials, Scrubber Maintenance, and a PM Summary.
- **The BC MoE has begun the process of Indigenous Engagement for the renewal of the Outfall Permit PE-395. The engagement will take place from March 16, 2023, to May 17, 2023. On March 29<sup>th</sup>, the Tsleil-Waututh Nation initiated communications regarding the permit renewal.**

### Operations

- ERCO NV plant has run well since we last met on February 23<sup>rd</sup>. The plant took a one-day outage to complete an acid wash on Line 8 March 8<sup>th</sup>.
  - Currently in the process of hiring two summer students to work in the FIBC packaging department.

### Proposed Clean Hydrogen Project

- On February 23<sup>rd</sup> the North Vancouver Plant hosted a CAP meeting. At this meeting HTEC presented the proposed Hydrogen Liquefaction project to be located on the ERCO NV plant site.

*Meeting Summary Notes – April 18, 2023*

13

*North Shore Community Advisory Panel (CAP)*

- I am attaching an invitation from HTEC to an Open House Discussion they are hosting on April 27<sup>th</sup> for the rezoning proposal for a Clean Hydrogen Production Facility at 100 Forester St, North Vancouver, as well as some additional information about this process.
- The open house location will be the Kenneth Gordon Maplewood School Gymnasium 420 Seymour River Place. Open house discussion: 5:00 to 6:30 PM. A hydrogen fuel cell electric vehicle will be on display at the event.

Brian Scott, P.Eng.

Plant Manager, North Vancouver

### **Univar Solutions report – April 17, 2023**

Meraz Sekhon reported that there have been 703 days since the last personal safety recordable, and 4489 days since the last DAWC (as of end of day April 17, 2023).

There have been no reportable EHS incidents since the previous CAP meeting.

There has been 1 site environmental incident.

- an oil sheen was observed by a ship at the Univar berth on Feb 28<sup>th</sup>, 2023
  - it reported the sheen was visible along the east side of shoreline north of the dolphin/dock structure and Univar investigated immediately
  - Our neighbour Western Stevedoring was also informed since stormwater sewers from their site can also affect the area where the sheen was visible
  - Upon joint investigation however it was clear that the oil sheen's source was the city storm drain located at the south end of Orwell Street, adjacent to the site's eastern fenceline
    - The site informed the Environmental Department of the District of North Van and also the Provincial Emergency Program (PEP)
  - Given the large number of contributors to this storm drain, DNV advised it would be very difficult to trace
  - Great observation by the vessel and Univar appreciated the timely response and coordination with Western

Transport Canada conducted its midterm check (2.5 yr mark) of the site's TC Marine Security Plan in March. All site security procedures, operations and records found to be fully compliant with the requirements of Transport Canada.

- Zero deficiencies found

Overall, the site is running steady.

Univar increased its behaviour-based safety observations in the first quarter in response to incidents in January, and also to align with its overall corporate Canadian first quarter EHS requirements. A total of 45 field observations were carried out in the first quarter focusing on various operations like product transfer on ship, rail and trucks, rail operations, including rail switching and sampling of products.

The site also conducted a live emergency and security exercise with Transport Canada in March. The exercise was considered a success, and all the learnings were recorded and shared among the staff.

Meraz Sekhon, who is also the Marine Facility Security Officer for the site, attended the Port of Vancouver's Marine security session in March; it focused on Port security & protection.





## CAP Meeting – April 18, 2023

### Current Status / Schedule

- Refinery running at 100% capacity
- Semi-annual shutdown scheduled for May 6 – 18

### Health, Safety and Environment

- Facility continues to operate within permitted approvals
- Facility has operated lost time injury free since the last CAP report, ie. 7497 days
- Zero first aid incidents to report since last CAP report
- Focus has been on increasing 'Positive Indicator' reporting since the last CAP report. This means an increased focus on identifying hazards and reporting near misses. We have had dozens of 'PI' reports recently, however the following one shows the value of this effort: Early in April, one of our Operations Supervisors noted that a narrow passageway that is occasionally transited by forklifts needed an overhead warning sign as there is a pipe way approximately 10 feet off the ground. This was reported as a 'hazard ID'. Upon receipt of the 'Hazard ID', we decided that this passageway should not be used at all for forklift transit and that it would be blocked off with bollards to eliminate the overhead risk.

### Training and Audits

- No Audits of this period
- Working on Emergency Response Plan updates and conversion to GFL formatting