

# 2021 PPSA Safety Conference – Safety Team Award Presentation



Domtar Nekoosa Mill

ClO<sub>2</sub> Release

Learning Team Exercise





### Event description

At approximately 8:00 am on Friday March 26<sup>th</sup> the Bleach Plant was in the process of starting up when there was a failure of the D1 stage Chlorine Dioxide (CLO2) feed line to the bleach plant. Over the period of 4 minutes, 200-400 gallons of CLO2 was pumped out of the failed section at the ground floor level of the bleach plant. This event led to a mill evacuation and CLO2 exposure to several employees as well as a recordable exposure to a contract employee.

### Line Failure Key Corrective Actions and Lessons Learned

- **Equipment inspection: (1)** Line is not part of 3<sup>rd</sup> party annual inspections. **(2)** Secondary installed insulation hid condition, and expedited corrosion of the piping
- **Individual(s) underestimated the problem by using past event as basis: (1)** “it has always looked that way, it will be fine”. Initial piping condition identified and work notification put in process March 2019.
- **Attention was given to the wrong issues: (1)** improper perception of condition and/or risk led to lower prioritization for completing repairs.

### CLO2 Detection and Evacuation Key Corrective Actions and Lessons Learned

- **Sensor and Light Location:** No CLO2 sensors in the digester basement that connects to the area between bleach plant and paper machines.
- **Emergency Respiratory Protection Training:** Escape respirators not utilized by those exiting through a “hot zone”.
- **Evacuation Routes:** Secondary escape routes not included as part of work plans or PTRAs.

# DRIVING CULTURE CHANGE – Where to Start?

## History

- Accepted practice for CLO2 alarms when shutting down and starting up
- CLO2 process leaks (or other hazardous chemicals) not a priority for repair
- Perceived lack of risk
- Not in our control
- Not possible to accomplish, just part of the process we need to live with
- Will cost too much additional lost time or off spec pulp



## Drive Change / Start with the Leaders

- Redefine what has over time become a culture of “acceptable conditions”
- Define the priorities

## Engagement

- ELE and senior operators
  - Peer sharing and feedback
  - Plan development (Operators, ELE, OMC, PRU Supt, others)
- **Execution**
  - Procedures and safe work plans that detailed specific actions vs desired outcome.
  - In it together
  - Review it, Improve it, formalize it, follow the plan (Leadership Oversight).

## Recognition

## Recent Successes

# In the words of USW Hourly Safety Advocate John “JR” Repinski

