

IN THE PROVINCIAL COURT OF ALBERTA CRIMINAL DIVISION

Between:

HER MAJESTY THE QUEEN

and

REGIONAL MUNICIPALITY OF WOOD BUFFALO

AGREED STATEMENT OF FACTS

Background

1. On Information 190565143P1, the Regional Municipality of Wood Buffalo (the "RMWB") stands charged that:

On or between the 8th day of May 2017 and the 17th day of May 2017, at or near Fort McMurray, in the Province of Alberta, did release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause a significant adverse effect contrary to s. 109(2) of the Environmental Protection and Enhancement Act and did thereby commit an offence contrary to s. 227(j) of the Environmental Protection and Enhancement Act.

2. The RMWB operates drinking water facilities in a number of small towns and for Fort McMurray. Collectively, these population centres are administratively conglomerated into a single municipal corporation – the RMWB.
3. The RMWB operates a number of water treatment plants. The largest is located within Fort McMurray (the "Plant") off Silin Forest Road just west of the large bridges that cross the Athabasca River within Fort McMurray. A number of RMWB offices are located in a tower within the same complex as the Plant. The Thickwood subdivision is located up the ridge from the Plant. The Abasand subdivision is located on the other side of the river

from the Plant. Houses, a baseball diamond, and urban areas are located approximately 500 metres from the Plant (towards Thickwood and Abasand). Downtown Fort McMurray is just over a kilometre away from the Plant.

4. The RMWB holds an *Environmental Protection and Enhancement Act* Approval issued by Alberta Environment and Parks that lists the conditions under which the Plant must be operated.
5. Chemicals are used at the Plant to make potable water. Sodium hypochlorite ("HYPO") and polyaluminum chloride (PACL) are among the chemicals used at the Plant.
6. The UN hazardous materials number for HYPO is UN1791. HYPO is more commonly known as bleach. This chemical is used in the water treatment process to kill bacteria.
7. The UN hazardous materials number for PACL is UN3264. This chemical is used in the water treatment process as a coagulant to aid in the removal of fine particles from the water and helps to ensure that proper turbidity of the water is maintained.
8. When mixed, PACL and HYPO react to create chlorine gas. When these chemicals are being transported, the trucks carrying the chemicals are required to display signage (referred to as "placards") containing certain information including the appropriate UN hazardous material number.
9. RMWB orders bulk chemicals, including PACL and HYPO for the Plant from third party chemical suppliers and the chemicals are delivered to the Plant in trucks owned and operated by third party transportation companies. These chemicals are unloaded from the trucks via hoses connected to inlets on the exterior wall of the Plant that feed into storage tanks inside the Plant. The inlets for PACL and HYPO are approximately 50 feet apart.

Description of the May 8, 2017 Incident

10. RMWB ordered a shipment of HYPO from the supplier and that shipment was scheduled to be delivered to the Plant after 4pm on May 9, 2017. RWMB ordered a shipment of PACL from another supplier and that shipment was scheduled to be delivered to the Plant on May 8, 2017.
11. On May 7, 2017, a RMWB foreman (the "Foreman") had a telephone conversation with the driver of a truck carrying a load of chemicals to be delivered to the Plant. The cellular telephone connection was poor. The phone conversation confirmed the truck would arrive at the Plant on May 8, 2017 but there was no discussion regarding the name of the chemical the truck would be carrying. The Foreman did not know that the truck would be carrying HYPO.
12. On May 8, 2017, a transport truck operated by a third party transport company arrived at the Plant at approximately 9:30am. The truck carried approximately 21,000 litres of HYPO. The Foreman and other RMWB employees appear to have assumed that the truck that arrived on that date was carrying PACL as a delivery of PACL was expected that day and the delivery of HYPO was expected the following day.

13. The driver of the truck was directed to park the truck near the PACL inlet pipe. A sign bearing UN 3264 was displayed near that inlet pipe. The Foreman assigned a trainee utility treatment technician (the "Trainee") and an experienced utility treatment technician (the "UTT") to help the driver unload the truck.
14. The truck did not have dangerous goods placards on the back of the truck or on the side of the truck that faced away from the building. The side of the truck that faced the building displayed a placard with a UN 1791 marking, indicating the truck was transporting HYPO. The truck should have displayed placards on both sides and the rear.
15. Neither the Trainee nor the UTT received any documentation from the truck driver prior to unloading.
16. The driver mistakenly hooked up the hose to the intake to the PACL bulk tank and started unloading. The UTT went into the building to ensure that the tank was filling properly. The Trainee stayed with the driver. After the unloading commenced, the Trainee noted some strong fumes.
17. When the UTT came outside, he smelled chlorine. The UTT confirmed with the driver that the truck contained HYPO, not PACL, and the driver confirmed that he had arrived at the Plant a day earlier than scheduled. The UTT compared the UN placards and noted they were different.
18. The UTT quickly directed the driver to cease unloading HYPO into the PACL tank.
19. Over the course of about 11 minutes, 6,089 litres of HYPO were unloaded into the PACL tank that already contained 43,283 litres of PACL. During this time, the chemicals were reacting with each other and chlorine gas started to release from the tank through the building to the outside.
20. After directing the driver to stop unloading, the UTT called for the Plant to be immediately shut down. Directions were given to cease all water treatment processes where possible. The Plant, the attached office tower, and all other areas on the site were evacuated.
21. Following the incident, the HYPO truck was pulled away from the area. A little while later, the remaining contents in the HYPO truck were unloaded into the proper intake pipe. The RMWB also restarted the parts of the water treatment system in the Plant that were unaffected by the PACL holding tank in which the reaction was occurring. No more chemical was withdrawn from that tank. The RMWB needed to continue to produce water for municipal service and to maintain reserves in the event of wildfires (this incident occurred the year after the Fort McMurray wildfires).
22. The chlorine gas continued to release into and from the building as the reaction continued within the tank. Because of the tank's size, the two chemicals could not immediately react fully. The HYPO and PACL continued to react together and release for days after the event. That said, the largest and most significant amount of chlorine gas was released during the 11 minutes of the unloading and very shortly thereafter.
23. The Plant remained shut down for two days, but the supply of potable water continued to users of the system. All workers, including those in the adjacent office tower on site, were now working remotely and not allowed to attend at work. Security and Regional

Emergency Services were keeping people away from the still leaking chlorine as the 2 chemicals continued to react within the PACL tank. Plant operators were only allowed into the Plant or buildings when accompanied by a firefighter and while wearing special equipment.

24. There are no reliable measurements of the amount of chlorine gas released as a result of this incident. Neither the Plant nor the emergency response units that attended at the site (from RMWB, Syncrude, and Suncor) had equipment that measured chlorine in the area with any precision (or that kept records of the readings).
25. The remaining chemicals in the tank at the Plant continued to react for 8 days. By that time, the reaction in the tank was complete and no more chlorine was produced or released. Specialty chemical disposal companies created new Standard Operating Procedures to move the remaining material in the tank. The contents of the tank were moved from the Plant to the landfill south of the City in a specially constructed lined and bermed area. Ultimately, the substance was transported to a chemical disposal facility in Texas for destruction. After testing, the UN dangerous goods placard for the resulting substance was UN3264 – the same placard number as PACL. The strength of the substance was greater than what would have been in the tank in the first place.
26. Numerous surfaces in the tank room and basement of the Plant were corroded as a result of the chlorine gas.
27. Over the course of the 8 days, approximately 122.78 cubic metres of chlorine gas were released (assuming standard conditions of 101.325 kPa and 15 degrees Celsius). Again, the largest amount was released during and shortly after the incident.
28. Expert modelling of the plumes of gas that would have been released during this event is difficult. Only during the 11 minutes and shortly thereafter of the initial main release would people outside the plant have been subject to any potential significant adverse effect. While the reaction continued for 8 days, the chlorine produced after the initial release was localized to the plant and immediate surrounding area.
29. During the main part of the release, people who were within 125 metres of the release point and exposed to the gas could have suffered from some damage to their lungs. People within 250 metres of the release point could have had some throat irritation. The wind was blowing towards the river at the time of the release, and no one, except as detailed in this Agreed Statement of Facts, was affected. Based upon the the wind conditions at the time of the incident, it is unlikely that any chlorine reached the Thickwood or Abasands subdivisions. However, had the wind been blowing towards one of those areas, anybody exposed at the outer edges closest to the plant and in downtown Fort McMurray could have suffered from some mild nose or eye irritation.
30. On the day of the incident, 2 workers in the water treatment plant were sent to hospital with symptoms of chlorine gas exposure. After being checked in the emergency room, they were sent home. On the day after the incident, another water treatment plant worker was exposed to chlorine gas when he took his gas mask off too soon after leaving the building. He also received some brief emergency room treatment. The emergency room doctor gave the third worker a note to miss 2 days of work.

31. Two firefighters also sought treatment at the Fort McMurray Hospital after being exposed to chlorine gas in the days following the incident. They also were released on the same day that they attended the hospital emergency room.

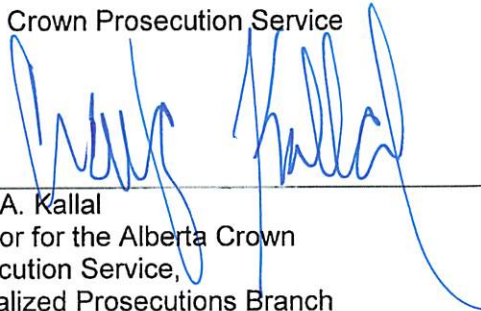
Agreements

32. The parties agree:
- a. The RMWB will plead guilty to Count 1 on Information 190565143P1 described in paragraph 1 of this Agreed Statement of Facts.
 - b. The RMWB agrees that it will be sentenced on all facts forming part of the circumstances of the offences that could constitute the basis for separate charges pursuant to s. 725(1)(c) of the Criminal Code of Canada.
 - c. The facts contained within the Agreed Statement of Facts are fully admitted and acknowledged by RMWB and will solely form the facts to be considered by the Judge pronouncing sentence upon RMWB. The parties will be at liberty to make further submissions about those facts to the Court.
 - d. The parties will jointly submit that RMWB should receive a penalty of \$150,000 for Count 1 on information 190565143P1.
 - e. This Agreed Statement of Facts may be filed and relied upon even if signed in counterpart or by facsimile copies of the signatures of any person or both.

CONSENTED TO WITH RESPECT TO FORM AND SUBSTANCE this 11 day of September, 2020.

Alberta Crown Prosecution Service

Per:



Craig A. Kallal
Solicitor for the Alberta Crown
Prosecution Service,
Specialized Prosecutions Branch

Dentons Canada LLP

Per:



Alex MacWilliam
Solicitor and Agent for the Regional
Municipality of Wood Buffalo