

Information 181540352P1
Information 190067116P1
Information 181528738P1

IN THE PROVINCIAL COURT OF ALBERTA

Between:

HER MAJESTY THE QUEEN

-and-

AGRIUM INC.

Defendant

Agreed Statement of Facts

For the Crown

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AGREED STATEMENT OF FACTS

The following numbered paragraphs contain certain facts that are alleged by the Crown and admitted by the Defendant, Agrium Inc. It is agreed that these facts are admitted for the purpose of dispensing with formal proof thereof in respect of a guilty plea by Agrium Inc. before this Honourable Court to the following charges:

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Count 6: On or about January 15, 2017, at or near Carseland, Alberta, being an employer, did fail to ensure that an operational control on equipment was designed, located or protected to prevent unintentional activation, contrary to section 368(a) of the *Occupational Health and Safety Code 2009* as adopted by the *Occupational Health and Safety Code Order, Alberta 87/2009* pursuant to the *Occupational Health and Safety Act, R.S.A. 2000, Chapter 0-2*, as amended.

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Count 5: On or about January 30, 2017, at or near Carseland, Alberta, being a prime contractor for work site where a worker **S. 486.5 Criminal Code** was injured, did fail to ensure, as far as reasonably practical to do so, that the *Occupational Health and Safety Act*, the regulations thereto, and the adopted *Code* were complied with in respect of that work site, by failing to establish or maintain a system to ensure that Aecom Production Services Ltd. complied with section 212(3) of the *Occupational Health and Safety Code 2009*, contrary to section 3(3) of the *Occupational Health and Safety Act, R.S.A. 2000, Chapter 0-2*, as amended.

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Count 2: On or about January 30, 2017 at or near Carseland, in the Province of Alberta, being a person who did release or cause or permit the release of a substance into the environment that may cause, is causing or has caused an adverse effect, and did fail to report that release to the Director as soon as that person knew or ought to have known of the release, contrary to section 110(1) of the *Environmental Protection and Enhancement Act* and did thereby commit an offence contrary to section 227(j) of the *Environmental Protection and Enhancement Act, R.S.A. Chapter E-12*, as amended.

Background

1. At all relevant times, Agrium Inc. ("Agrium") was a validly subsisting federal corporation, registered extra-provincially in the province of Alberta, with a registered office located in Calgary, Alberta.
2. Agrium operates various mining operations and is also a producer and supplier of agricultural products including potash, nitrogen fertilizer and urea. The company is based in Saskatoon, Saskatchewan and has wholesale and retail operations in Canada and the United States.
3. Carseland Nitrogen Operations ("CNO") is owned and operated by Agrium.
4. CNO is a fertilizer manufacturing plant. CNO is located approximately 10 kilometers west of Carseland, Alberta. The plant has been in operation since 1977. It produces ammonia and urea, chemicals used in the production of nitrogen fertilizer.
5. This Agreed Statement of Facts involves two separate incidents, occurring, respectively, on January 15, 2017 (the "January 15 Incident") and January 30, 2017 (the "January 30 Incident"), at CNO (collectively, the "Incidents"). The January 15 Incident is a workplace incident which resulted in a serious injury **S. 486.5 Criminal Code** Agrium employee. The January 30 Incident comprises a workplace incident and environmental incident that resulted in a serious injury **S. 486.5 Criminal Code** a direct service provider to the contractor, Aecom Production Services Ltd. Both Incidents involved the release of ammonia.
6. At all relevant times Agrium was an employer as defined in the *Occupational Health and Safety Act*, R.S.A. 2000, Chapter O-2 ("Act").

The January 15, 2017 Incident

7. Count 6 on Information 181540352 pertains to the January 15, 2017 Incident.
8. At all relevant times **S. 486.5 Criminal Code** was a worker as defined in the *Act*.
9. CNO utilizes the equipment of railcars, specifically designed for anhydrous ammonia transportation, within their operations. These railcars are where anhydrous ammonia is loaded or offloaded (see **Appendix A**).
10. The January 15, 2017 incident occurred on the top of a railcar station, where the equipment used to perform the work included three overhead hoses (see **Appendix B**). One overhead hose was for hot

gas and the other two overhead hoses were used to offload/load anhydrous ammonia. The hoses used to offload/load anhydrous ammonia were located on a shared cantilever (Appendix C).

11. In late November 2016, valves on the overhead hoses used for offloading had been changed so that the hoses could be used to load the anhydrous ammonia railcars, and rectify the issue of leaking ammonia. The new valves were Fischer globe valves type N-310-10, designed for ammonia service, and chosen due to their quality of being drip free.
12. The new valves were an operational control on the offload hoses as these valves control the flow of fluid (Appendix D).
13. At the time of the incident on January 15, 2017, S. 486.5 Criminal Code had been employed with Agrium for a total of 35 years. Over those years, S. 486.5 Criminal Code was employed in varying positions including as a Safety/Loss Prevention Advisor from 2002 to 2007. He was also a member of Agrium's Emergency Response Team and the Joint Health Safety Committee. As a result of these site safety roles, S. 486.5 Criminal Code was intimately familiar with Agrium's safety policies. He had also received extensive safety training from Agrium, including training regarding the handling and transfer of ammonia, ammonia vapour suppression, respiratory protection and S.C.B.A., and hazardous materials.
14. For the five years leading up to the date of the incident S. 486.5 Criminal Code S. 486.5 Criminal Code
15. Prior to the incident, S. 486.5 Criminal Code inadvertently bumped a valve attached to the overhead offload hose causing a minor release of ammonia. On this occasion, the valve was promptly shut off and no injuries were occasioned. S. 486.5 Criminal Code emailed his concerns on January 8, 2017, about such valves, including that the valves could easily crack open by brushing same with an arm or a hand, following which Agrium began to inquire about purchasing valves with snap locks or other options to eliminate accidental openings. The task of offloading ammonia was not halted during this time.
16. On January 15, 2017, S. 486.5 Criminal Code was preparing to connect the offload hoses to the rail tanker car to offload anhydrous ammonia from the rail station.
17. S. 486.5 Criminal Code was wearing all required personal protective equipment at the time, including:
 - a. body protection including ammonia resistant coveralls;
 - b. respiratory protection, including full face purifying respirator with approved ammonia cartages;

- c. head, foot and skin protection, including helmet, appropriate work boots and approved rubber gloves.
18. S. 486.5 Criminal started lifting the lid on the railcar and realized that the overhead hoses were in the way of opening the lid. S. 486.5 Criminal then attempted to move the overhead hoses used to offload out of the way. It is speculated that the movement of the hoses from the proximity of the lid or the hoses bumping into each other caused one of the overhead offloading valves to open by approximately ½ turn, thereby releasing anhydrous ammonia into the workplace.
 19. The anhydrous ammonia produced a large white vapour cloud, which obstructed S. 486.5 Criminal Code sight of the top of the railcar.
 20. The height of the railcar was approximately 15 feet from the track, with a parallel catchment ditch adding another 2 feet to the ground.
 21. S. 486.5 Criminal made a quick decision to escape the area by climbing through the handrail surrounding the top of the railcar and then attempting to slide down the side of the railcar.
 22. S. 486.5 Criminal landed in a snow-covered ditch on the side of the railcar, fracturing both heel bones, and fracturing his vertebrae.
 23. S. 486.5 Criminal was wearing a company radio in his coveralls and he was able to use the radio to call for help. A worker nearby heard the call, donned a full face respirator and was able to go to the top of the railcar station and turn the valve off.
 24. Site responders attended quickly to the scene, and first aid was administered on site. S. 486.5 Criminal Code was subsequently transported to Foothills Medical Centre in Calgary, Alberta and remained in the hospital for more than two days.
 25. Since the incident, S. 486.5 Criminal has had to have more than one surgery on his feet.
 26. S. 486.5 Criminal returned to work at CNO in November 2017 on a modified schedule and to different duties.

The January 30, 2017 Incident

27. Count 5 on Information 190067116P1 and Count 2 on Information 181528738P1 pertain to the January 20, 2017 Incident.

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28. In November 2014, Agrium entered into an agreement with a contractor (the "**Contractor**") for the supply of Electrical, Instrumentation, High Voltage and Mechanical Services at CNO.
29. The Contractor subsequently changed its name to Aecom Production Services Ltd. on June 1, 2017. The Contractor's workers at the CNO plant reported to and received work direction from Agrium. Agrium also supplied tools and set work hours, and the Contractor's workers also followed Agrium procedures.
30. At all relevant times, Agrium was the prime contractor as defined in the *Act*.
31. At all relevant times, S. 486.5 Criminal Code were workers as defined under the *Act*. S. 486.5 Criminal Code engaged by the Contractor, and S. 486.5 Criminal Code employed by the Contractor.
32. At all relevant times, Agrium operated the CNO facility under Alberta Environment and Parks ("**AEP**") *Environmental Protection and Enhancement Act* Approval No. 1580-00-00 (as amended) (the "**Approval**").
33. Section 4.1.5(b) of the Approval No. 1580-00-00 read:
- 4.1.5 With respect to fugitive emissions and any source not specified in 4.1.2, the approval holder shall not release a substance or cause to be released a substance that causes or may cause any of the following:
- a) impairment, degradation or alteration of the quality of natural resources; or
 - b) material discomfort, harm or adverse affect to the well being or health of a person; or
 - c) harm to property or to plant or animal life.
34. On January 18, 2017 Agrium process equipment was prepared in the Ammonia Refrigeration Area of the Frick building at CNO in anticipation of maintenance to remove seven thermal relief valves ("**TRV**") scheduled for servicing on the gathering system and piping relating to the ammonia header (specifically, RV 2151 - A, B, C, D, E, F, and J) (the "**System**"). TRVs are periodically taken out, inspected and re-installed (see **Appendix E**).
35. The ammonia piping involved in the incident consisted of a three quarter inch line extending vertically from a six inch line that was actively carrying anhydrous ammonia. The three quarter inch line had two quarter-turn ball-valves. The first ball-valve was referred to as an inlet block valve and the second ball-valve was referred to as a bleed valve. These ball-valves had oval yellow shaped handles that did

not have any mechanism for securing a lock. The quarter turn ball valve only required a 90 degree turn to be fully open. The TRV was located above the bleed valve and were designed to relieve a pressure build up into a storage drum or a flare.


36. Agrium had a 'Lock, Tag, Try' ("LTT") process for isolating energy at the CNO plant. This energy isolation and lockout process entailed an operator locking out a system to isolate energy, and a second operator verifying the lockout in order to ensure that the system does not have power, residual energy, or pressure.
37. In relation to the piping, and the 'Lock' sequence, Agrium used a combination of a padlock, and a chain and/or cable to isolate and secure the flow of the harmful substance, that being ammonia. The chain or cable was put through the handle of the valve and then wrapped around the pipe.
38. At the 'Tag' sequence, Agrium would hang a padlock on the valve to indicate the valve was 'locked out' and was not to be turned.
39. The 'Try' sequence entailed energizing the equipment to ensure it was isolated, with no residual hazardous energy. This sequence was utilized by workers during electrical processes but not, as in this case, during servicing of piping and valves because workers were aware that ammonia would leak out if they tried turning the ball valve.
40. On January 18, 2017 Agrium tasked the Contractor's workers to remove six TRV's (RV 2151 – A,B, C, D, E and J) from the ammonia line for servicing. In preparation for the work on the System, an Agrium Operations Technician locked out the TRVs as per Agrium standards. A LTT Form was filled out and the 'lockout' was verified by another operator by completing a visual inspection of the lockout.
41. An Agrium worker accompanied the Contractor's crew to verify isolation. The TRVs (RV 2151 - A, B, C, D, E, J) were subsequently removed by two of the Contractor's workers without incident.
42. On January 19, 2017, Agrium maintenance personnel removed the 7th TRV in the Ammonia Refrigeration Area (identified as RV 2151F). Further, the Contractor's workers, **S. 486.5 Criminal Code** participated in a safety meeting during which ammonia awareness and its toxic effects, as well as response to adverse situations involving ammonia, were discussed.
43. The energy isolation process and lockout for the RV 2151F was a single isolation. The pipe was attached vertically to the main ammonia line and the inlet block valve shut off flow to the line. The inlet valve was placed in a closed position and a chain was looped through the handle and attached to

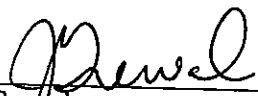
- the handle of another valve that was on the flare line. A cable was attached to the chain and an open padlock was hung on the inlet block valve handle (see Appendix F).
44. A bleed line was attached horizontally above the inlet block valve. The bleed valve was left open to show the line was clear. A cable was only put through the valve handle and was not put around the bleed pipe. A padlock was hung on the cable in front of the handle. However, the bleed valve did not have any type of hose or any other safeguard to redirect ammonia if the lockout failed (see Appendix G). It was understood by workers that the padlock was "symbolic" of energy isolation as it did not prevent or stop the ball valve from opening and releasing the ammonia.
 45. Agrium sent the seven TRVs to a third party for checks and/or repairs. The TRVs were received back on site following servicing by the vendor and scheduled reinstallation.
 46. On January 30, 2017, reinstallation of the TRVs was assigned to the Contractor.
 47. Agrium issued a cold work permit to the Contractor and verified that the prior energy isolation remained in place for this job.
 48. The Contractor's personnel met with an Agrium supervisor for a morning meeting, following which the Contractor's crew conducted a hazard assessment using a task hazard assessment tool approved for use at CNO.
 49. The January 30, 2017 task hazard assessment specifically identified working on live ammonia lines, ammonia vapour and lockout/tagout as a risk. S. 486.5 Criminal Code signed off on the task hazard assessment.
 50. The Contractor's personnel installed the first six TRVs, including associated piping, without incident.
 51. Reinstallation of the last valve (RV 2151F) was being completed by S. 486.5 Criminal Code. This TRV was not directly aligned with the line that it was being connected with (see Appendix H) and the work to reinstall the last valve was being performed in a tight location. The area had one entrance with piping and equipment on three sides. The entrance to the area was approximately 1.3m wide. The bleed valve was approximately chest level for a worker standing on the ground (see Appendix I).
 52. S. 486.5 Criminal Code proceeded to assist S. 486.5 Criminal Code who was positioned on the east side of the TRV.

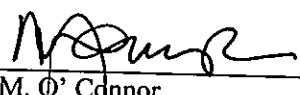
53. In order to access the piping and maneuver the two sides of the pipe together, both workers were standing on the process lines and pulled on the piping. While attempting to align two separate sections of piping, the single point isolation valve below the pressure relief valve was jarred. With the vent locked in the open position, ammonia was released through the horizontal vent. S. 486.5 Criminal Code heard a noise and saw that S. 486.5 Criminal Code had disappeared within a large cloud of ammonia.
54. S. 486.5 Criminal Code saw that the liquid ammonia was being released through the bleed valve. While engulfed in the ammonia cloud S. 486.5 Criminal Code reached over and closed the valve within several seconds even though his eyes were watering and he was struggling to breathe. S. 486.5 Criminal Code jumped off the piping and ran towards the crew truck, which was parked northeast of the incident area.
55. At the time of the release, Agrium estimated the concentration of anhydrous ammonia to be 99.71% flowing at 23.0 L/s and 2450 kPAg and at a temperature of -2.3°C. The volume released was estimated at 10 Kgs over an estimated 3 second duration.
56. Other workers employed by the Contractor, S. 486.5 Criminal Code (the crew's supervisor), noted the incident as they were exiting a work truck. Mr. Schwab ran to a nearby control room to report the incident and get assistance. S. 486.5 Criminal Code remained to assist S. 486.5 Criminal Code removing his clothes and boots, and helping him into the safety shower.
57. Agrium personnel arrived while S. 486.5 Criminal Code was in the shower. An Agrium operator verified that the vent at issue was closed and inserted a plug in the end of the open vent line and the incident scene was secured with barrier tape.
58. An Agrium nurse assessed S. 486.5 Criminal Code at the site. Wheatland Emergency Medical Services (EMS) were called and S. 486.5 Criminal Code was transported to Foothills Medical Centre via ambulance. S. 486.5 Criminal Code was transported to the Strathmore Hospital by other workers. S. 486.5 Criminal Code was medically assessed and released from the Hospital that night.
59. The release caused a significant adverse effect as evidenced by the injuries S. 486.5 Criminal Code.
60. S. 486.5 Criminal Code sustained an anhydrous ammonia burn on his hand and experienced respiratory difficulties the day of the incident. S. 486.5 Criminal Code sustained second degree anhydrous ammonia burns S. 486.5 Criminal Code. He subsequently underwent surgical treatments for the burns. He remained as an in-patient at the Foothills for 17 days.

61. **S. 486.5 Criminal Code** has made a significant recovery and was cleared to return to work at the end of May 2017.
62. The exact cause of the inlet valve opening and causing the release of the liquid anhydrous ammonia is unknown. The handle of the quarter turn ball valve that was used to isolate the TRV from the ammonia supply line may have been bumped by either **S. 486.5 Criminal Code** while attempting to align the pipes. Alternatively, the valve may have opened due to tension placed on the chain put through the valve handle.
63. The Contractor's management and Agrium management were notified of the January 30 Incident on the same day. The January 30 Incident was reported to Alberta Occupational Health and Safety (OH&S) on the same day and in a timely manner.
64. The release was not reported by Agrium to AEP until February 27, 2017, following an AEP Protection Officer advising Agrium that Section 4.1.5(b) of the Approval required notification to AEP. After receiving AEP's advice regarding the Approval, Agrium made efforts to report the release of ammonia that occurred on January 30, 2017 in connection with the January 30 Incident, and completed its '7 Day Report' on March 3, 2017, which was provided to the Director of AE&P.

DATED this 10th day of September 2019 in Stettin, Alberta.


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