

Backgrounder

Timeline

- In January 2009, one FTS release of bitumen emulsion was discovered at Primrose East on the Cold Lake Air Weapons Range (CLAWR). Following an investigation, the predecessor to the AER released an incident report in January 2013.
 - The AER took the previous incident into consideration during the 2013 investigation.
 - According to CNRL, one of the 2013 FTS events is believed to be related to the 2009 incident. Additionally, more information was made available as a result of the 2013 incident.
- On May 20, 2013, two FTS releases were discovered and reported at Primrose East; and on June 8, 2013, another FTS release was discovered at Primrose East and reported. On June 14, 2013, the AER imposed steaming restrictions for the Primrose East area and ordered CNRL to obtain approval from the AER before conducting any steam injection.
- On June 24, 2013, a bitumen emulsion FTS release was discovered and reported at Primrose South. On July 17, 2013, the AER ordered CNRL to take the following actions:
 - Accelerate its efforts to contain and clean up the bitumen emulsion releases.
 - Develop and implement a plan that would validate and provide appropriate assurances that all releases of bitumen emulsion to surface within the project area were identified.
 - Develop and implement a comprehensive plan to determine the location, extent and volume of bitumen emulsion that had been released to subsurface zones.
 - Cease all steaming operations within 1 km of the Primrose South FTS location and modify steam injection operations throughout Primrose North and South areas.
 - Conduct a risk assessment and develop a mitigation plan of all existing wellbores in the vicinity of pads prior to steaming.
 - Develop and implement an incident investigation plan to determine the root cause of the surface releases.
- Initially, steam injection at 228 wells at the CNRL Primrose operation were suspended as a result of regulatory actions taken by the AER in 2013. Currently, 80 wells remain suspended from steam injection under regulatory order.

- On June 27, 2014, CNRL provided the AER with an interim causation report, which identified four conditions that enable or significantly increase the probability of an FTS event.
- On July 14, 2014, the independent technical panel provided the AER with its review of CNRL's interim FTS causation report. The AER posted the independent technical report on July 22, 2014, as well as a news release outlining its response to its findings.
- An [environmental protection order](#) was issued against CNRL on September 24, 2013, as well as an [enforcement order](#), which was issued on October 21, 2013.
- On April 1, 2015, CNRL submitted its final bitumen emulsion FTS investigation report to the AER, and on May 19, 2015, the independent technical panel submitted its review of CNRL's final report to the AER. This final report replaces the interim causation report of June 27, 2014.
- On March 21, 2016, AER releases its investigation report, with regulatory requirements CNRL must follow:
 - Operations within 1 kilometre of all flow-to-surface sites are restricted to hydrostatic pressures.
 - All future steaming operations will be limited in terms of how much steam may be injected.
 - CNRL must notify the AER if pressures increase above maximum approved levels in a 24 hour period.
 - CNRL is required to apply for and obtain AER approval for each steam stimulation cycle at Primrose East.
 - For any new high-pressure cyclic steam stimulation operations, CNRL must conduct three commissioning cycles first. A commissioning cycle has a reduced steam injection volume and is done to create an environment where horizontal fractures are more likely.