

Supplemental Release Report

Initial notification of the release to the NT-NU 24 Spill Report Line and the NEB's Online Event Reporting System was completed at the time of the release. This report is a supplement to the initial report.

General Information			
NT-NU 24 Spill Report #	169763	NEB Incident #	INC2021-150
Incident Date:	10/07/2021	Time: 4:00	am <input type="checkbox"/> pm <input checked="" type="checkbox"/>
Incident Location: Central Processing Facility <input type="checkbox"/> Bear Island <input type="checkbox"/> Goose Island <input type="checkbox"/> Mainland <input checked="" type="checkbox"/> Other <input type="checkbox"/> – If other, location:			
Licencee Name: Imperial Oil N.W.T. Limited		Licence no.: S13L1-007	
Form completed by:	Benjamin Fraser	Phone Number:	587-476-2878

Volume Details		
If volumes changed from initial report an update has been sent into the NT-NU 24 Hour Spill Report Line and the NEB's Online Event Reporting System.		
Product released?	Volume released	Contained
Crude Oil	Approximately 1 m ³ - 1.5 m ³	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	m ³	Yes <input type="checkbox"/> No <input type="checkbox"/>
	m ³	Yes <input type="checkbox"/> No <input type="checkbox"/>
Impacted soil storage: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Location:		

Flowline Incident Details			
n/a			
Flowline no.:	Diameter:	Year Installed:	Aboveground <input type="checkbox"/> Buried <input type="checkbox"/>
Flowline returned to service: Yes <input type="checkbox"/> No <input type="checkbox"/>			

Clean Up
Status: Complete <input checked="" type="checkbox"/> Ongoing <input type="checkbox"/> – If ongoing, anticipated clean up completion date:
Operational clean-up details: N/A – Historical release. Surface casing vent line has been repaired and well bore (E-35) has been fully abandoned.

Incident Details
<p><u>Description of circumstances leading up to the release:</u> During normal operations, surface casing vent (SCV) flows from E-35 bunker well are routed through surface piping to a tote where any fluids that flow up the casing are collected at surface. Tote is routinely monitored and emptied with volumes recorded. Prior to break-up, SCV piping is removed, the SCV piping is isolated containing any fluids within the surface casing and any residual fluid in the bunker is removed. During break-up, the E-35 bunker well is overtopped with ice flow and water. Post break-up, the bunker is cleared of water, sand and sediment and the SCV piping connected to the surface tote is re-installed. Historically E-35's surface tote was emptied four times per year and fluids were last recovered and emptied in December 2019 indicating that the failure of the SCV pipe occurred during 1H of 2020. In a failed state, SCV fluids (natural seepage crude oil) would have a path to surface resulting in a release to environment during river break-up when the bunker well would be overtopped with water. Based on historical trends, it is understood that as a result of the failed line, a total of approximately 1 – 1.5 m³ of crude oil could have been released to the bunker (and subsequently to the Mackenzie River) during 2020 and 2021 spring break-up (approximately 0.5—0.75 m³ / year).</p>
<p><u>How was the release identified:</u> The historical release was identified on October 7, 2021 while completing abandonment activities at E-35 (abandonment approved by CER in August 2021). Crews identified the failed SCV piping while working within the bunker. The volume release estimate was developed using historical data and assumptions with respect to a reasonable time over which the release is likely to have occurred. First, historic surface casing tote recovery data for E-35 (2018 and 2019) was used to</p>

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<p>estimate the total annual volume flowing through the surface casing. Next (although volumes may vary throughout the year), it was assumed that a consistent amount of crude would continue to be released through the surface casing throughout the year (including during spring break up). The portion of the annual flow occurring during the spring break-up period was used to estimate the release volume. (0.5-0.75 m³/year). Applying this annual estimate over two spring break-up periods (2020 & 2021) is how the final release volume was determined. (1-1.5 m³)</p>
<p><u>Steps taken to minimize, control, or stop the release:</u> The failed SCV piping was immediately repaired on October 7, 2021 once discovered preventing any potential future release. The E-35 wellbore has since been fully abandoned downhole.</p>
<p><u>Root cause and causal factors of the release:</u></p> <ul style="list-style-type: none">- E-35's SCV piping was found to be unsupported, leading to excess stress and failure at the threaded connection to the SCV head tie-in at the well causing the release.- Bunker well cleaning procedures were not being followed causing excess build-up of sediment and sand under the floor grating preventing observation of the SCV piping during routine maintenance and surveillance.- Surveillance of the annual SCV tote volumes collected at E-35 was not assigned. Individual previously responsible was released from company in December 2020 and handover of surveillance duties was inadequate therefore the drop in volumes collected in 2020 and 2021 went undetected.
<p><u>Corrective actions, if any:</u></p> <ul style="list-style-type: none">- Identify additional at risk wells, clean-out bunkers, inspect SCV and repair as required. Inspection program has been completed – no findings or additional repairs required.- Revamp SCV surveillance program. Assign responsibilities; clearly identify what denotes an irregularity; establish reporting and investigation expectations.- Update Field Operators on surveillance expectations for inspection of SCV piping.- Review SCV pipe installations across Norman Wells field to identify other locations with unsupported pipe – and complete necessary repairs.- Wellhead Equipment Integrity Guide (EIG) owner to review equipment strategy for bunker cleaning and update bunker cleaning procedure as required.
<p><u>Additional comments:</u> N/A</p>