

IN THE PROVINCIAL COURT OF NEWFOUNDLAND AND LABRADOR

ST. JOHN'S

BETWEEN:

HIS MAJESTY THE KING

and

HUSKY OIL OPERATIONS LIMITED

AGREED STATEMENT OF FACTS

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-vs-

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AGREED STATEMENT OF FACTS

I. SUMMARY OF CHARGES

1. This Agreed Statement of Facts is solely for the purpose of sentencing Husky Oil Operations Limited ("**HOOL**") under count 3 of the Information laid October 18, 2021 by Officer Dennis Thomas of the Canada-Newfoundland and Labrador Offshore Petroleum Board ("**C-NLOPB**") and counts 2 and 3 of the Information laid November 3, 2021 by Officer Christopher Tucker of Environment and Climate Change Canada ("**ECCC**"), which read as follows:

Count 3 of the October 18, 2021 C-NLOPB Information:

Did, on or about November 16, 2018, in the Canada-Newfoundland and Labrador offshore area, in the Exclusive Economic Zone of Canada, having ceased work or activity that was likely to cause pollution, did resume work without ensuring it could do so safely and without pollution, from at or near the White Rose Field To Wit: at or near South White Rose Extension Drill Centre, contrary to subsection 24(2) of the Newfoundland Offshore Petroleum Drilling and Production Regulations SOR/2009-316, thereby committing offences pursuant to paragraph 194(1)(a) of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Act*.

Count 2 of the November 3, 2021 ECCC Information:

On or about the 16th day of November 2018, in Canadian fisheries waters, within the Exclusive Economic Zone of Canada, adjacent to the Province of Newfoundland and Labrador, at or near the South White Rose Extension of the White Rose Oil Field, being a person described in Subsection 38(5), did fail to take

all reasonable measures consistent with public safety and with the conservation and protection of fish and fish habitat to prevent an occurrence described under Subsection 38(5) or to counteract, mitigate or remedy any adverse effects that result from the occurrence or might reasonably be expected to result from it, contrary to Subsection 38(6) of the *Fisheries Act*, R.S.C, 1985, C. F-14, as amended, and did thereby commit an offence in violation of Subsection 40(3)(e) of the *Fisheries Act*, R.S.C, 1985, C. F-14.

Count 3 of the November 3, 2021 ECCC Information:

On or about the 16th day of November 2018, in the Exclusive Economic Zone of Canada, adjacent to the Province of Newfoundland and Labrador, at or near the South White Rose Extension of the White Rose Oil Field, did unlawfully deposit a substance that is harmful to migratory birds, namely Crude Oil, or permit such a substance to be deposited, in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area, to wit: the Atlantic Ocean, contrary to Subsection 5.1(1) of the *Migratory Birds Convention Act*, 1994 (S.C. 1994, c.22), as amended, and did thereby commit an offence in violation of Subsection 13(1) of the *Migratory Birds Convention Act*, 1994 (S.C. 1994, c.22).

The release that is the subject of these counts will be referred to as the "**Release.**"

2. At all material times during the events described in this Agreed Statement of Facts, HOOL was a registered, active corporation incorporated under the laws of Alberta. HOOL was a subsidiary of Husky Energy Inc. ("**HEI**"). On January 1, 2021, Cenovus Energy Inc. ("**Cenovus**") purchased all of the issued and outstanding shares of HEI in an all-stock transaction. On March 31, 2021, Cenovus and HEI amalgamated under the provisions of the *Canada Business Corporations Act* ("**CBCA**"), and HOOL became a wholly owned subsidiary of Cenovus. On December 30, 2021, HOOL and Cenovus amalgamated under the provisions of the *CBCA*, with the amalgamated company operating under the name Cenovus Energy Inc.

II. PROXIMATE CAUSE OF THE RELEASE

3. At all times material to the Release, HOOL owned and operated the *SeaRose* Floating Production Storage and Offloading Installation ("**SeaRose FPSO**") and was the holder of the production authorization and an interest holder of production licences related thereto. The *SeaRose* FPSO is located in the White Rose Oil Field in the Jeanne d'Arc Basin, approximately 350km east of St. John's, Newfoundland and Labrador. This location is within the Canada-Newfoundland and Labrador offshore area, the Exclusive Economic Zone of Canada and part of Canadian Fisheries Waters.

4. The *SeaRose* FPSO is a ship-shaped production facility with systems to process, store and offload crude oil. The *SeaRose* FPSO is connected to subsea production systems, which include production risers, flowlines, wells, and associated control systems for the extraction of oil and gas from, and injection of fluids and gas into, subsea oil and gas reservoirs. The *SeaRose* FPSO and

its associated subsea infrastructure is an installation as defined by the *Newfoundland Offshore Petroleum Installations Regulations*.

5. Approximately 59.1 kilometres of flowlines connect five discrete drill centers in closed-loop systems. Two oil risers connect the system to the *SeaRose* FPSO, enabling injection or extraction of fluids. Subsea flowlines incorporate pressure balancing safety joints, also known as flowline connectors, or "weak links," designed to separate in the event of excess axial tension on the flowline. Flowline connectors are intended to reduce the potential damage to subsea systems should the flowlines be exposed to snag loads from, for example, a scouring iceberg. If snagged, the flowline connector will separate before tension in the flowline causes damage to manifolds and the wells themselves.

6. Internal pressures in flowlines can also generate axial tension on flowline connectors through an end-cap effect. To prevent the flowline from separating under the range of internal pressures generated during ordinary operations, flowline connectors incorporate a pressure balancing mechanism. The mechanism responds to increases in pressure, applying a reaction load that counteracts axial tension on the flowline connector's shear pins.

7. At 09:59 on November 16, 2018, one of the five flowline connectors installed near the South White Rose Extension Drill Centre ("**SWRX**") separated during a standard procedure. Upon separation, crude oil flowing through the flowline connector entered the Atlantic Ocean, directly through the separated connection points.

8. The SWRX flowline connector was designed, installed, and maintained according to all applicable engineering specifications and industry standards. The flowline connector was installed in 2014 and was well within its lifespan of 25 years.

9. After extensive post-incident investigations undertaken by HOOB, it was determined that the flowline connector failed because hydrates formed within the pressure balancing mechanism and impaired its function. Hydrates are ice-like solids that form when water and natural gas components are subjected to a specific combination of pressures and temperatures. On the morning of November 16, 2018, hydrates compromised the pressure balance mechanism, allowing the flowline connector to separate under negligible external tension and an internal pressure of less than 3,800kPa, as compared to the system's design rating of 44,000kPa. The pressure sensors for HOOB's monitoring of the flow lines were working properly at all times.

10. Flowline connectors of similar design are common on subsea facilities in Canada. Prior to the Release, HOOB had no information indicating a flowline connector had failed or could fail as a result of internal pressures as low as 3,800kPa, or that hydrate formation could cause a flowline connector to fail in this manner.

III. EVENTS LEADING UP TO THE RELEASE

11. The Release occurred subsequent to a significant storm event in the White Rose Oil Field. The storm had no effect on HOOB's subsea infrastructure and was not the cause of the Release.

12. At 11:20 on November 15, 2018, during the course of the storm, HOOB personnel received notice that a nearby mobile offshore drilling platform, the *Henry Goodrich*, had lost one of twelve

anchor chains. The *SeaRose* FPSO was situated down-wind of the *Henry Goodrich*. As a precaution, HOOL initiated a controlled shutdown to allow the *SeaRose* FPSO to quickly disconnect from subsea infrastructure and move out of the way should the *Henry Goodrich* become unmoored and begin to drift into the safety zone of the *SeaRose* FPSO.

13. HOOL initiated its controlled shutdown procedure, depressurizing flowlines and injecting methanol into well rigid spools to mitigate hydrate formation. Depressurization was complete as of 16:43 on November 15, and production remained shut down until the morning of November 16. During this period, a unique combination of pressure, fluids, and temperatures developed at the SWRX flowlines, which allowed hydrates to form within the pressure balancing cavities of one of the SWRX flowline connectors.

14. On the following morning of November 16, 2018, HOOL determined that storm conditions and the risk posed by the *Henry Goodrich* had abated sufficiently to conduct a post-storm inspection of the vessel and initiate a hot oiling procedure. Hot oiling involves pumping warm oil through subsea flowlines to gradually warm them prior to introducing production reservoir fluids to the system. The procedure is intended to mitigate hydrate formation during startup and dissolve any hydrates that may have formed during the shut-down period.

15. At 07:47, the flowline recirculating pump onboard the *SeaRose* FPSO began pumping warm oil from holding tanks into the subsea flowlines. Due to their location inside the cavity of the SWRX flowline connector, hydrates impairing the pressure balancing mechanism remained isolated from the hot oil wash and did not dissolve. These hydrates prevented the pressure balancing mechanism from applying an effective reaction load as internal pressures rose during the hot oiling procedure. At 09:59, the impaired flowline connector separated.

IV. HOOL'S DISCOVERY OF THE RELEASE

16. During the hot oiling on November 16, 2018, HOOL's subsea system was configured such that crude oil pumped from holding tanks onboard the *SeaRose* FPSO flowed down one of the two risers connecting the subsea flowlines ("**Riser 1**") and through the South White Rose ("**SDC**"), North Amethyst ("**NADC**"), and SWRX drill centres. The stream diverged at a midline tee-connection located downstream of the first drill centre on this path, the SDC, with a portion of the pumped oil flowing through the SWRX flowline loop and the remaining portion flowing through the NADC flowline loop. The two streams converged again at a second tee-connection downstream of the NADC and returned to the *SeaRose* FPSO via the second riser ("**Riser 2**"). Two other drill centres, the Northern Drill Centre and Central Drill Centre, remained closed-off during this operation.

17. Along each loop there are numerous valves located at the drill centre manifolds and elsewhere, which, if opened or blocked, may alter the flow and pressure of oil. During hot oiling, the passage of gas and fluids in flowlines can cause sudden changes in hydrostatic pressure at flowline risers or against choked valves. Additionally, a bypassing valve or blockage may cause sudden changes. Whilst changes in pressures during hot oiling are common, pressure changes of the magnitude and duration recorded during the Release are not a common occurrence or commensurate with a hot oiling operation.

18. Pressure sensors located at various points in the subsea system provided real-time data to HOOB's Integrated Control and Safety System ("ICSS"). Pressure data was available, in particular: (a) at the recirculation pump located at the beginning of the loop near Riser 1; (b) at the inflow and outflow points of each of the SWRX, SDC and NADC drill centres; and (c) at the test separator located onboard the *Searose FPSO* near Riser 2. The rate of flow at the recirculation pump near Riser 1 was also monitored during the hot oiling procedure on November 16, 2018.

19. The separation of the SWRX flowline connector at 09:59 caused an observable drop in pressure at Risers 1 and 2 and at the sensors located at the SDC, SWRX, and NADC drill centres. Pressures at the SWRX sensors fell to ambient levels, but remained above pressure at startup. Owing to the tee connection divergence at the NADC and SWRX flowline loops, fluids continued to return through Riser 2, and the pressure in Riser 2 remained relatively high following the separation.

20. Offshore personnel immediately noticed a drop in pressure at the Riser 1 outlet and attempted to troubleshoot by adjusting valves located on the *SeaRose FPSO*. When pressures at both Risers 1 and 2 did not increase as anticipated after approximately 20 minutes, offshore personnel shut down the flowline recirculation pump and contacted onshore support in St. John's. An onshore team consisting of the Subsurface Production Engineering Manager, two Production Engineers and the Staff Subsea Engineer assembled to consider possible causes and further troubleshooting options. The onshore team consulted with an offshore team consisting of two Central Control Room Operators and the Production Supervisor.

21. Between 10:20 and 10:57 on November 16, 2018, the onshore and offshore teams discussed possible causes for the pressure drop and observed pressure trends in the recorded instrumentation data. Members of the onshore team had previously seen significant pressure drops while hot oiling due to "fluid swaps" where fluids in a vertical riser section alternate from liquid to gas, suddenly removing the hydrostatic pressure exerted by the liquid in the vertical riser. Those prior pressure drops, however, were not of the magnitude or duration seen here. The onshore team concluded that fluid swapping or the displacement of a large gas pocket was the most likely cause of the pressure change. The onshore team decided to restart hot oiling with the choke at Riser 2 closed in an attempt to build pressure within the system and test the flowline integrity.

22. At approximately 10:36, the Offshore Installation Manager ("OIM") and a Marine Technician dispatched a support vessel, the *MV Atlantic Hawk*, to investigate the sea surface above the SDC for any anomalies. The *MV Atlantic Hawk* completed the requested search at 10:55 and reported that there were no anomalies. The OIM directed the *MV Atlantic Hawk* to sweep downwind of the SDC and back toward the SDC and then remain in place for further instruction. The onshore and offshore troubleshooting team members were informed by the OIM that a search had been conducted and that no anomalies had been observed.

23. At 11:02, offshore personnel restarted the recirculation pump against a fully closed choke on Riser 2. Pumping resumed for approximately 15 minutes. Observed pressures rose gradually as expected, but then plateaued and were not affected by adjustments to diverter and cross-over valves. At 11:17, the Production Supervisor ordered the flowline recirculation pump shut down, and onshore personnel initiated HOOB's Non-Standard Operations protocol.

24. At 11:17, the *MV Atlantic Hawk* was directed to depart the SDC location and sweep the area of the SWRX and NADC. At 12:24, the *MV Atlantic Hawk* reported the presence of oil on the sea surface in the area of the SWRX.

V. HOOL'S RESPONSE TO THE RELEASE

25. Upon the *MV Atlantic Hawk* sighting of the oil spill at 12:24 on November 16, 2018, HOOL's operators immediately began closing all hydraulically operated subsea valves in the area of the SWRX to compartmentalize the flowline system and prevent any further leakage of oil. HOOL immediately activated the onshore Regional Response Management Team ("**RRMT**") and began coordinating oil spill response activities in accordance with established protocols. HOOL promptly collected samples from the oil slick and deployed tracking buoys to track the surface expression.

26. At approximately 13:15, the RRMT Safety & Liaison Officer reported a potential spill from the SWRX to the C-NLOPB Duty Officer via a telephone call and written notification. The notification indicated that the estimated volume of crude oil spilled was 250,000 litres. HOOL notified the National Environmental Emergencies Centre at 14:41.

27. HOOL dispatched vessels with oil spill containment and recovery equipment, but that equipment was not used as sea conditions made containment and recovery impossible. The conditions were such that, as of 11:00 on November 17, the spill had dispersed by 85 to 90 percent, and the remainder could not be recovered. On the evening of November 18, 2018, surveillance flights could detect no visible sheen.

28. Vessel-based wildlife observations began upon HOOL activating its Oil Spill Response Plan. Stand-by vessel crews performed stationary-platform observations hourly during daylight hours. Dedicated wildlife surveillance flights were conducted on November 19, 21, 22 and 26. The November 21 and 26 flights included a Canadian Wildlife Service observer.

29. HOOL developed and implemented a Wildlife Response Plan immediately following the Release, which included oil spill surveillance, wildlife monitoring, oiled wildlife recovery, oiled wildlife treatment, and daily reporting of activities to responsible agencies. Wildlife observers deployed on vessels provided observations of oil-affected marine birds and conducted systematic wildlife surveys across oiled areas using Canadian Wildlife Service moving-platform survey protocols.

30. As of November 19, weather conditions had subsided sufficiently to allow HOOL to launch a Remotely Operated Vehicle ("**ROV**") to inspect subsea assets. This was the first time the flowline connector was conclusively identified as the source of the Release.

31. The flowline connector was subsequently recovered at HOOL's expense and subjected to third-party testing. On July 16, 2019, an investigation by Stress Engineering Services Inc., Aker Solutions Canada Inc., and Assured Flow Solutions LLC. into the root cause of the flowline connector separation identified the proximate causes described above.

32. HOOL maintained an enhanced level of spill preparedness using a combination of aerial, satellite and on-water surveillance, as well as ROV surveys of the flowline connector, until March

19, 2019, at which time the SWRX production flowline had been successfully plugged. HOOL installed a replacement flowline connector and demonstrated its integrity on July 26, 2019. Production from the field resumed in stages between January and August 2019 following careful planning and liaison with regulatory and certifying authorities.

VI. THIRD-PARTY REVIEW BY THE PETROLEUM SAFETY AUTHORITY OF NORWAY

33. To comply with common law rules requiring independence of expert evidence offered at trial, the C-NLOPB commissioned the Petroleum Safety Authority of Norway ("PSA") to conduct a third-party technical review of documentation collected in the course of the C-NLOPB's inquiry into the Release. The PSA is the C-NLOPB's Norwegian counterpart – their expert regulatory body responsible for safety, emergency preparedness, and the working environment in petroleum industry activities in Norway. The PSA review concluded the following:

- (a) Owing to the low operating pressure, it was fair to assume that loss of containment would be very unlikely during hot oiling procedure.
- (b) The drop in pressure observed on November 16 was outside the expected range of pressure variations experienced during previous hot oil circulation operations. However, time was needed to rule out plausible causes.
- (c) The offshore operations team did not spend an unreasonably long time troubleshooting the initial pressure drop before shutting down the recirculation pump at 10:20.
- (d) Based on the available data, the onshore team should have considered a relatively large subsea leak to be likely, and the second, 11:02, pump run should not have been carried out.
- (e) If an integrity test were to be carried out, the operations team should have waited until the *MV Atlantic Hawk* had completed its search at all the drill centres.

VII. ENVIRONMENTAL CONSEQUENCES OF THE RELEASE

34. An estimated 250,000 litres of stabilized crude oil entered the Atlantic Ocean between 09:59, when the flowline connector separated, and sometime after 11:17, when subsea valves were closed preventing any further release. The volume released was determined based on the flowline recirculating pump metered output volume during the two periods the recirculation pump was active.

35. Because of the oceanographic conditions at the time of the Release and in the days following, those components of crude oil that did not evaporate dispersed rapidly into the water column. There were no observed surface expressions of oil from the spill after November 18. Third party water sampling conducted November 16 and 27, 2018 detected no hydrocarbons in an area near the origin of the spill. Sediment samples taken December 8, 2018 and January 6, 2019 from the sea floor in the same area were also below detection limits for hydrocarbon components.

36. Crude oil is a substance deleterious to fish and harmful to migratory birds.

37. Waters located at the White Rose Oil Field are frequented by fish. No fish were discovered or reported as having died or been impacted as a result of the Release; however, crude oil can be acutely lethal to fish in either droplet or dissolved form.

38. Between November 18 and 23, 2018, 17 potentially oiled birds were observed from offshore vessels and platforms, seven of which were captured. These observations included two Great Black-Backed Gulls, two Northern Fulmar, two Storm Petrels, one unidentified duck, and ten murres. Of the seven birds captured, two were captured dead and the rest were transferred to Suncor Energy's Seabird Cleaning and Rehabilitation Centre. Two of these were released after treatment, the remaining three either died or were euthanized. Oil matching and identification analysis from the ECCC Atlantic Laboratory for Environmental Testing showed a positive match to White Rose crude oil on three of four tested samples from birds that were transported to shore for treatment. On December 4, 2018, an additional oiled murre was discovered on the supply vessel *MV Atlantic Heron* and subsequently died after treatment at Suncor Energy's Seabird Cleaning and Rehabilitation Centre.

39. Gulls, fulmars, ducks, and murres are migratory birds within the meaning of Article I of the *Migratory Birds Convention*, being the Schedule to the *Migratory Birds Convention Act*. Skin and feather contact with crude oil can impact the ability of these birds to insulate themselves and survive in the North Atlantic climate. Ingestion of crude oil may result in lethal or sub-lethal impacts on these birds, including potential reproduction impairment.

VIII. ADDITIONAL INFORMATION

40. HOOL undertook significant efforts to identify and correct the root causes of the flowline connector failure, and has updated its procedures and equipment accordingly. HOOL has installed strengthening clamps on connectors similar to the one that failed, has commissioned third-party flow assurance work to mitigate against future hydrate development, and has revised its system restart and hot-oiling procedures. HOOL also introduced new procedures for responding to non-standard conditions with triggers for activity escalation, and implemented an enhanced oversight program for critical activities.

41. HOOL incurred direct costs of \$7,500,000 in connection with emergency response, monitoring, root cause investigations, and remediation.

42. HOOL's Wildlife Response Plan played a key role in outlining oiled wildlife response, implementing wildlife surveillance necessary to understand the impacts of this incident, and formalizing daily reporting to responsible agencies for appropriate oversight of the incident response.

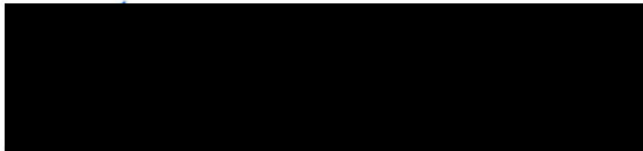
43. HOOL was cooperative throughout the investigation. HOOL's cooperation facilitated an efficient and comprehensive investigation of the matter. HOOL personnel were made available for questioning by ECCC and C-NLOPB investigators and requests for information were responded to in an efficient and organized manner.

DATED AT the City of St. John's, in the Province of Newfoundland and Labrador, this 28th day of February, 2024.



GLEN SCHEUER
COUNSEL FOR HIS MAJESTY THE KING

DATED AT the City of St. John's, in the Province of Newfoundland and Labrador, this 28th day of February, 2024.



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