

NOTICE OF NON-COMPLIANCE AND ORDER

December 19, 2019

BY E-MAIL AND COURIER

Ms. Josée Tremblay
Vice President, East Coast Canada
Suncor Energy Inc.
130 Kelsey Drive, Suite 200
St. John's, NL, A1B 0T2

Dear Ms. Tremblay,

Re: Notice of Non-Compliance with the *Newfoundland Offshore Petroleum Drilling and Production Regulations* and the *Newfoundland Offshore Petroleum Installations Regulations* and Order to Suspend

I write to advise that as a result of incident E-2019-00049980 (2019-Incident-00266) concerning impairment of Fire Water Pump A on the *Terra Nova* FPSO on November 7, 2019 and in follow up to the investigation report submitted on November 29, 2019, the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) has identified instances of non-compliance relating to operations of the *Terra Nova* FPSO by Suncor Energy Inc. (Suncor) as Operator under Authorization No. 23020-020-OA06, which was issued on October 4, 2017.

The C-NLOPB finds that Suncor is not compliant with the *Newfoundland Offshore Petroleum Drilling and Production Regulations*, subsection 25(b) requirement to maintain and comprehensively inspect critical equipment to ensure the safe operation of the installation.

Throughout 2015 and again in October of this year, there have been extensive facilitated compliance efforts by the C-NLOPB to address this non-compliance with Suncor. Despite this, the gearbox that failed during the above-noted incident (2019-Incident-00266), resulting in impairment of Fire Water Pump A, has never undergone a comprehensive inspection as required by the regulations, nor has the Fire Water Pump B gearbox. This is of particular concern considering the most recent review in October 2019 related to incident E-2019-000045635 (2019-Incident-00242) - Impairment to Critical Equipment (Cooling Water Pumps).

During the review of 2019-Incident-00242, it was determined that Suncor had adopted a condition-based maintenance strategy in lieu of the requirements of the regulations. As part of the post-incident FPSO start-up assurance requirements, Suncor was directed by the Chief Safety Officer, via an e-mail dated October 18, 2019, to conduct a review of all equipment following the condition-based monitoring maintenance strategy for compliance with the *Newfoundland Offshore Drilling and Production Regulations*, section 25(b) comprehensive inspection requirement and report back to the C-NLOPB with an acceptable plan to address the gaps.

Suncor subsequently reported on October 24, 2019 that there were 30 pieces of equipment that were not compliant and committed to address the Safety and Environmentally Critical (SEC) gaps by the end of January 2020 and the non-SEC gaps by the end of April 2020. Despite this recent review, the Fire Water Pump gearboxes were not identified by Suncor Energy as being non-compliant and they were not included on the list or in the plan to address regulatory compliance gaps.

For clarity, the *Newfoundland Offshore Drilling and Production Regulations* state:

25. The operator shall ensure that

(b) a comprehensive inspection that includes a nondestructive examination of critical joints and structural members of an installation and any critical drilling or production equipment is made at an interval to ensure continued safe operation of the installation or equipment and in any case, at least once in every five-year period;

The C-NLOPB also finds that Suncor is not compliant with the *Newfoundland Offshore Drilling and Production Regulations*, Section 27 in that repairs are not being effected in a timely manner and the proposed mitigation measures are ineffective to minimize the hazards while the defective Fire Water Pump A gearbox is being repaired.

For clarity, the *Newfoundland Offshore Drilling and Production Regulations* state:

27 (1) The operator shall ensure that any defect in the installation, equipment, facilities and support craft that may be a hazard to safety or the environment is rectified without delay.

(2) If it is not possible to rectify the defect without delay, the operator shall ensure that it is rectified as soon as the circumstances permit and that mitigation measures are put in place to minimize the hazards while the defect is being rectified.

Due to the fire Water Pump A failure and in light of the time required for repairs to be implemented, the C-NLOPB also finds Suncor non-compliant with the regulatory requirements for fire pumps, specifically the requirement to have redundant fire pump systems available so

that a fire, explosion or flooding in any one space of the installation will not put more than one pump system out of operation. With one of two installed fire water pumps reported to be out of service until April 2020 to effect necessary repairs, and noting that the sea water lift pump is not a regulatory compliant fire water pump, the current configuration is non-compliant with the following regulatory requirements.

For clarity, the *Newfoundland Offshore Petroleum Installations Regulations* state:

24 (2) The fire hydrant system shall be connected to a continuously pressurized wet pipe water main that

(a) is connected to at least two pump systems that are situated as far apart as possible; and

(b) when any one of the pump systems required by paragraph (a) is out of operation,

(i) is capable of delivering at least one jet simultaneously from each of any two fire hydrants through the hoses and nozzles, at a pressure at the hydrants of at least 350 kPa,

(ii) is capable of delivering water at a sufficient pressure and quantity so that the aggregate capacity of the pump systems that are still operating is not less than 120 m³/hour when the pump systems are delivering water to the fire hydrants, and

(iii) is capable of maintaining a pressure of at least 700 kPa to any foam system protecting the helicopter deck.

26 (3) Every sea suction and source of power for each of the pump systems referred to in section 24 or 25 shall

(d) be designed and arranged so that a fire, explosion or flooding in any one space of the installation will not put more than one pump system out of operation.

In conclusion, the C-NLOPB considers that the failure in Suncor's management system to detect and prevent the above non-compliances and the decision to continue to operate the FPSO production systems with those non-compliances to amount to a serious safety matter.

Accordingly, Suncor is hereby issued this Notice of Non-Compliance and ordered to cease all production operations in a safe manner in accordance with the Order annexed hereto. I also require confirmation that this Notice of Non-Compliance and Order has been provided to the Workplace Committee and posted in a public place on the *Terra Nova* FPSO.

The Operator should note that further incidents of non-compliance could prompt the Board to consider additional enforcement action.

Should you have any questions or wish to discuss these matters further please contact myself at 709-778-1410 or Sherry Drake, Senior Safety Officer, at 709-778-4266.

Sincerely,

A handwritten signature in cursive script that reads "Paul Alexander".

Paul Alexander
Chief Safety Officer

ORDER TO SUSPEND PRODUCTION OPERATIONS

(Pursuant to section 193 and subsection 205.093(1) of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Act (C-NLAAIA)* and section 189 and subsection 201.90(1) of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act (C-NLAAINLA)*)

ISSUED TO Suncor Energy Inc., as Operator

WHEREAS the Canada-Newfoundland and Labrador Offshore Petroleum Board issued Operations Authorization 23020-020-OA06 on the 4th day of October, 2017 to the Operator to conduct petroleum-related work and activities in the Terra Nova Commercial Discovery Area;

AND WHEREAS the Chief Safety Officer has been advised that there is an impairment to Fire Water Pump A and that there has been non-compliance with maintenance requirements as required pursuant to paragraph 25(b) of the *Newfoundland Offshore Petroleum Drilling and Production Regulations* and paragraph 26(b) of the *Offshore Petroleum Drilling and Production Newfoundland and Labrador Regulations* respecting Fire Water Pumps A and B, such equipment being critical to the safety of the *Terra Nova FPSO*;

AND WHEREAS in the opinion of the Chief Safety Officer that the continuing of production operations without the requisite redundancy in the Fire Water Pumps onboard the *Terra Nova FPSO*, as required pursuant to subsections 24(2) of the *Newfoundland Offshore Petroleum Installations Regulations* and the *Offshore Petroleum Installations Newfoundland and Labrador Regulations*, will likely result in serious bodily injury or a threat to the integrity of the installation;

AND WHEREAS the Chief Safety Officer has been granted the authority to issue this Order pursuant to section 193 and subsection 205.093(1) of the *C-NLAAIA* and section 189 and subsection 201.90(1) of the *C-NLAAINLA*.

IT IS HEREBY ORDERED THAT:

1. Upon receipt of this Order, all production operations and other high risk activity shall cease immediately in a safe and controlled manner (i.e. hot work, breaking containment, etc.) until such time as the above non-compliances are addressed to the satisfaction of the Chief Safety Officer.
2. A copy of this Order is to be posted in prominent locations onboard the *Terra Nova FPSO*.

Effective this 19th day of December 2019.


Chief Safety Officer