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June 20, 2022

Chief Safety Officer
Canada-Newfoundland and Labrador Offshore Petroleum Board
240 Waterford Bridge Road, Suite 7100
The Tower Corporate Campus – West Campus Hall
St. John's, NL A1E 1E2

PES-CNO-TER-0406-4963

Re: CSO Approval 001 – Alternative to Lifeboat Launching

Please find attached request for CSO approval for alternate means of testing lifeboats in lieu of launching, as required in Section 30 of the *Canada-Newfoundland and Labrador Offshore Area Occupational Health and Safety Regulations*.

Please note, this proposal has been reviewed and accepted by Lloyd's Register. Additionally, this proposal has been reviewed and accepted by the Terra Nova FPSO Joint Occupational Health and Safety Committee, a copy of the meeting minutes attached for reference.

Please contact me should you have any questions.

Regards,

Director, Terra Nova Operations

cc.

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Applicant Suncor	Project Terra Nova	Installation Terra Nova FPSO
CSO Category Code: 1	1) Section 30 – Emergency Drill and Exercises (lifeboat launches) 2) Section 63 – Sleeping Quarters limits 3) Section 107 – Use of elevating work platforms 4) Section 110 – Non-conforming Rope Access 5) Section 153 – Limits on specified quantity of explosives	
Regulation:	Canada–Newfoundland and Labrador Offshore Area Occupational Health and Safety Regulations PART 5 Emergency Response and Preparedness	Section: Issue Date: 30(2)(d)(ii)

Regulatory Requirement:

Emergency drills and exercises
Minimum frequency

30 (2) Despite subsection (1), the employer must ensure that (d) if the workplace is equipped with lifeboats, (ii) if feasible, a lifeboat launching drill is conducted annually to test the integrity and operation of the lifeboats and launching equipment

The undersigned concur with this proposal:

Originator		Date	12 April 2022
Owner		Date	14 April 2022
Team Leader Env. & Reg.		Date	01 June 2022
Team Leader Safety		Date	
Director Eng., Ops., or Drilling		Date	Jun 2/22

Workplace H&S Committee Concurrence:	Certifying/Classification Board	C-NLOPB Decision:
<input type="checkbox"/> Signed Meeting Minutes attached	<input type="checkbox"/> Witnessed <input type="checkbox"/> Monitored <input checked="" type="checkbox"/> Reviewed 	

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Proposed Equivalent Arrangement to Regulations:

Suncor Energy proposes not to launch and recover the lifeboats annually on the Terra Nova FPSO while it is operating as an installation.

The lifeboats will however be lowered and retrieved to near sea-level during planned maintenance routines, validating the availability of the lifeboat and associated launching appliance.

Reason for the Equivalent Arrangement:

The launching of a boat, whether with a full complement of persons or a reduced capacity, is an example of an element of a drill that, depending on the circumstances, involves unnecessary risk. The associated risk will be to both the personnel onboard and subsequent damage to the lifeboats, resulting in the equipment being unavailable in an actual event. The inherent risk associated with launching and recovering the lifeboats offshore is due to the unique environmental conditions present offshore Newfoundland

Discussion on how the proposed equivalent arrangement reduces risk to ALARP

The achievement of an equivalent level of safety, is demonstrated by the following:

1) *Lifeboat Inspection and Testing*

Planned maintenance routines are in place that allows practical maintenance and functioning of the lifeboat and launching systems. Weekly and monthly inspections are carried out by vessel operators to ensure system readiness.

System readiness weekly checks include, but are not limited to the following:

- Check Electrical arrangement to ensure battery is charging
- Ensure lighting is operational to ensure embarkation area is lite.
- Ensure lifeboats are accessible
- Check bilge pumps
- Check emergency air system
- Check and start engine (multiple starting options)
 - Check fuel, oil and coolant levels
 - Ensure no damages or loose connections to exhaust piping
 - Verify air quality within the lifeboat during run up of the engine using portable gas detection
 - Run engine ahead and astern
- Inspect hatches for damage to gaskets and ensure smooth operation
- Check sprinkler system (inlet valve and pump)

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- Ensure Radio communication operational
- Verify steer system
- Hook visual inspections (including Teleflex cable and hydrostatic lock position)
- Winch system checks (brake, wires, hydraulics, etc)
- Emergency Equipment checks (Fire Extinguishers, rations, etc)

Monthly checks completed in addition to the weekly verification include:

- Function checking the bow thrusters
- Battery checks
- SART/EPIRB checks
- Check seat harnesses
- Function the winch
- Additional Sprinkler system checks (visual of nozzles and hoses, etc)
- Verify availability of SOLAS pack equipment (rations, flares, bailer, etc)
- Additional winch and davit inspections (inspection of maintenance pendants, hammerlocks, harbour pins, wire ropes, limit switches, etc)
 - Clear away gripes and swing out lifeboat.

In addition, 3 monthly routines are performed, in the attendance of a certified service supplier, such that the lifeboats are lowered to near sea level. During this operation focus is on the fall wires and brake wires to ensure they spool correctly and are free from defects, and deterioration. Upon retrieval, Lifeboats are then place in their maintenance pendants, and the lifeboat hooks are inspected and functioned. This task includes, but not limited to the following:

- Open the hook using the release handle
- Check that the locking shaft rotates and is not damaged.
- Rotate hook and check for any slack in the bearings.
- Check hydrostatic interlock.
- With the hooks released, check the operation of the interlock
- Ensure both hooks swing free and disengage the lifting shackle, etc.

A certified service provider (Palfinger Marine, Nord Marine) performs annual and five yearly maintenance on the lifeboats and associated launching appliance as required. A third party is also use to perform lifeboat sprinkler testing annually.

2) Coxswain Training

Terra Nova FPSO Coxswains require training as per the C-NLOPB Guidelines Respecting Drilling Programs in the Newfoundland Offshore Area. The frequency of this training course is once per 3 years. Suncor has implemented a requirement for each coxswain to attend a two day refresher training session annually at a shore based facility. This would simulate the full lifeboat launch procedure offshore.

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Precedence

RQF 184.3 (and previous revisions)

20 May 2022

Suncor Energy
Box 1720, Stn. M
Calgary, AB T2P 0A2
Canada

Attention: [REDACTED]

Subject: Operational Readiness of LSA Equipment Onboard Terra Nova FPSO

Good day,

I have read the document Suncor has prepared that details the "Maintenance/Inspection" routine put in place onboard Suncor Energy's Terra Nova FPSO for the lifesaving equipment that is used for personnel evacuation, a copy forms a part of this letter. I agree the document thoroughly illustrates the planned maintenance and checks carried out will sufficiently demonstrate the operational readiness of the LSE with only a few comments.

1. The release gear hydrostat interlock membranes are renewed annually according to operations personnel onboard. This is acceptable provided the personnel that renew the membranes demonstrate there are no leaks in or around the membrane after installation. This is typically done when the lifeboat is waterborne after service. In this case we recommend pulling and holding a vacuum on the membrane housing which will ensure no leaks provided the vacuum holds with little to no leakage.
2. While not mandated by regulation, it is highly recommended the engines be run under load annually. This can be accomplished without lowering to the water by using a bolt on dynamometer arrangement.
3. Palfinger Marine service personnel should be in attendance for all LSE annual and five yearly inspections.

If you have any further questions or comments, please don't hesitate to reach out to any of our Palfinger Marine service team.

V/R,
For Palfinger Marine Canada, Inc.

[REDACTED]
Technical Support – Americas Region

From:
Sent: August 11, 2022 4:34 PM
To:
Cc:
Subject: RE: NL-OHS regulations - CSO approval submission 001 - Lifeboat launching
Attachments: CSO 001 Lifeboat Launch.pdf; Terra Nova FPSO, Readiness - TSUS22046 (Rev 0.1).pdf; Suncor Draft SCE 34 Verification Scheme.xlsx
Importance: High

EXTERNAL EMAIL: Always be cautious. **COURRIEL EXTERNE :** Il faut toujours être prudent.

As requested, the CA has reviewed the OHS CSO Deviation Request 001 which would have included the acceptance by the OEM to deviate from launching as per OEM letter TSU22046 attached. Noted that the inspection and maintenance detailed within OEM approval and CSO Deviation 001 is considered accepted in lieu of launching and has been incorporated into the draft Verification Schemes for Life Saving Appliances. Note, these Verification Schemes are still draft and will need an internal review before becoming part of the Certifying Authority SOW. See draft Verification Scheme for SCE 34 attached.

Kind Regards

Surveyor in Charge – St John's, Americas Marine & Offshore

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