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3.1 APPLICATION FOR AUTHORIZATION (1) The application for an authorization for any work or activity shall be accompanied by (j) a description of the decommissioning and abandonment plan in relation to the activity to be authorized, including methods for restoration of the site after its decommissioning and abandonment, that considers at a minimum the following: i) Safety during decommissioning activities ii) Potential Impacts on the Environment iii) the uses/users of the Environment iv) Any other federal or provincial legislative or regulatory requirements v) Compliance with any applicable International Conventions or agreements (e.g., UNCLOS, London Convention) vi)) How an operator will finance/pay for decommissioning and abandonment. (2) The operator shall provide updates to the decommissioning and abandonment plan of: (i)) abandonment and decommissioning costs, and (ii) how an operator will finance / pay for decommissioning and abandonment at the time of each renewal of an operations authorization, and must inform the Board of any significant changes to the scope outlined in the plan. (3) When the development is forecasted to be within 5 years of commencing decommissioning and abandonment activities, these updates will be required annually.	Sub-Section 1(j), (2) and (3) – unclear whether these requirements would apply to a drilling program or a development / producing project; and assume this does not apply to a geoscientific, geotechnical or environmental program.
3.5 ENVIRONMENTAL PROTECTION PLAN The environmental protection plan shall set out the procedures, practices, resources and monitoring necessary to manage hazards to and protect the environment from the proposed, work or activity and shall include	Sub-Section (i) – the reference to audits, inspections, data collection and analysis seems to prescribing the means to monitor and measure performance; suggest deleting the specifics and allow the EPP to describe the arrangements to monitor compliance (adherence is probably a better term – compliance would be for the regulator) and measure performance.
3.7 WELL APPROVAL (4) The application shall contain (a) if the well approval sought is to re-enter, work over, complete or recomplete a well or suspend or abandon a well or part of it, a detailed description of that well, the proposed operation, work or activity and the rationale for conducting it, including barrier envelope diagrams to demonstrate two barrier envelopes throughout the operation; (b) if the well approval sought is to complete a well, in addition to the information required under	4(b) – unclear on the reference to section 46 (of this Policy Intent Document or some other document). (5) – the reference to “any other applicable regulations under the Act” – not clear that this is appropriate under this section of this regulation. The regulations allow an “approval” for the specific work. That approval is carried out under an Authorization issued under the Act. The Authorization should be contingent meeting the regulations under the Act – not the Approval.

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paragraph (a), information that demonstrates that section 46 will be complied with; and (c) if the well approval sought is to suspend a well or part of it, in addition to the information required under paragraph (a), an indication of the period within which the suspended well or part of it will be abandoned or completed. (5) The Board shall grant the well approval if the operator demonstrates that the work or activity will be conducted safely, without waste and without pollution, in compliance with these Regulations (and any other applicable regulations under the Act).	
4.5 HANDLING OF CHEMICAL SUBSTANCES AND WASTE MATERIAL The operator shall ensure that all chemical substances, including, process fluids, diesel fuel, lubricants, waste material, drilling fluid and drill are **stored or** handled in a way that does not create a hazard to safety or the environment.	Not sure what the word 'drill' in red means.
5.2 ISSUANCE OF CERTIFICATES OF FITNESS Subject to sections 5.3, 5.5 and 5.6, a Certifying Authority may issue a certificate of fitness in respect of the installations and vessels referred to in section 5.1, if the Certifying Authority; a. determines that, in relation to the production or drill site or region in which the particular installation or vessel is to be operated, the installation or vessel: i. is designed, constructed, transported, and installed or established, and commissioned in accordance with A. Part 6; B. Those sections of Part 7 listed in Schedule 1 (TBD) C. The provisions of the Occupational Health and Safety Regulations listed in Schedule 2 (TBD); D. The provisions of the Framework Regulations and Occupational Health and Safety Regulations listed in schedule 3 to these Regulations, if the installation or vessel includes a dependent diving system; ii. is fit for the purpose for which it is to be used and can be operated safely without polluting the environment, and iii. will continue to meet the requirements of subparagraphs (i) and (ii) for the period of validity that is endorsed on the certificate of fitness if the installation or vessel is	It would be beneficial to understand the full text of the Schedules that are listed as TBD in order to offer a full comment.

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maintained in accordance with the inspection, maintenance and weight control programs submitted to and approved by the Certifying Authority under section 5.5; and b. carries out the scope of work in respect of which the certificate of fitness is issued.	
5.7 CERTIFICATION PLAN Prior to the submission of the scope of work by the Certifying Authority, the operator (and owner of the installation or vessel, if the operator is not the owner) shall submit a documented certification plan to the Chief Safety Officer for approval that demonstrates how initial and ongoing regulatory compliance will be achieved with Part 6 of the Framework Regulations, those sections of Part 7 of the Framework Regulations listed in Schedule 1, those sections of the Part III.1 regulations (Accord Act areas) or OGOSH (COGOA area) that are listed in Schedule 2, and any requirements in Schedule 3 if the installation or vessel is to perform diving operations, including: a. A description of the installations, vessels, facilities, equipment and systems to be certified; b. A comprehensive list of all Safety Critical Elements to the installations, vessels and facilities; c. A list of codes and standards that will be applied to installations, vessels, facilities, equipment and systems that are to be certified, and considering the entire lifecycle (inclusive of the design, construction, transportation, installation, commissioning, operation, maintenance and decommissioning etc.) of the project, and in the event no codes or standards are applicable, any studies and analysis that demonstrate the appropriate measures put in place will be adequate to reduce risks to as low as reasonably practicable; d. Any other measures undertaken to reduce risks to as low as reasonably practicable that fall within the scope of work of the Certifying Authority. Note: Schedules 1, 2 and 3 referenced in this section will be finalized in the draft framework regulations. The elements covered under those three schedules will remain similar to the elements currently referenced under the existing Certificate of Fitness Regulations.	**Rationale:** In section 5.7 the Certification Plan is required to be submitted “prior to submission of the scope of work by the Certifying Authority”. The sequential link with the Certifying Authority Scope of Work (CA SoW) is considered inappropriate and unnecessary for the following reasons: • The prescribed elements of the Certification Plan listed in sub-clauses (a) to (d), and other aspects which may be added by the Operator, would naturally be developed during the FEED Phase for a new development project. For example, a preliminary listing of safety critical elements and codes & standards can be created early in the FEED phase, but these lists could reasonably be expected to change during the FEED phase as analysis is performed and specifications are written. • The CA SoW would also be developed during the FEED Phase for a new development project. This is the phase in which it is ideal to commence engagement of the CA, to fully establish the CA’s knowledge of the project and for review of key design deliverables (including preliminary versions of some of the prescribed elements of the Certification Plan). Operators need confidence from the CA that the identification of Safety Critical Elements, codes and standards, etc, is acceptable. • The Certification Plan clearly influences the CA SoW, and the early CA engagement may also influence the Certification Plan. • The Certification Plan and the CA SoW should be fully aligned, and CAPP believes that a concurrent review is an effective means of ensuring alignment. • The term “initial and ongoing regulatory compliance” in section 5.7 links the Certification Plan to the early design phase of the project, so it is necessarily an early project deliverable. • For an existing installation being brought into the region, there is no apparent reason which the Certification Plan and the CA SoW could not be submitted concurrently for approval, again demonstrating alignment. **Impact:** • The potential impact is that the CA Scope of Work approval may be delayed into detail design for a new project. **Proposed Policy Text in section 5.7:**

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	CAPP recommends that the requirement for a certification plan not apply to existing installations (such as MODUs and dive vessels)". Remove the phrase "Prior to the submission of the scope of work by the Certifying Authority," from the start of section 5.7. Alternately, reword the phrase to "Prior to the approval of the scope of work by the Certifying Authority," at the start of section 5.7.
5.10 VERIFICATION AND RE- CERTIFICATION (1) The Certifying Authority shall specify, in the scope of work, the verification program to be undertaken by the Certifying Authority, including a schedule of activities to be conducted by the Certifying Authority to confirm compliance with certificate conditions, and verify the ongoing validity of the Certificate of Fitness until its expiration date.	Detailed verification programs are not usually included in the scope of work – only the verification process itself. This requirement would be very cumbersome since amendments to individual verification activities and schedules would require an update to the SOW.
5.15 REVALIDATION (1) The scope of work must be revalidated at the same frequency as the Certificate of Fitness renewal. (2) Further, the Chief Safety Officer can trigger a review of the scope of work under the following circumstances, should these circumstances impact the scope of work: a. changes to the regulations have been made since the scope of work was last approved/revalidated; b. new information pertinent to the scope of work that results from a major accident event in any jurisdiction has been brought to light; c. changes have been made in any of the codes or standards on which the certification is based; or d. a change in a phase of the lifecycle of the installation or vessel is taking place.	Sub-section (1) – unclear on the term 'revalidated' and whether this means the scope of work must be approved each time the COF is renewed; unclear who performs the revalidation. Sub-Section 2(c) for changes to codes or standards, suggest there be some ability to assess the change and whether there is a material impact to the COF. There are some codes and standards that are on an automatic revision cycle; the changes may not be material to the COF.
SECTION 5.16 REPORTS AND RECORDS (1) The Certifying Authority shall provide annual reports to the Board (with cc to the Ministers), that include: a. a summary of the activities the Certifying Authority has undertaken to its responsibilities as a Certifying Authority under all Canadian jurisdictions; and b. a confirmation of its technical capabilities and experience. (2) The Certifying Authority must immediately notify the Ministers (with cc to the Board) of any changes to its organizational structure.	**Rationale** Section 5.16 will require monthly reporting by the CA to the regulator –we recommend this is better addressed through the scope of work • Monthly requirement is prescriptive and not necessarily reflective of level of activities. • Reporting frequency would be better addressed as part of scope of work to allow some flexibility that reflects the nature of work. • CA can help set the reporting frequency based on the complexity of the scope and nature of the work or activity

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(3) The Certifying Authority shall provide monthly reports to the Board providing a description of activities carried out for the purposes of the issuance or maintenance of each Certificate of Fitness it is responsible for. (4) Upon the request of the Board, the Certifying Authority shall disclose any information or report obtained or generated in carrying out the functions necessary to issue or maintain the certificate of fitness. (5) The Certifying Authority shall provide such information and assistance as required for the conduct of an audit of its certification activities pursuant to the Act upon request. (6) The Certifying Authority shall maintain records and drawings for every activity carried out in respect of the issuance and maintenance of a certificate of fitness for a minimum of seven years after the date of expiration of the last certificate of fitness issued for that installation, diving vessel or dive plant.	**Recommendation:** • Allow the SOW to determine the reporting frequency. The reporting frequency can be addressed in the scope of work – this would allow some flexibility that recognizes the level of effort provided by the CA.
SECTION 6.7 PASSIVE FIRE AND BLAST PROTECTION 3)The operator shall ensure that: a. the following areas shall be separated from other areas by divisions that are designed, equipped, installed and maintained to prevent the passage of smoke and flame, and to limit the unexposed face to an average temperature increase of 139oC and a maximum temperature rise of 180oC above the initial temperature following 120 minutes of exposure to a hydrocarbon fire, unless other combined features of the installation can be demonstrated to give the same level of protection to these spaces: i. external bulkheads of the Temporary Safe Refuge, accommodations, evacuation embarkation points excluding helidecks, and control rooms that are facing production or well heads; and ii. the bulkheads that segregate the well head and production process areas from other areas of the installation; and b. in respect to passive fire and blast protection, the offshore installation shall comply with the appropriate rules of a classification society as if it were an offshore installation to which those rules applied.	**Rationale:** Revised wording is an improvement, but the issue of demonstrating equivalency is problematic. We need to be focused on ensuring we have provided a proper and adequate level of safety to personnel, and not on demonstrating equivalency. Also, as written, the language will not allow for technical advancements which will lead back to RQs. ● ***(3) At a minimum, the operator shall ensure that:*** ▪ *…limit the unexposed face to an average temperature increase of 139 ^{o}C and a maximum temperature rise of 180^{0}C above the initial temperature following 120 minutes of exposure to a hydrocarbon fire:* • *external bulkheads of the Temporary Safe Refuge, accommodations, evacuation embarkation points excluding helidecks, and control rooms that are facing production or **well heads**; and* • *the bulkheads that segregate the well head and production process areas from other areas of the installation; and* ● **Interpretation regarding applicability to MODU's indicates this is not applicable to MODU's. Confirmation required.** ● **Consider the use of language in the regulation** ▪ Too close to that of a standard. ▪ Imprecise – the temperature rise is not in context of the size or heat flux of the fire or type of fire.

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(4) Fire and blast divisions shall be designed, built, installed, equipped and maintained for their required levels of protection and clearly detailed on the installation drawings. (5) The operator shall ensure that penetrations and openings in fire and blast divisions will be precluded where practicable but where penetrations and openings are necessary, they will be suitably equipped to maintain the overall fire and blast integrity of the division, including the means of operating closing devices outside the space being protected, where such devices require manual activation. (6) Design of passive fire protection systems shall consider inspectability and maintainability of the passive fire protection systems as well as the divisions, structures and equipment they are intended to protect. (7) The design of passive fire protection systems shall not consider the cooling effect from active fire-fighting equipment.	
6.20 VENTILATION OF HAZARDOUS AND NON-HAZARDOUS LOCATIONS (1) The operator shall ensure that every enclosed hazardous area on an offshore installation is ventilated: a. to allow the replacement of air at a rate sufficient to prevent toxic, flammable or explosive accumulations in the enclosed area; b. so all air entering the enclosed area is from a non-hazardous location; c. to prevent the exhausted air from that area from increasing the hazard level in an existing hazardous location or from creating a hazard in an otherwise non-hazardous location; and d. so the ventilation system for every non-hazardous location is separate from the ventilation system for every hazardous areas. (2) The operator shall ensure that, where a mechanical ventilation system is used for the purpose of subsection (1), the air in the enclosed hazardous area shall be maintained at a pressure that is lower than the pressure of each adjacent hazardous area that is classified as less hazardous or unclassified (safe area). (3) All air let out of an enclosed hazardous area shall be let into an outdoor area that would be classified as the same as or less hazardous than the enclosed hazardous area if it did not receive the air from the enclosed hazardous area. (4) A differential pressure gauge shall be installed to monitor any loss of ventilation pressure differential required by subsection (1) and/or (2) or maintained under section 6.19, and to activate	**ISSUE 1: DIFFERENTIAL PRESSURE MONITORING** RATIONALE: In reference to Section 6.20(4), differential pressure monitoring has proven very difficult to use as a reliable means of monitoring. This has commonly resulted in spurious/nuisance alarms which cause operator distraction, since the actual differential pressure is a very small fraction of normal atmospheric pressure and can be easily affected by natural conditions such as wind. Other jurisdictions allow alternative and more reliable means of ensuring adequate functioning of the mechanical ventilation system to provide differential pressure within areas. The basis is that positive airflow in the ventilation system, coupled with control of openings between the ventilated area and other areas, will ensure that the appropriate differential pressure is maintained. For information, the following text is included in NORSOK S-001, Technical Safety. **16.4.4 Mechanical ventilation in non-hazardous areas with “openings” towards hazardous area** There shall be a reliable overpressure (should be minimum 50 Pa) in non-hazardous rooms (safe by ventilation) with doors or openings giving direct access less than 3 m away from hazardous area. For arrangement and protection of non-hazardous rooms with access to hazardous areas, see IEC 60079-13 and IEC 61892-7.

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audible and visual alarms at the appropriate control point after a suitable period of delay not exceeding 30 seconds if a loss occurs. (5) Without limiting the generality of (2), the control station and all accommodation areas (or any area which is intended to operate in an emergency shutdown) on an installation shall additionally: a. be maintained at a positive overpressure relative to atmospheric pressure; and b. have airlock arrangements on all external doors that provide primary means of access; and c. have airlock arrangements on all other external doors or other arrangements that maintain and monitor positive pressure.	Alarm shall be given in CCR upon low overpressure relative to surrounding classified areas. Alternatively alarm shall be given both upon low airflow and time delayed indication of open door. **16.4.5 Mechanical ventilation in areas safe by location** There shall be a positive airflow into mechanical ventilated areas safe by location. Upon loss of ventilation an alarm shall be given in CCR. IMPACT: • Operators of existing installations outfitted with differential pressure monitoring have experienced spurious/nuisance alarms which cause operator distraction. • Existing installations brought into the offshore area may not be outfitted with differential pressure monitoring if they were designed to other standards such as NORSOK, ISO, or Classification Society Rules. The addition of such instruments will require intrusive modifications including penetrations of fire rated divisions. • New installations should be designed to use the most current technological solutions, which are generally referenced in international codes and standards. **ALIGNMENT WITH ATLANTIC OFFSHORE OH&S INITIATIVE:** References to ventilation were checked within the AOOHSI Consolidated Policy Intent (May 2018) and the following clauses were identified as being relevant: 176 The ventilation system referred to in section 173 must be so designed and operated as to maintain the air pressure in every living accommodation positive relative to any adjacent area which may contain airborne hazardous substances. 182 The ventilation system must be equipped with a device which will provide a warning when the system is not working effectively. The revised policy text proposed below is considered compliant with the AOH&S clauses. **PROPOSED POLICY TEXT IN SECTION 6.20(4):** (4) Suitable measuring device(s) shall be installed to monitor functionality of the ventilation system required by subsection (1) and/or (2) or maintained under section 6.19, and to activate audible and visual alarms at the appropriate control point after a suitable period of delay not exceeding 30 seconds if a loss of functionality occurs.

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6.20 VENTILATION OF HAZARDOUS AND NON-HAZARDOUS LOCATIONS	**ISSUE 2: AREAS REQUIRING AIRLOCKS** **RATIONALE:** In reference to Section 6.20(5) (b), There is a new prescriptive requirement (as compared to the existing Installations Regulations section 10.9) that "*any area which is intended to operate in an emergency shutdown*" shall "*have airlock arrangements on all external doors that provide primary means of access*". This application is considered too broad, for the following reasons: • It could also apply to engine rooms, firewater pump driver enclosures, etc., which are typically located as far as reasonably possible from hazardous areas, • It does not take consideration of the level of emergency shutdown (where distinction is made between ESD-1 and ESD-2, as described in international standards such as NORSOK S-001 and DNVGL-OS-A101), • It does not take consideration of the ratings of equipment and other means of ignition source control, such as protected ventilation systems and selective electrical isolation, and • Existing offshore installations may not meet this new requirement. **IMPACT:** • The requirement to provide airlocks in "*any area which is intended to operate in an emergency shutdown*" would exceed international and Class Rules. • Airlocks in some areas could cause operational impacts such as impairment of mechanical handling or equipment access. • Existing installations may require significant modifications to accommodate the new requirement. **ALIGNMENT WITH ATLANTIC OFFSHORE OH&S INITIATIVE:** No references to airlocks were found in the AOOHSI Consolidated Policy Intent (May 2018). **PROPOSED POLICY TEXT IN SECTION 6.20(5):** It is proposed to **delete** the newly added phrase within parentheses in 6.20(5): "(*or any area which is intended to operate in an emergency shutdown*)".
SECTION 6.23 OFFSHORE TRANSPORTATION AND INSTALLATION OF FACILITIES	**Rationale:**

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(1) The operator shall ensure that the transporting and positioning of an offshore installation or a component of an installation are: a. completed in a manner that protects the safety of the installation, personnel and the environment; b. completed in a manner that causes the least possible encumbrance and danger to other activities in the vicinity; and [COGOA onshore only] c. for offshore installations: i. monitored by a Marine Warranty Surveyor; ii. in the case of a self-elevating unit, completed with the legs secured in a manner acceptable to the classification society iii. supported by vessels that are classed by a classification society. (2) The operator shall further ensure that, prior to all transit moves a. a risk assessment is completed that considers: May 2018 38 i. personnel requirements; ii. towing vessels or vehicles [COGOA onshore only], towing arrangements and associated equipment; iii. processes and measures to be implemented to ensure the safety of the installation or the component, personnel and the environment; iv. weather conditions, weather forecasts, and other physical environmental factors that may affect the safety of the installation or the component, personnel or the environment; and v. contingency plans, in the event of adverse environmental conditions or any other foreseeable event during transit; and b. for offshore installations [COGOA onshore only], a transit plan has been established and has taken into account any requirements of the classification society and Marine Warranty Surveyor.	Section 6.23 requires the Operator to have transportation and positioning monitored by a Marine Warranty Surveyor (MWS); which is a new requirement, this is not always with the Operator's scope and provided usually for insurance underwriting. Offshore Transportation / Installation - requirement for a Marine Warranty Surveyor – it is not clear why this is in the regulation (yes we do it now but does it need to be in a regulation); this is a safeguard in place by the equipment owner (rig owner for example or facility owner). In section 5.2(a) in the Certificate of Fitness Section, the CA has the requirement to "determine" that the installation is designed, constructed, **transported and installed** or established, and commissioned. The addition of Section 6.23(1)(d) introduces an overlap of scopes for the CA and MWS. Historically, the CA has deferred the transportation and installation oversight to the MWS and only required suitable evidence that the MWS review had been conducted. Clarity should be added to this section as it relates to the CA SOW in Section 5.2(a). • MWS – not put in place to fulfill a regulatory role (as is the CA); • MWS – provides third party assurance for insurance underwriter for an equipment owner; • Example – MODU or equipment transit to field may not be under the Operator's care and control from an equipment ownership / liability perspective (it may rest with the contractor depending on the commercial terms); the party with care and control may want / require a MWS for a purpose other than a requirement in the Framework Reg.; • Not clear who qualifies as an MWS (what defines the criteria) or who the MWS reports to from a regulatory compliance perspective; • Some of the expectations associated with having an MWS may be covered with a CA (reduces potential overlap and provides a clear regulatory link back to the regulator). **Recommendation:** • Offshore Transportation / Installation - requirement for a Marine Warranty Surveyor (MWS) – it is not clear why this is being added to the regulation; the MWS is a safeguard in place by the equipment owner (rig owner for example or facility owner) for the purposes of insurance underwriting not necessarily related to oil and gas activity regulation. • Remove references to MWS as part of the Framework Regulation (this section and elsewhere)
6.24 ASSET INTEGRITY (4) The operator shall design and implement a monitoring, testing, inspection, and maintenance program that	**Concern:**

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a. is designed to achieve the objectives established under subsection (1) b. is based on identified failure modes and mechanisms and their causes in relation to safety critical elements; c. includes inspection and monitoring activities that occur at a frequency and in a manner to ensure any potential failures determined in accordance with paragraph (b) are anticipated, managed and mitigated and that any safety critical elements are repaired or replaced in a timely manner to ensure safety critical elements functionality and reliability are maintained; d. is delivered by competent persons e. includes performance standards f. includes predictive and preventive maintenance activities/schedules for each safety critical element that are based on the performance standards and: i. include a maximum specified time period for comprehensive inspection of the equipment or system; ii. consider the recommendations of the original equipment manufacturer and relevant industry standards or best practices; iii. for rotating equipment, include partial or complete dismantling and inspection at a frequency necessary to maintain its condition, functionality, availability, reliability and performance in accordance with the original design standards; iv. for any low running hour equipment [e.g. emergency generators, essential generators, fire pumps], includes a time based maintenance regime; and v. includes a spare parts management program whereby the critical spare parts necessary are available on the installation to ensure the continued functionality, availability, reliability and performance of the equipment or system to its original design standards.	Clause 6.24(4) (f) allows predictive maintenance (PdM) activities but continues to prescribe time/frequency-based requirements. Condition-Based Maintenance (CBM) techniques should be allowed in accordance with the FMEA/FMECA approach required under 6.24(4) (b). **Rationale:** Predictive maintenance (PdM) is preventive maintenance that is initiated based on evaluation of an expected future physical condition based on repetitive analysis, known characteristics and evaluation of significant parameters (ref. EN13306, *Maintenance Terminology*). Condition-based maintenance (CBM) is preventive maintenance that is initiated based on evaluation of the physical condition of an equipment or element. The evaluation can be performed through observations, through testing, as part of an interval-based maintenance, or through online instrumented condition monitoring (ref. ISO14224, *Collection and exchange of reliability and maintenance data for equipment*). PdM and CBM should be considered as part of the asset's overall failure prevention strategy for safety critical elements, where the goal is to deliver the required levels of safety, reliability and availability in accordance with Performance Standards (as required by 6.24(4)(e). PdM and CBM should be used in combination with other maintenance management strategies, including calendar- or runtime-based intervals, appropriate to the particular safety critical element. **Impact of regulation as written:** The unnecessary dismantling and reassembly of rotating equipment or other safety critical elements can result in unavailability and risk of damage or impairment to safety critical equipment. Allocating maintenance resources to such activities may also result in diversion of resources from other safety critical maintenance. **Proposed Policy Text in section 6.24(4)(f):** Proposed changes are underlined below for the sub-clauses under 6.24(4)(f): i. include a maximum specified time period or defined physical condition(s) for comprehensive inspection of the equipment or system; ii. consider the recommendations of the original equipment manufacturer and relevant industry standards or best practices; iii. for rotating equipment, include partial or complete dismantling and inspection based on defined physical condition(s) or at a frequency necessary to maintain its condition, functionality, availability, reliability and performance in accordance with the original design standards; iv. for any low running hour equipment [e.g. emergency generators, essential generators, fire pumps], includes a time based or condition-based preventative maintenance regime;

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6.25 INSTALLATION OPERATIONS Every operator of an offshore installation shall at all times operate the installation in accordance with limitations imposed by the certificate of fitness and in accordance with the operations manual.	This section is redundant and can be removed; a limitation is part of the COF; failing to meet the limitation invalidates the COF and hence the OA; suggest remove.
6.26 OPERATIONS MANUAL Every operator shall prepare, adhere to and maintain, in respect of every installation, an operations manual that defines the operational characteristics, procedures, capabilities and limitations of an installation and associated essential [and safety critical] systems, and which contains the following data: a. general description and particulars of the installation; b. chain of command and general responsibilities during all normal operations and emergency operations; c. limiting design data for each mode of operation; d. a description of inherent limitations on the operation of the installation and its equipment for each approved mode of operation, including physical and environmental conditions at the site where the installation will be installed and the effect of those conditions on the installation e. listing of and reference to procedures necessary to ensure safe operations within inherent limitations; f. criteria and triggers that would require planned precautions and actions to be taken to safeguard personnel, the installation and the environment in the event pre-determined thresholds for safe operation of the installation in all modes of operation are exceeded or forecasted to be exceeded, and a listing of or reference to procedures that detail the precautions and actions to be taken; g. characteristics of foundation and bottom penetration, or anchoring arrangement, and provisions to monitor integrity of foundations, mooring and anchoring arrangements; h. criteria for minimum penetration and/or maximum scour for foundation and anchoring arrangements; i. criteria for weather or oceanographic events that trigger post-event inspections of subsea structural elements (note: this includes anchors) j. for an installation that is a mobile offshore platform, such information and instruction as is necessary to accurately (alternative to accurately: “unambiguously”?) and rapidly determine and	**Rationale:** Section 6.26 requires an Operations Manual with a similar scope as the current requirement of the Installations Regs; based on Operator experience, the manual consolidates information available elsewhere; the manual is rarely consulted by staff has therefore has little to no value. The scope of the manual aligns closely with the current Installations Regs; our experience has been that the manual is prepared solely to satisfy the regulation and it is not referenced in the work place. • Information prescribed for the manual is available in studies and documents; • Operator rarely (if ever) uses the current manual (as req’d by the Installations Regs) a source of information to support the operation; • Becomes a ‘paper / checkmark’ exercise to have a manual that aligns with the existing Regs; • More appropriate to a requirement to have the information listed available and aligned with either the scope of the management system or document retention requirements of the system; and • potential overlap and provides a clear regulatory link back to the regulator). **Recommendation:** • Remove requirement for this manual from Regulation and, if necessary, require the information to accessible / available.

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manage the loading, ballasting and stability of the platform within approved criteria for intact and damaged stability under varying conditions of service, including:	
7.1 SYSTEMS AND EQUIPMENT DESIGN, OPERATION AND MAINTENANCE (1) The operator of an installation shall notify, [for an offshore installation – COGOA only] the Certifying Authority, for matters within their scope of work, and [for all installations – COGOA only] the Chief Safety Officer immediately if the operator notices any deterioration of the installation or equipment, or of any well, that could impair the safety of the installation or damage the environment.	The term "any deterioration"..."that could impair the safety of the installation" is broad and will need clarification at some point, such as the preparation of a safety critical element impairment matrix for example, in order to get aligned with CA and CSO. Suggest this be revisited with this in mind.
7.6 CONTROL SYSTEMS (7) The operator shall ensure that functions that are required to provide essential services dependent on wireless data communication links shall have an alternative means of control that can be brought in action within an acceptable period of time.	Sub-section (7) - This is a new clause added from the Phase 3 policy intent document. The term "essential service" is not defined; the rationale for an alternate means if the system is designed to be “fail safe’ is not clear and the requirement could be changed to recognize this.
7.13 CRANES AND HANDLING DEVICES (8) The operator shall ensure that the Certifying Authority has certified any lifting device that lifts over 10 tonnes or is used for personnel lifts.	(9) This is an addition to the current requirement for the CA scope; recommend the PI document reflect current practice that the CA certify main cranes and elevators.
7.17 CASING AND CEMENTING (3) The operator shall ensure that, for the life of the well, the cement slurry is designed, installed and verified so that: a. the movement of formation fluids is prevented and, where required for safety, resource evaluation or prevention of waste, the isolation of the oil, gas and water zones is ensured; b. support for the casing is provided; c. corrosion of the casing over the cemented interval is retarded; d. the integrity of gas hydrate and permafrost zones — and, in the case of an onshore well, potable water zones — is protected; and e. if the annulus is to be used for production or injection operations, or if the cement is a common critical barrier element in the primary and secondary barrier envelopes, the cement placement is verified by pressure testing and logging.	Sub-section 3(e) - clarification on the intent / objective / purpose with this section is necessary. This could lead to additional steps that are not currently necessary and not normally conducted under current regulation.

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SECTION 7.15 DRILLING FLUID SYSTEMS The operator shall ensure that: a. the drilling fluid system and associated monitoring equipment is designed, installed, operated and maintained to provide an effective barrier against formation pressure, to ensure safe drilling operations, to prevent pollution and to allow for proper well evaluation; b. the indicators and alarms associated with the monitoring equipment are strategically located on the drilling rig to alert onsite personnel; and c. continuous monitoring is provided by dedicated personnel at the location and remote from the driller‘s station through/via an independent monitoring system of parameters critical to the safety of the drilling operations or critical to the detection of a gain or loss of drilling fluid while connected to the well and taking returns to the installation.	The comment with respect to having dedicated personnel at the location as well as monitoring through remote panels, remains an issue for industry. While well intentioned, the policy text poses a potentially higher risk state overall. Mudloggers, for example, are monitoring from their unit, via remote panel, and not physically at the location where the parameter is obtained. Trip tanks, shakers, flow paddles, degassers, etc are examples of areas that aren’t physically monitored continuously by a physical presence.
SECTION 7.16 WELL CONTROL (5) If there is a failure in either of the two defined well barrier envelopes the operator shall ensure that no other well operations take place other than those intended to restore or replace the barrier envelopes. **SECTION 7.19 WELL COMPLETION AND OPERATIONS** (1) An operator that completes a well shall ensure that: i. after commencement of operations of the well, dual well barrier envelopes that have been tested must be in place and if there is a failure in either of the two defined well barrier envelopes the operator shall ensure that no other well operations takes place other than those intended to restore or replace the barrier envelopes;	7.16 (5) and 7.19 (i) In the event of a barrier failure, a requirement to reinstate the original barrier scheme as opposed to implementing a potentially different although valid barrier, has the potential to pose significant risk. Depending on the nature/basis for barrier failure, it may not be feasible nor prudent to attempt to reestablish the original barrier (downhole equipment damage for example). The notion that the regulator will require reinstatement of the original approved barrier scheme requires further discussion.
7.24 FORMATION FLOW TEST EQUIPMENT (1) The operator shall ensure that:	**Rationale:** The prescription is related specifically to a Drill Stem Test, but a DST is not the only acceptable means of a Formation Flow Test.

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a. the equipment used in a formation flow test is designed to safely control well pressure, properly evaluate the formation and prevent pollution; b. the rated working pressure of formation flow test equipment upstream of and including the well testing manifold exceeds the maximum anticipated shut-in pressure; and c. the equipment downstream of the well testing manifold is sufficiently protected against overpressure. (2) The operator of an offshore well or a well in a sour environment well shall ensure that the formation flow test equipment includes a down-hole safety valve that permits closure of the test string above the packer for development wells. (3) In the case of a flow test program for an exploration or delineation well, a downhole safety valve is required unless it can be demonstrated and approved as part of the well testing program application process that the alternative arrangement provides an equivalent or lower level of risk than using a downhole safety valve. (4) The operator shall ensure that any formation flow test equipment used in testing an offshore well that is drilled with a floating drilling unit has a subsea test tree that includes: a. a valve that may be operated from the surface and automatically closes when required to prevent uncontrolled well flow; and b. b. a release system that permits the test string to be hydraulically or mechanically disconnected within or below the blow-out preventers.	The policy intent does not consider for example, formation flow test while tripping. **Proposed Policy Text in 7.24(3):** (3) If a Drill Stem Test is the chosen means of a flow test program for an exploration or delineation well, a downhole safety valve is required unless it can be demonstrated and approved as part of the well testing program application process that the alternate arrangement provides an equivalent or lower level of risk than using a downhole safety valve.
SECTION 7.26 WELL VERIFICATION (1) The operator must establish a well verification scheme, commensurate with the risk criticality ranking for the well, such that the design ensures well integrity for the life of the well, is in keeping with the regulations and reflects industry best practices. (2) The verification scheme shall also be applied to any changes made to the design that occur during the construction or ongoing operation of the well and that would impact the verification assessment. (3) The verification must be undertaken by a competent person who is not involved with the original design and that is separate from the business unit responsible for the original design.	7.26 (3) The requirement for persons performing well verifications to be comprised of people outside of the business unit is something that may not be feasible for all operators. Husky for example, would likely have difficulty meeting this request, as there are no true analogs to Atlantic Region operations within the company. A suggested alternative is to have the verification undertaken by staff that, while potentially in the same business unit, are not involved with the well design or execution, and have been deemed competent to undertake such a verification assessment. This would allow operators who may not have resources outside of the business unit, to create an arm's length verification group.
SECTION 7.30 FIRE AND GAS DETECTION	Fire and Gas detection, Section 7.30 (3) states that "where override capabilities exist for maintenance and testing, this should only be done for the shortest amount of time possible *and in any case does not impair the fire and gas detection system*". Overriding and testing of system can only be done at times by impairing the system, or potentially another system is impaired

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(3) Where the override capabilities exist for the purposes of maintenance and testing, they are applied for the shortest amount of time as possible with as few as possible simultaneously applied, managed through the established permit to work system, and in any case, do not impair the fire and gas detection system.	in order to execute the required maintenance and testing. This is also in contradiction to the reporting guidelines which state that systems that are impaired due to maintenance and testing (given it's within the expected timeline) do not require reporting to the regulator. This statement may potentially cause issues when completing maintenance and testing of systems. • *...where override capabilities exist for maintenance and testing, this should only be done for the shortest amount of time possible and in any case does not impair the fire and gas detection system.* • Imprecise language - Overriding and testing of system can only be done at times by impairing the system, or potentially another system is impaired in order to execute the required maintenance and testing. • contradiction to the reporting guidelines which state that systems that are impaired due to maintenance and testing (given its within the expected timeline) do not require reporting to the regulator.
7.33 FIRE PROTECTION SYSTEMS AND EQUIPMENT (1) The operator shall ensure that all safe and reasonable measures are taken at every installation and operations site to control and extinguish or control fires as appropriate and to minimize any danger to safety or the environment that results or may be reasonably expected to result from the fire. (2) The operator shall ensure every installation is equipped with protection systems and equipment that are designed, inspected, maintained, tested, and operated, to be capable of controlling and extinguishing fires on the installation, of operating effectively and of minimizing dangers and hazards to personnel (related to the use of the systems), and that include appropriate redundancies to ensure the system is operable in case of the failure of one of its components; including: a. automated fixed fire suppression systems with capability for manual activation outside the space being protected; b. fixed monitors and foam systems; and c. manual firefighting systems and equipment. (3) The design and selection of fire protection systems and equipment, including suppression agents is appropriate for its intended use based on the Fire, Explosion and Hazardous Gas Risk Assessment required in 6.6. (4) The operator shall ensure that the systems and equipment are protected to ensure they remain functional in all operating conditions. (5) The operator shall ensure that all accommodation areas and any enclosed space on an installation where there is a risk of fire are outfitted with a fixed fire suppression system.	**RATIONALE:** In reference to Section 7.33(5), the requirement for a fixed fire suppression system in accommodation areas and any enclosed spaces exceeds the requirements of international standards and Class Rules. This presents two significant concerns: 1. The requirement for a fixed fire suppression system in accommodation areas is generally not required in other international rules and regulations that prescribe passive fire protection methods for containment of fire and control of fire/smoke spread. Further detail is provided below. 2. There is a new prescriptive requirement (as compared with Installations Regulations sections 27 and 28) that "*any enclosed space on an installation where there is a risk of fire*" be outfitted with a fixed fire suppression system. This very broad requirement, which does not consider the level of fire risk, could therefore be applied to any enclosed service spaces, electrical equipment rooms, control rooms, etc., for which the previous Installations Regulations did not require fixed systems. Existing installations will likely not meet this new requirement, and it also exceeds Class rules. On the overall topic of fire protection, the Framework Regulations are moving towards alignment with international and Classification Society rules but still contain some requirements that conflict with or exceed the other rules. These differences can cause ambiguity and uncertainty in new projects, and particularly in consideration of contracted drilling installations or other vessels. Regarding **fire risk assessment, fire detection** and **passive fire protection** design, the proposed Framework Regulations are largely aligned with international standards and Class requirements. Examples include:

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	• Section 6.6 requires that the operator undertake a "*methodical and comprehensive fire and explosion risk assessment, as well as a hazardous gas containment and risk assessment*." • Section 6.7 requires that "*the operator shall ensure that … in respect to passive fire and blast protection, the offshore installation shall comply with the appropriate* ***rules of a classification society*** *as if it were an offshore installation to which those rules applied*." • Section 7.30 requires the installation of a fire detection system that will "*provide continuous, reliable automatic monitoring functions to alert personnel to the presence and location of hazardous fire*." Class Rules provide an internationally acceptable standard of safety for passive and active fire protection by defining minimum requirements for the design, construction and commissioning of such systems. Considering that the fire risk assessment, fire detection and passive fire protection design are becoming aligned with international and Class Rules, it is very appropriate that the active fire protection design should also be so aligned, in order to be **consistent**. The Class Rules are based in part on IMO SOLAS & MODU Code requirements. Through this prescription on materials selection and fire integrity, the IMO and Class rules ensure that the containment of fire and control of fire/smoke spread have been addressed through the passive fire protection design. These codes have specific requirements that: • limit the use of combustible materials, • require an automatic fire detection and alarm system, • require use of low flame spread surface finishes, • address smoke generation potential and toxicity, and • specify A-, B-, and C-class bulkheads and decks for fire integrity between adjacent spaces. Fire detectors in the enclosed spaces tied into the installation's fire & gas detection system will provide a more reliable means of detecting fires in such spaces, than would a sprinkler system. Fires in accommodations spaces can be slow developing, and smoke development can continue for a long time before a sprinkler head or other heat sensitive device is activated. Regarding active fire protection in accommodation and service spaces and control stations, the Rules then require selection of the method of protection based on the level of passive fire protection and the fire detection system employed. For MODUs and Cargo Ships, the SOLAS methods IC, IIC, and IIIC are acceptable methods. For Tankers and Oil Production Units, only method IC shall be used. Method IC does not require the installation of a fixed fire extinguishing system in the accommodations area and other low fire risk service spaces. Relevant code references are listed in a separate 'References' section below. IMO and Class Rules do require fixed fire extinguishing systems in enclosed areas with higher fire risk, such as:

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	• Machinery spaces (Category A) with oil-fired boilers and other fired processes, oil fuel units or settling tanks, internal combustion engine spaces (not less than 750 kw), steam turbines (not less than 375 kw), and gas turbines enclosures, • Flammable liquid storage areas, • Paint lockers, • Spaces for the storage of acetylene and oxygen cylinders, • Mud processing areas (drilling units), • Oil pumping or storage rooms, • Areas where liquid pool fires can occur, and • Galley with deep-fat cooking equipment. Fixed fire suppression systems are <u>not required</u> in accommodation areas generally or in machinery spaces other than category A, in the following recognized codes and standards: • IMO SOLAS • IMO MODU Code • Classification Society Rules • ISO 13702 • NORSOK S-001 The following potential conflicts arise with the Framework Regulations 7.33(5) as written: • Existing modern MODUs would likely be constructed in accordance with Method IC for the accommodation and service spaces and control stations, since they are required to follow the other rules concerning materials selection and passive fire protection (rated divisions), and thereby can easily meet Method IC. They would not typically have a sprinkler system. • Any new FPSO vessel classed as a Tanker or Oil production and Storage Unit is required by Class to follow Method IC for the accommodation and service spaces and control stations, and would not otherwise require a sprinkler system. • The fire & explosion risk assessment and Class Rules are being applied to the design and construction of the installation, yet the risk assessment and those rules are not subsequently used to determine which enclosed spaces require fire extinguishment systems.

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SECTION 7.33 FIRE PROTECTION SYSTEMS AND EQUIPMENT	**IMPACT** The addition of a fixed fire suppression (extinguishing) system to accommodation areas and some other enclosed areas on a MODU would comprise an extensive upgrade to an otherwise compliant installation. The retrofit would be very costly in time and money, and it is considered disproportionate to the fire risk in these spaces considering other fire protection features. This requirement will have the ultimate effect of limiting the availability of MODUs to be brought in to the Canadian offshore area, which will inhibit the goal of increased exploration towards 2030. **ALIGNMENT WITH ATLANTIC OFFSHORE OH&S INITIATIVE:** References to fixed fire suppression were checked within the AOOHSI Consolidated Policy Intent (May 2018) and the following clauses were identified as being potentially relevant to this matter: 30 Every workplace must be equipped with the fire fighting equipment that is appropriate for the type of workplace and class of fire that may occur. 330 Hazardous areas identified in paragraph 329(2) (h) shall be classified according to a comprehensive and documented classification system including design and selection of systems and equipment to manage ignition sources and prevent fire and explosion. 373 A designated storage area for a hazardous substance shall be f) equipped with a suitable fire suppression system if a flammable or combustible substance are stored in the designated storage area; 417 2) An employer shall ensure that a portable compressed gas cylinder is b) protected from excessive heat or fire; 516 3) Adequate fire protection shall be provided for [diving] gas storage areas. The rationale presented above and the revised policy text proposed below are considered compliant with the AOH&S clauses.
SECTION 7.33 FIRE PROTECTION SYSTEMS AND EQUIPMENT	**IMO SOLAS:** **Regulation II-2/9: Containment of Fire** **2 Thermal and Structural Boundaries** **2.3 Cargo ships except tankers** **2.3.1 Methods of protection in accommodation area** 2.3.1.1 One of the following methods of protection shall be adopted in accommodation and service spaces and control stations:

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	.1 Method IC – The construction of **internal divisional bulkheads of non-combustible "B" or "C" class divisions** generally without the installation of an automatic sprinkler, fire detection and fire alarm system in the accommodation and service spaces, except as required by regulation 7.**5.5.1** [see below]; or .2 Method IIC – The fitting of an automatic sprinkler, fire detection and fire alarm system as required by regulation 7.5.5.2 for the detection and extinction of fire in all spaces in which fire might be expected to originate, **generally with no restriction on the type of internal divisional bulkheads**; or .3 Method IIIC – The fitting of a fixed fire detection and fire alarm system as required by regulation 7.5.5.3 in spaces in which a fire might be expected to originate, **generally with no restriction on the type of internal divisional bulkheads**, except that in no case shall the area of any accommodation space or spaces bounded by an "A" or "B" class division exceed 50 m2. However, consideration may be given by the Administration to increasing this area for public spaces. **2.4 Tankers** 2.4.1 Application For tankers, <u>only method IC</u> as defined in paragraph 2.3.1.1 shall be used. **Regulation II-2/7: Detection and Alarm** **5 Protection of accommodation and service spaces and control stations** **5.5 Cargo Ships** 5.5.1 Method IC – A fixed fire detection and fire alarm system shall be so installed and arranged as to provide smoke detection in all corridors, stairways and escape routes within accommodation spaces. **<u>OTHER REGULATIONS AND STANDARDS</u>** Other examples of regulation, codes and standards that DO NOT require fixed fire extinguishing in "*all accommodation areas and any enclosed space*" include: • Norway: *Regulations Relating to Design and Outfitting of Facilities, etc. in the Petroleum Activities (The Facilities Regulations),* and associated Guidelines o Section 37 "Fixed fire-fighting systems" does not prescribe fixed extinguishing systems, but makes reference to NS-EN ISO 13702 and NORSOK S-001 for requirements. • ISO 13702:2015 "*Petroleum and natural gas industries - Control and mitigation of fires and explosions on offshore production installations - Requirements and guidelines*" o Requires a Fire and Explosion Strategy (FES) in section 5.8.3 and in references throughout the standard. o Table C.3 does not require fixed fire extinguishing systems in accommodations, control spaces, HVAC rooms, switchrooms, local equipment rooms, and several other types of spaces. • NORSOK S-001 *Technical Safety*

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	o References the FES throughout the standard. o Section 19.4.6 refers to materials selection and fire integrity, with references to MODU Code chapter 9, and notes that LQ may not have sprinkler protection. o Section 20.4.1 states "Fixed fire fighting systems shall be installed in areas representing a major fire risk, and particularly cover equipment containing significant quantities of hydrocarbons."
7.37 LIFESAVING EQUIPMENT FOR OFFSHORE INSTALLATIONS (1) The operator shall ensure every offshore installation is designed for and equipped with sufficient lifesaving equipment, survival craft and launching facilities safe evacuation of all personnel, and that are: a. designed and installed based on reasonable expectations of the loads to be encountered during the life span of the operations; and b. include sufficient redundancy to ensure availability in any foreseeable emergency situation. (2) The operator shall ensure that copies of the plan showing the position of all lifesaving appliances are posted on every installation, including in the control center and in each accommodation area and work area. (3) The operator shall ensure that: a. each installation arrange for lifeboats in at least two separate locations; and, ensure that those locations, based on the installation's safety studies, including the escape and evacuation analysis, provide the optimal redundancy for evacuation from the installation for all foreseeable emergency scenarios; b. such lifeboats (and associated equipment such as launching mechanism) shall include features to maximize escape [from the installation]; and c. at least one location is adjacent to the temporary safe refuge. (4) The arrangement and selection of the lifeboats shall be based on the Quantitative Risk Analysis and the Escape and Evacuation Analysis and should provide sufficient redundant capacity to accommodate the total number of persons on board if any, or all of the lifeboats in any one location are lost or rendered unusable.	**RATIONALE:** Section 7.37 has some alignment with Class Rules and other standards, yet has some misalignment in CAPP's view. For context, Section 6.6 Fire, Explosion and Hazardous Gas Risk Assessment requires that the assessments shall consider "safe means of evacuation, escape and rescue as it relates to identified fire and explosions hazards". Clause 7.37(4) begins by stating "The arrangement and selection of the lifeboats shall be based on the Quantitative Risk Analysis and the Escape and Evacuation Analysis…". The Joint Industry Practice, CAPP Guide "Atlantic Canada Offshore Petroleum Industry Escape, Evacuation and Rescue" (June 2010), developed with industry and the regulators, is also aligned with this approach. Section 6.11 Classification states "The operator shall ensure that every installation that is a floating platform shall be classed by a classification society." The Classification Society Rules also require the submission of an Escape Evacuation and Rescue Analysis (EERA) for approval. However, other requirements included within section 7.37(3)(a) and (4) are not aligned with the typical requirements of a Classification Society, IMO (SOLAS, LSA Code, or MODU Code), Transport Canada, or NORSOK S 001. In many other jurisdictions, the number and location of lifeboats for Classed installations would be based on the Class Rules and IMO requirements, plus Flag State rules if they are different from Class Rules. The policy text in 7.37(4) effectively requires 200% lifeboat capacity split 2x100% (or 150% split 3 x 50%, and so on), with the inclusion of the phrase "if … all of the lifeboats in any one location are lost". This requirement would not be met by some existing or planned installations in the region. In cases where installations have the primary evacuation station located on the side of the TSR farthest from the drilling/production areas, it is not a credible scenario that all of these lifeboats are lost during an emergency that requires lifeboat evacuation. The EERA should evaluate all potential Major Accidental Events and determine the optimal lifesaving arrangements. It is reasonable that one additional lifeboat be arranged near the Temporary Safe Refuge (TSR), to account for one lifeboat being

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	unable to launch. Consideration should also be given in the EERA to installations and facilities that are arranged to ensure that all personnel can reach the TSR in any foreseeable emergency, avoiding the 'split platform' escape & evacuation case, where practicable. The NORSOK S-001 standard (clause 21.4.3) is framed in this way. This may include for example a protected escape route (such as a fire/blast-rated and pressurized escape tunnel). In cases where it is extremely unlikely for personnel to be unable to reach the TSR, then only tertiary evacuation means (such as chute-based life rafts) should be required at the opposite end of the facility from the TSR.
	IMPACT • Existing and planned NL Offshore fixed (GBS) installations would not meet the current policy intent, and particularly clause 7.37(4). • It is possible that foreign units built to SOLAS, Class and international standards (such as NORSOK) would not meet the current policy intent and therefore could not be contracted to work offshore Canada without modifications. Adding lifeboats to an existing installation is likely an extensive retrofit. • For new installations the prescription in 7.37 could result in additional lifeboats being added just to meet the regulatory requirement, despite the EERA and QRA demonstrating they are not required. This can have the result of unnecessary deck structure, testing, training, and maintenance. **ALIGNMENT WITH ATLANTIC OFFSHORE OH&S INITIATIVE:** References to lifeboats and evacuation were checked within the AOOHSI Consolidated Policy Intent (May 2018) and the following clauses were identified as being potentially relevant to this matter: 25 1) The employer who has control over the workplace shall conduct a risk assessment of the workplace and develop, implement and maintain an emergency plan that sets out the procedures, practices and resources and monitoring necessary to effectively prepare for and mitigate against the effects of, or/and evacuation from, any reasonably foreseeable emergency that might compromise the health and safety of employees. Any specific requirements for hyperbaric evacuation (not quoted here) should be evaluated in the EERA, and these would only apply to a diving installation. The rationale presented above and the revised policy text proposed below are considered compliant with the AOH&S clauses.

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	PROPOSED POLICY TEXT IN SECTION 7.37 TO REPLACE CLAUSES (3) AND (4): It is proposed that clauses (3) and (4) be replaced with the following performance based clause. (3) The operator shall ensure that each installation carries lifeboats installed in an arrangement that: a. complies with the rules of a Classification Society as if it were an offshore installation to which those rules applied; and b. is based on a formal Escape, Evacuation and Rescue Analysis that considers all of the major accidental events evaluated in the Quantitative Risk Analysis, and c. provides sufficient capacity to accommodate the total number of persons on board if a lifeboat in any one location is lost or rendered unusable.
	EXAMPLES OF OTHER REGULATORY INSTRUMENTS ON THE TOPIC OF EVACUATION MEANS: **Norway:** The Norwegian Petroleum Directorate (NPD) promulgates performance based regulations and guidelines. The guidelines commonly refer to NORSOK standards. Excerpts of the regulation, guidelines and standard are provided below. **Regulations Relating to Design and Outfitting of Facilities, etc. in the Petroleum Activities (The Facilities Regulations)** http://www.ptil.no/facilities/category400.html **Section 44: Means of evacuation** "Personnel on facilities shall be able to evacuate quickly and efficiently to a safe area under all weather conditions, … The choice of means of evacuation, their placement and protection shall be based on the defined hazard and accident situations…. Free-fall lifeboats, supplemented by rescue chutes and associated life rafts shall be used as means of evacuation for evacuation to sea." **Guideline Re Section 44: Means of evacuation** "To fulfil the requirements for evacuation and means of evacuation as mentioned in the first, second and third subsections, the NORSOK S-001 standard Chapter 21 should be used, with the exception of the reference to SOLAS and national maritime requirements in 21.4.3." [*note, this latter exception only relates to type approvals for evacuation equipment*]

	NORSOK S-001 TECHNICAL SAFETY states in section 21.4.3: "Number, size and location of evacuation means shall be established based on manning, risk analyses (e.g. risk exposure of muster area and escape routes towards this area) and EERS. The minimum number of free-fall lifeboats in the main evacuation area available during a dimensional accidental event shall be corresponding to the maximum number of personnel (100 %) on board plus one additional boat to compensate for unavailability. The maximum number of personnel on board shall include day visitors. Minimum requirements for floating installations is 100 % free fall lifeboat capacity to be available in dimensioning scenarios resulting in dimensioning accidental heel angels, combined with the one year weather condition. 100 % lifeboat capacity shall be available after a 10 000 year storm condition. One additional evacuation system in the far end of the installation should be installed if escape to the main evacuation area is impossible during dimensioning accidental events." Example Norwegian floating installation: The Aasta Hansteen spar platform was towed to field in 2018 and is approved for production operations in the Norwegian Sea by the NPD. The installation has three lifeboats at the main evacuation station on the safe side of the TSR, allowing for one spare lifeboat when the platform is operating at maximum POB. Additionally, there are life raft stations at the main evacuation station and on the process side of the platform. The arrangements would also meet Class Rules, but would not meet the current FORRI Policy Intent. This link provides a video that shows the Aasta Hansteen spar platform and its arrangements: https://www.youtube.com/watch?v=O3cfnbM2i1E **Australia:** NOPSEMA (Australia) has a performance-based regulation / Safety Case regime. The "*Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations*" require a formal Evacuation, Escape and Rescue Analysis (EERA), but contain no prescription on number and location of lifeboats. https://www.legislation.gov.au/Details/F2013C00945 (Refer to Ch. 2, Part 2, Division 1, Subdivision C) Example Australian floating installation: The turret-moored Shell Prelude Floating LNG installation is the largest vessel ever built, and certainly one of the world's most complex vessels involved in oil or gas production. It will operate in the Australia offshore area regulated by NOPSEMA. The Classed vessel has all its six freefall boats mounted on the stern (at the TSR) and is further outfitted with chute-based life raft systems at multiple locations (fore and aft, port and starboard). This arrangement would meet Class

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	Rules, IMO, NORSOK and Transport Canada Lifesaving Equipment Regulations (if they were applicable). However, it would not meet the current FORRI Policy Intent. This link provides a video that shows the Prelude vessel and its arrangements: https://www.youtube.com/watch?v=tFCY1MyDIDw Lloyds Register is the Classification Society for the Prelude FLNG facility. Refer to: https://www.lr.org/en/latest-news/prelude-officially-enters-into-lloyds-register-class/
11.4 FLOW AND VOLUME (CONTINUED) If a well is completed over multiple pools or zones, the operator shall ensure that production or injection volumes for the well are allocated on a pro rata basis to the pools or zones in accordance with the flow allocation procedure approved under clause 3.3 (Phase I).	It is not clear how this is to be done or how often.
11.7 PRORATION TESTING FREQUENCY The operator of a development well that is producing oil or gas shall ensure that sufficient proration tests are performed to permit accurate determination of the allocation of oil, gas and water production on a pool and zone basis.	It is not clear how many proration tests are needed or how that would be determined
12.1 RESOURCE MANAGEMENT The operator shall ensure that (a) recovery from a pool or zone is maximized in accordance with good oilfield practices; (b) wells are located and operated to provide for maximum recovery from a pool or zone; and (c) if there is reason to believe that infill drilling or implementation of an enhanced recovery scheme might result in increased recovery from a pool or field, studies on these methods are carried out and provided to the Board.	The section should contemplate economic recovery and not just maximum recovery; this would imply an economic definition or basis for determining 'waste'.
12.3 COMMINGLED PRODUCTION (CONTINUED) The Board will approve commingling if the operator can demonstrate that overall recovery will be maximized by allowing commingling.	This requires an economic component be considered.
12.5 GAS FLARING AND VENTING No operator shall flare or vent gas unless (a) it is permitted in the approval issued under subsection 52(4); (b) the Board specifically authorizes flaring as part of the authorization issued under (the relevant sections of the Acts); or	Unclear on the reference to subsection 52(4); does not appear to be in the PI document.

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(c) it is necessary to do so because of an emergency situation and the Board is notified, as soon as the circumstances permit, of the flaring or venting and of the amount flared or vented.	
12.6 OIL BURNING No operator shall burn oil unless (a) it is permitted in the approval issued under subsection 52(4) (b) the Board specifically authorizes burning as part of the authorization issued under (the relevant sections of the Acts); or (c) it is necessary to do so because of an emergency situation and the Board is notified as soon as the circumstances permit, of the burning and the amount burned.	Unclear on the reference to subsection 52(4); does not appear to be in the PI document.
14.9 INCIDENT AND NEAR MISSES – NOTIFICATION "incident" means any event that caused or, under slightly different circumstances, would likely have caused harm to personnel, an unauthorized discharge or spill or an imminent threat to the safety of a installation, vessel or aircraft. It includes, but is not limited to events which may or may not have resulted in the following: (a) fatality (b) missing person (c) serious injury (d) occupational illness (e) fire/explosion (f) collision (g) pollution (h) leak of hazardous substance (i) loss of well control (j) implementation of emergency response procedures (k) the impairment of any structure, facility, equipment or system critical to the safety of persons, an installation or support craft (l) the impairment of any structure, facility, equipment or system critical to environmental protection; and (m) imminent threat to the health or safety of a person, or to the safety of the installation or support craft. The operator shall notify the Board of an incident as soon as the circumstances permit, but no later than 24 hrs after becoming aware of the incident, in the form and manner as prescribed by the Boards.	**Rationale:** Some of the terms listed in this section require a definition or some boundary to set the scope; the 14 day reporting requirement may compromise the ability to complete a full investigation. • Terms such as "pollution", "leak of a hazardous substance" and "implementation of emergency response procedures" need some scope of definition – otherwise minor events would be reported following the same urgency / protocol as a fatality or missing person. • The definition of a near miss that was included in the D&P Regs has been removed – which will result in speculation on the potential as reportable (for instance a near miss pollution – how does that get resolved from a reporting perspective). • Operators being asked to speculate and report on that basis. • Equipment impairment – needs some definition / scope (for example one component of a system or redundant equipment being unavailable could trigger a reportable event). • The time line for 14 days does not recognize the rotational nature of offshore work; 21 days is more aligned with the current schedule. **Recommendation:** • Revise text to align with current Drilling and Production Regulations.

Policy Intent	CAPP Comments
14.10 INCIDENT AND NEAR MISSES – INVESTIGATION The operator shall ensure that: (a) Incidents are investigated to a level proportional to the potential consequences, and identify its causal factor(s), root cause(s) and corrective and preventative action(s) ; and b) the investigation report, identifying the causal factor(s), root cause(s), corrective and preventative action(s), and other information in the form and manner prescribed by the Board, must be submitted to the Board within 14 days following the incident.	**Rationale:** The 14-day timeline for submission of quality investigation reports is difficult to achieve recognize the rotational nature of offshore work. • The current C-NLOPB guidelines require 21 days for investigation reports which is a more realistic timeline as it takes time to investigate and complete quality investigation reports; • Currently, the TOHS Transitional Regulations state 14-days while the Drilling and Production Regulations state 21-days; • The 14-day report requirement is not aligned with the current D&P Regulations and given the rotational shift nature of offshore work – this is too short; • Investigations typically involve contractor personnel who due to their rotation ,may or may not be readily available to participate in an investigation; • Comprehensive and complex investigations take time and technical resources to ensure root cause analysis is correct to prevent recurrence and report timelines should recognize this desired outcome! **Recommendation:** • It is proposed that regulation adopt 21-days for the completion and submission of investigation reports.
SECTION 14.19 WELL COSTS The operator shall provide to the Board: a) the detailed estimated cost breakdown of the well operation at the time of an application for well approval; and b) the actual detailed cost breakdown of the well operation within 90 days of completion of the well operation.	**Rationale (Well Costs):** Providing detailed estimate and detailed actual well operations costs – unclear on the purpose of collecting the data; not necessarily reflective of the activities undertaken; not conducive to benchmarking (and if intended for that purpose, not sure why the regulator needs to do this); could include commercially sensitive (i.e. bid) information. In the absence of a work commitment – unclear on the purpose of collecting the data. • Estimate versus actual - level of detail requested is not clear; differences can be attributed to a variety of factors not within the regulator's mandate; estimates can change based on change in work plan or approach; potentially sensitive information included in actual expenditure report • Approval – since this is connected to the well approval, does this imply a regulatory approval of the estimate is necessary in order to proceed? • Benchmarking – not clear if this intended and if so, the purpose; Operator efficiencies / technology will skew the benchmarking. **Recommendation:**

Policy Intent	CAPP Comments
	• CAPP recommends that the requirement to provide detailed estimated and actual costs for well operations be excluded from the regulation on the basis that providing the data does not align with the regulator's mandate regarding prevention of waste. • Remove requirement to provide estimate and actuals except in the case of a work commitment.
SECTION 14.20 ANNUAL PRODUCTION REPORT 86 The operator shall ensure that, not later than March 31 of each year, an annual production report for a pool, field or zone is submitted to the Board providing information that demonstrates how the operator manages and intends to manage the resource without causing waste, including: (a) for the preceding year, details on the performance, production forecast, reserve revision, reasons for significant deviations in well performance from predictions in previous annual production reports, gas conservation resources, efforts to maximize recovery and the operating and capital expenditures, including the cost of each well operation; and b) "For the preceding year, the current year and the next two years, capital costs and fixed operating costs for each well and field in the project, variable costs, commodity prices and pipeline and transportation commitments."	**Rationale (APR):** APR – provision of OPEX, CAPEX, fixed, variable costs, commodity price and forecast (backward and forward); transportation commitments - onerous and appears to have little value. Does not recognize the joint venture nature of operations and risks competition law concerns among JV partners. ● Not clear on the purpose of providing the level of detail contemplated (what does the regulator do with the data?) ● Commodity prices – current wording in PI Document implies providing actual, current and forecast realizations – data which, in the case of a JV, is not available to the Operator; concerned that this is heading into areas of competition law; there are numerous price forecasting tools available commercially and these are used by JVs in performing JV economics; partners generally use their own forecasts for their internal reviews. ● Current wording could be placing an unfair obligation on the Operator to disclose confidential data while CoV's do not have the same obligation. ● Royalty returns to the Provinces – include a component of this but on an individual CoV basis. ● Transportation commitments – unclear on the scope of what is included; this is CoV data not available to the Operator. **Recommendation:** ● Remove requirement to provide the data as part of the APR ● Clarify that a 3rd party price forecast would be an acceptable method of delivery ● "The regulator should access commercially available third party price forecast information, should this be necessary to support this Annual Production Report"
DEFINITIONS - GENERAL	Some of the terms in this definition require further clarity or quantification; for example – serious injury (scope), leak of hazardous substance (quantity), implementation of emergency response procedures (scope) and the impairment of any structure, facility, equipment or system critical to the safety of persons, an installation or support craft (scope and / or quantity – 1 device within a system, or the system).