Revised Policy Intention for the Framework Regulations

Frontier and Offshore Regulatory Renewal Initiative (FORRI)

Government of Canada
Government of Newfoundland and Labrador
Government of Nova Scotia

Contents

INTRODUCTION

Background

Frontier and Offshore Regulatory Renewal Initiative

The Frontier and Offshore Regulatory Renewal Initiative (FORRI) is a federal-provincial partnership working to modernize the regulatory framework for frontier and offshore oil and gas activities in Canada. FORRI's current focus is on the development of a modern suite of operational requirements for offshore oil and gas activities, termed the 'Framework Regulations'.

Concurrent to FORRI's work, the Atlantic Occupational Health and Safety Initiative is modernizing the occupational health and safety regulations for offshore oil and gas activities in Canada. These initiatives aim to advance the already high standards for safety, environmental protection, and resource management in offshore oil and gas areas of Canada.

FORRI Partners

FORRI is an intergovernmental partnership between Natural Resources Canada, Indigenous and Northern Affairs Canada, the Nova Scotia Department of Energy and the Newfoundland and Labrador Department of Natural Resources. The Canada-Nova Scotia Offshore Petroleum Board, the Canada-Newfoundland and Labrador Offshore Petroleum Board, and the National Energy Board are also participants in this initiative.

Past Work

FORRI oversaw the modernization of Canada Oil and Gas Drilling and Production Regulations (2009). It also led the development of three new regulations– Administrative Monetary Penalties, Cost Recovery and Financial Requirements– to implement the federal *Energy Safety and Security Act* (2015), and the provincial *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act (Amended) – Bill 18* and the *Canada-Newfoundland Atlantic Accord Implementation Act (Amended) – Bill 2*.

Framework Regulations

FORRI's current focus is to modernize and amalgamate five existing regulations (Drilling and Production; Geophysical Operations; Certificate of Fitness; Operations; Installation) into one set of operational requirements, known as the 'Framework Regulations'. The Framework Regulations will:

- Update safety and environmental protection requirements to ensure our regulations remain world-class
- Reduce multi-regulation redundancy
- Shift to a hybrid regulatory approach with a balance of prescriptive and performance-based requirements
- Support consistency across jurisdictions
- Ensure an effective and efficient regulatory regime

Scope

When completed, the Framework Regulations will apply to any entity authorized to explore, drill, produce, conserve, process and/or transport oil and gas in Canada's frontier and offshore areas. The requirements set out in the Framework Regulations will be the same across Canada, but the enabling legislation will differ depending on the location of the activity.

Regulatory Development Process

There are five major stages to regulatory development in Canada:

1. Developing policy intent to inform the drafting of the regulations
2. Drafting regulations
3. Pre-publication in *Canada Gazette I*
4. Public comment period on draft regulations
5. Publication in *Canada Gazette II*

FORRI has initiated early engagement with stakeholders, interested parties, and Indigenous groups, which is occurring during the development of Policy Intent for the Framework Regulations.

Engagement on Policy Intentions

The Frontier and Offshore Regulatory Renewal Initiative (FORRI) partners are committed to meaningful and transparent engagement with stakeholders, Indigenous groups, and the public. To date, FORRI partners have engaged stakeholders and Indigenous groups on three policy intentions documents (1. Powers, Applications, Management Systems and Operator Duties; 2. Reporting and Resource management; 3. Installations and Operations). Please visit the FORRI website to access the content and submissions received from various groups.

Feedback received to-date has been carefully considered by the FORRI partners. FORRI will be engaging on the revised policy intent below to provide an opportunity for review and comment.

Please send your written comments to the FORRI Email address.

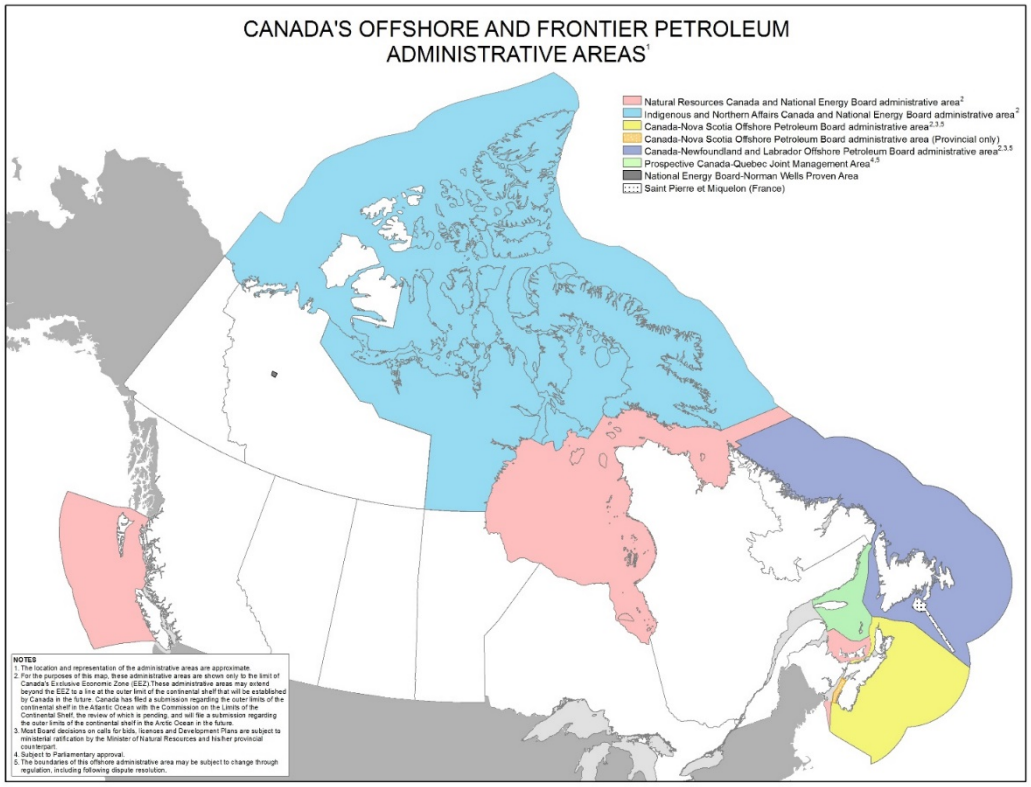
Engagement on Draft Regulations

There will be an opportunity to review and comment on draft regulations when pre-published in *Canada Gazette Part I*. Feedback collected during this stage will be considered and incorporated before the regulations are published in *Canada Gazette, Part II.*

Frontier and Offshore Oil and Gas Management

Administrative Areas

Regulations developed through the Frontier and Offshore Regulatory Renewal Initiative (FORRI) apply to frontier and offshore oil and gas areas in Canada.



The provincial Governments of Nova Scotia (NS) and Newfoundland and Labrador (NL) have respective agreements with the federal government to jointly manage offshore administrative areas (the *Accord Areas*) in the Canada-NS and Canada-NL offshore areas. The federal *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act* and the *Canada-Newfoundland Atlantic Accord Implementation Act* and their mirror provincial versions (NS, NL), known collectively as '*the Accord Acts'* define the management regime of the Accord Areas and provide the legislative framework for the regulations developed through FORRI.

Outside of the Accord Areas, regulations are applied under the *Canada Petroleum Resources Act (CPRA)* and the *Canada Oil and Gas Operations Act (COGOA)* with powers as follows:

- Nunavut, and Arctic Offshore
    - Minister of Crown-Indigenous Relations and Northern Affairs
- The Pacific, James Bay, Hudson Bay, Hudson Strait, Ungava Bay, and the Gulf of St. Lawrence
    - Minister of Natural Resources

Regulators of Frontier and Offshore Oil and Gas Activity

The Accord Acts and regulations are applied in the Accord Areas by the responsible governing Board – an independent joint agency of the federal and respective provincial governments.

- Canada-Nova Scotia Offshore Petroleum Board
- Canada-Newfoundland and Labrador Offshore Petroleum Board

The National Energy Board is the responsible for regulating frontier and offshore oil and gas activities outside of provincial-federal Accord Areas.

Regulatory Approach

The offshore oil and gas industry operates as a permissive-based regime, meaning that any work or activity to be conducted in the offshore area must first be authorized by the regulator. The Regulator must ensure the operation or activity would comply with the applicable legislation and regulations.

The regulatory modernization work under FORRI aims to create a regulatory framework that maintains the highest standards for operational safety, environmental protection and management of resources.

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FRAMEWORK REGULATIONS REVISED POLICY INTENT

Board Powers, Applications, Management Systems and Operator Duties

PART 1 – BOARD POWERS

#	Title of Section	Proposed Policy Intentions
1.1	Spacing	The Board is authorized to make orders respecting the allocation of areas, including the determination of the size of spacing units and the well production rates for the purpose of drilling for or producing oil and gas and to exercise any powers and perform any duties that may be necessary for the management and control of oil or gas production.
1.2	Names and Designations	(1) The Board may give a name, classification or status to any well and may change that name, classification or status. (2) The Board may also (a) designate a zone for the purposes of these Regulations; (b) give a name to a zone, pool or field; and (c) define the boundaries of a pool, zone or field for the purpose of identifying it.

PART 2 – MANAGEMENT SYSTEMS

#	Title of Section	Proposed Policy Intentions
2.1	Management system	(1) An operator shall develop, implement and maintain a management system for the purpose of reducing and managing risks to safety, security and the environment, preventing waste and ensuring conservation of the resource. (2) The management system shall correspond to the scope, nature, and complexity of the proposed work or activity, and to the hazards and risks associated with the work or activity, and shall: (a) ensure compliance with the Act, these Regulations and any legal requirements of the Board; (b) integrate operational activities and technical systems with the management of financial and human resources (in order to achieve the goals as prescribed in 2.1(1)); (c) cover all work or activity with the application for authorization; (d) fosters a culture of safety; (e) be explicit, comprehensive and proactive and be set out in a logical fashion to allow for ease of understanding and efficient implementation; (f) provide for coordinating the execution and management of the work or activity among the operator, employers, suppliers and provider of services involved in executing the work or activity; (g) establish and maintains measurable goals and performance indicators for the improvement of safety and security, protection of the environment and prevention of waste and conservation of the resource; (h) include a continual improvement process for a. preventing non-conformances and taking corrective actions should they occur b. preventing deficiencies and making changes to the management system as required; and c. identifying areas for improvement; (i) provide for regular management reviews and regular internal audits of the management system (and its application); (j) ensure that all documented policies and procedures are made accessible to those that require access; (k) provide a mechanism for ensuring that all documents are approved by the appropriate level of authority, reviewed on a periodic basis and updated as required to ensure they remain current and valid; (l) include a system for monitoring and analyzing trends in hazards, incidents and near-misses; (m) include a records management system to identify, generate, control and retain records necessary to support operational and regulatory requirements, and all other records associated with the management system and ensure that they are made accessible to those that require access; and (n) ensure that all personnel are trained, competent and supervised to perform their duties in a manner that is safe.
2.2	Management System (continued)	The management system documentation shall include a) the policies and standards on which the management system is based together with the operator's commitment to compliance with the policies and standards; b) the roles, responsibilities and authorities of all individuals with responsibilities under the management system and the processes and procedures for making those individuals aware of their roles and responsibilities; c) the processes and procedures for the internal and external communication of information relating to safety and security and protection of the environment; d) a system for shift handover to effectively communicate any conditions, mechanical or procedural deficiencies or other problems that might have an impact on safety or the protection of the environment; e) processes and procedures for identifying hazards, evaluating risks associated with those hazards and for developing and implementing controls to manage those risks during routine and non-routine operations; f) an ongoing inventory of identified hazards and associated controls and the means of maintaining the inventory so that it is current and valid; g) processes and procedures to communicate to those who may be exposed to hazards the necessary controls to mitigate any risks associated with

#	Title of Section	Proposed Policy Intentions
		those hazards; h) competency requirements and training programs, including verification processes to achieve the objectives 2)m); i) processes and procedures for identifying, evaluating and managing safety critical elements and any tasks that are critical to safety and security, the protection of the environment, and prevention of waste and conservation of resources; j) processes and procedures for identifying, evaluating and managing any changes that could affect safety and security or the protection of the environment, as well as the prevention of waste and conservation of the resource; k) processes and procedures for inspecting, monitoring and maintaining the integrity of all installations, facilities, vessels, pipelines, and all other equipment or systems associated with the application for authorization and that also includes evaluating the effectiveness of these processes and for taking corrective actions if deficiencies are identified; l) processes and procedures for tracking and monitoring compliance with all legal requirements established by the Act (Part III), regulations or the Board; and m) processes and procedures for: a. the internal reporting, investigating and analysis of hazards, incidents and near-misses and for taking corrective action to prevent their recurrence; and b. establishing the conditions under which a person who makes a report will be protected from any reprisal actions.
2.3	Management System Organizational Structure and Resources	The operator shall ensure an organizational structure with sufficient qualified human resources is in place for establishing, implementing, maintaining and continually improving the management system.
2.4	Accountable Person	(1) The name and position of the person accountable for the establishment, maintenance and continual improvement of the management system shall be provided to the Board at the time of the application for authorization and any time there is a change in the accountable person. (2) The operator shall ensure that the person accountable has authority over the human and financial resources required to establish, implement and maintain the management system. (3) The accountable person must sign a statement accepting their responsibilities for the establishment, maintenance and continual improvement of the management system.
2.5	Management System Compliance	The operator shall ensure compliance with the requirements of the management system, including by employees, subcontractors, service providers, and other individuals that are subject to the management system.

PART 3 – APPLICATIONS FOR AUTHORIZATIONS AND APPROVALS

#	Title of Section	Proposed Policy Intentions
3.1	Application for Authorization	(1) The application for an authorization for any work or activity shall be accompanied by (a) a description of the scope of the proposed work or activity; (b) an execution plan and schedule for undertaking the work or activity; (c) a safety plan that meets the requirements of item 3.4; (d) an environmental protection plan that meets the requirements of item 3.5; (e) a contingency plan, including emergency response procedures, that meet the requirements of item 3.6; (f) a description of all installations, facilities, vessels, vehicles (onshore COGOA only), pipelines, and all other equipment or systems proposed to be used; (g) for a production program, a field data acquisition program that allows sufficient pool pressure measurements, fluid samples, cores, cuttings, well logs, formation flow tests, analyses and surveys for a comprehensive assessment of the performance of development wells, pool depletion and injection schemes and the field; (h) for a drilling program or a production program: i) information on any proposed flaring or venting of gas, including the rationale and the estimated rate, quantity and period of the flaring or venting; ii) information on any proposed burning of oil, including the rationale and the estimated quantity of oil proposed to be burned; (i) in the case of a geoscientific, geotechnical or environmental programs (add definitions to these terms to define what they include and for greater clarity), i) maps illustrating the location of the program and proximities to man-made and vulnerable natural structures and any territorial or other boundaries; ii) details of the proposed data acquisition plan; and iii) a detailed description of the methods and equipment to be used. (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) Other 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.
3.2	Management System demonstration	An applicant for an authorization for any work or activity must have a management system in place that meets the requirements of Part 2 prior to an authorization being issued.

#	Title of Section	Proposed Policy Intentions
3.3	Flow Allocation Approval	(1) If the application for authorization covers a production installation, the applicant shall also submit to the Board for its approval the flow system, the flow calculation procedure and the flow allocation procedure that will be used to conduct the required measurements. (2) The Board shall approve the flow system, the flow calculation procedure and the flow allocation procedure if the applicant demonstrates that the system and procedures facilitate accurate measurements and allocate, on a pool or zone basis, the production from and injection into individual wells.
3.4	Safety Plan	The safety plan shall set out the procedures, practices, resources, sequence of key safety-related activities and monitoring measures necessary to manage hazards and to conduct the proposed work or activity safely and shall include: (a) a summary of and references to the management system, including the Occupational Health and Safety management system (Accord Act versions only), that demonstrate how it will be applied to the proposed, work or activity and how the duties set out in these Regulations with regard to safety (and those under Part III.1 and any regulations made thereunder – Accord Acts only) will be fulfilled. (b) a document that includes i) a summary of all the studies undertaken to identify hazards and to evaluate safety risks related to the proposed work or activity, including any hazards by adjacent or simultaneous activities taking place near the work or activity, (ii) a description of the processes used for identifying those hazards, assessing consequences and probabilities, and evaluating prevention and mitigation measures; (iii) a description of the hazards that were identified and the results of the risk evaluation; (iv) a summary of the measures to anticipate, avoid, prevent, reduce or manage safety risks; and (v) measures for communicating the hazards and risk mitigation measures with all directly affected individuals; (c) a description of all structures, facilities, equipment, and systems critical to safety and a summary of the system in place for their inspection, testing and maintenance; (d) a description of the organizational structure and the command structure for the proposed, work or activity, which (i) clearly explains their relationships to each other, and (ii) provides the contact information and position of the person accountable for the safety plan and of the person responsible for implementing it; (e) if the possibility of ice hazards exists, the measures to address the safety of the operations and the protection of installations, facilities, vessels, pipelines, equipment or systems, including systems for ice detection, surveillance, data collection, reporting, forecasting and, if appropriate, ice avoidance or deflection; and (f) a description of the arrangements for monitoring compliance with the plan and for measuring performance in relation to its objectives, including audits, inspections, data collection and analysis. <u>Diving operations additional requirements:</u> g) For a diving operation: i) a detailed description of the diving activities outlined in the scope of the diving operation outlined in 3.1 (a), i) a description of the practices and procedures to be followed in the diving operation, including i. The minimum continuous period at normal atmospheric pressure required for a diver after completing a saturation dive; ii. The maximum duration of a saturation dive to which a diver will be subjected; and iii. safe and controlled operation of lift bags; j) A description of any additional training that is required to meet the unique or particular needs of the diving operation and that will be provided to a person taking part in the diving operation; k) An explanation of how the Operator ensures that the personnel, procedures and diving installation to be employed in the diving operation meet the requirements of the Act and the regulations and good industry practice; and l) Any specific operational requirements that require the use of pure helium or nitrogen.
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 (a) a summary of and references to the management system that demonstrate how it will be applied to the proposed, work or activity and how the duties set

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		out in these Regulations with regard to environmental protection will be fulfilled; (b) a document that includes i) a summary of the studies undertaken to identify hazards and to evaluate environmental risks related to the proposed operation, work or activity; (ii) a description of the processes used for identifying hazards, assessing consequences and probabilities, and evaluating prevention and mitigation measures; (iii) a description of the hazards that were identified and the results of the risk evaluation; (iv) a summary of the measures to anticipate, avoid, prevent, reduce or manage environmental risks; and (v) measures for communicating the hazards and risk mitigation measures with all directly affected individuals; (c) a list of all structures, facilities, equipment and systems critical to environmental protection and a summary of the system in place for their inspection, testing and maintenance; (d) a description of the organizational structure and the command structure for the proposed work or activity, which (i) clearly explains their relationships to each other, and (ii) provides the contact information and position of the person accountable for the environmental protection plan and the person responsible for implementing it; (e) the procedures for the selection, evaluation and use of chemical substances including process chemicals and drilling fluid ingredients; (f) a description of equipment and procedures for the treatment, handling and disposal of waste material; (g) a description of all discharge streams and limits for any discharge into the environment including any waste material; (h) a description of the system for monitoring compliance with the discharge limits identified in paragraph (h), including the sampling and analytical programs to determine if those discharges are within the specified limits; (i) a description of the arrangements for monitoring compliance with the plan and for measuring performance in relation to its objectives including audits, inspections, data collection and analysis and other related activities; and (j) a description of the procedure to be followed when an archaeological site or a burial ground is discovered during an operation. [for onshore COGOA only].
3.6	Contingency plan	(1) The contingency plan shall set out the procedures, including emergency response procedures, practices and resources and monitoring necessary to effectively prepare for and mitigate against the effects of any foreseeable event that might compromise safety or environmental protection and (at a minimum) shall include, where applicable: (a) a method of classifying incidents and a description of the response actions(measures) for specific incidents; (b) internal and external notification, communication and reporting procedures; (c) procedures for accessing essential safety and environmental information; (d) a description of the organizational design and resources to manage the emergency, including trained personnel, equipment and facilities; (e) a description of the duties, responsibilities and authorities of all key emergency response positions, including job descriptions and checklists; (f) communication protocols with relevant municipal, provincial, territorial or federal agencies; (g) mutual aid arrangements with other operators; (h) coordination and liaison measures with relevant municipal, provincial, territorial or federal emergency response organizations, and notification to any other work or activity in area that may be impacted by the incident; (i) a description of the process for periodic review and updates of contingency plans, including emergency response procedures; (j) personnel evacuation plans, including, if applicable, an evacuation plan for divers engaged in a dive [*include references to requirements under OHS Accord Acts only];* (k) a description and locations of available emergency response equipment (including lifesaving equipment), survival craft and launching facilities, as required, as well as the limitations on their use and mitigation when they become unavailable (or a reference to a document that provides this description); *[As this pertains in part with OHS, include reference to requirements under III.1 (Accord Acts only]* (l) a description and locations of any primary and secondary Emergency Operation Centers; (m) a description and contact information of available support craft (or a reference to the document that provides this description); (n) a description of the location and content of temporary safe refuge (survival shelters) and medical equipment, as required (or a reference to the document that provides this description); *[include a reference to OHS requirement under III.1 Accord Acts only]*

#	Title of Section	Proposed Policy Intentions
		(o) any equipment or other resources identified in the plan; (p) a description of the communication systems designed and protected to enable operation in an emergency and the operation procedures for such systems; (q) frequency and scope of emergency response drills and exercises; (r) description of any services or resources for each response action to be obtained on a contractual basis; and (s) For diving operations, a hyperbaric evacuation plan and a dive bell recovery plan, as applicable. (2) The contingency plan shall include a description of the source control and containment measures and arrangements to stop the flow from an uncontrolled well and to minimize spill duration and environmental effects, and must demonstrate the adequacy of, and access to those measures and arrangements, including: a. the type of subsea containment and capture equipment to be utilized in the event of a loss of well control; b. the identification of suitable relief well rig arrangement; c. details of the ownership of, and confirmation of any contractual arrangements for, the subsea containment and capture equipment and relief well rig, the arrangements for transport to, and mode of deployment at, the incident location; d. the schedule and plan for the mobilization, deployment and operation of such equipment, including mitigation measures and actions to minimize deployment time and taking into consideration required regulatory approvals; and e. the required support systems and equipment, such as vessels and remotely operated vehicles and necessary consumables (e.g. spare wellhead and casings and access to bulk additives required for a relief well). (3) If a spill treating agent is being considered for use as a spill response measure, the applicant shall include in the plan: a) the choice of spill treating agent and any test, where possible, undertaken to demonstrate efficacy of the spill treating agent with the potential sources of pollutants (oil); b) results of a net environmental benefit analysis demonstrating the circumstances in which a net environmental benefit would be achieved by using that spill treating agent; c) a description of the application methods and protocols (including amount and application rate) for safe, effective, and efficient use of a spill treat agent. d) the standard or method from an international standards development organization with consideration of the local environment on which the spill treating agent analysis/assessment/application methods and protocols/criteria/procedures are based and if such a standard/method does not exist, an alternative recognized by the Board; e) a description of the conditions under which a spill-treating agent will be used; f) the estimated time window of opportunity for the use of the spill treating agent; g) a description of the spill treating agent(s), personnel and equipment that an operator will have available for their use, as well as a description of any contract the applicant has with a response organization (4) The assessment of efficacy under a) must use oil obtained directly from the existing or proposed operation, and if that is not available then applicants must use an oil that most closely resembles the oil expected from the existing or proposed operations until the oil becomes available. (5) The proposed methods and protocols under (3)(c) must align with those practices, methods, standards and procedures generally accepted and followed by prudent, diligent, skilled and experienced operators in STA application.

#	Title of Section	Proposed Policy Intentions
3.7	Well Approval	(1) Subject to subsection (2), an operator who intends to conduct a well operation shall obtain a well approval. (2) A well approval is not necessary to conduct a wire line, slick line, or coiled tubing or similar operation through a tree if (a) the work does not alter the completion interval or is not expected to adversely affect recovery; and (b) the equipment, operating procedures and qualified persons exist to conduct the operations as set out in and approved under the authorization as a routine operation. (3) If the well approval sought is to drill a well, the application shall contain (a) a comprehensive description of the drilling program, a detailed geoscientific description of the prospect(s) and a description of any geohazard; (b) all digital data required to allow for an independent geohazard assessment; and (c) a well data acquisition program that allows for the collection of sufficient cutting and fluid samples, logs, conventional cores, sidewall cores, pressure measurements and formation flow tests, analyses and surveys to enable a comprehensive geophysical**,** geological and reservoir evaluation to be made. (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 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).
3.8	Suspension or Revocation of a Well Approval	(1) The Board is authorized **to** suspend the well approval if the safety of the work or activity becomes uncertain because the physical environmental conditions encountered in the area of the activity for which the well approval was granted are more severe than the equipment's operating limits as specified by the manufacturer; or the operator fails to comply with the approvals issued by the Board respecting the flow system, formation flow testing, or commingled production. (2) In the event a well approval is suspended or revoked, the operator shall ensure the situation that caused the suspension or revocation is remedied as soon as the circumstances permit. (3) In the event a well approval is suspended or revoked, the operator shall ensure the well is suspended or abandoned in accordance with any regulatory requirements in Part 13 of these Framework Regulations *[Phase 2].* (4) The Board shall revoke the well approval if the operator fails to remedy the situation that caused the suspension within 60 days after the date of that suspension unless the operator establishes that: (a) Due to circumstances beyond their control it is impossible to remedy the situation within 60 days; and (b) The situation will be remedied in a timely fashion.

#	Title of Section	Proposed Policy Intentions
3.9	Development Plans	(1) For the purpose of subsection 5.1(1) of the Act, the well approval relating to a production project is prescribed. (2) For the purposes of paragraph 5.1(3)(b) of the Act, Part II of the development plan relating to a proposed development of a pool or field shall include a resource management plan. (3) The resource management plan shall include a detailed description, and an analysis, of the following: (a) the geological setting and features of the field and of each pool or hydrocarbon-bearing reservoir; (b) petrophysical data and analytical procedures for each pool (c) the reservoir engineering data and analysis for each pool; (d) estimates of in place resources and recoverable reserves for each pool and for each individual fault block and reservoir subdivision; (e) the proposed reservoir exploitation scheme; (f) potential future developments and the reasons why they are not included in the proposed development; (g) past drilling activities in the area related to the development as well as the proposed drilling program and typical completion designs for the development wells; (h) the production and export systems; (i) the expected overall operating efficiency and reliability of the proposed development; and (j) past expenditures and predicted capital and operating cost data in sufficient detail to permit an economic analysis of the scope of work proposed in the development plan. (4) The resource management plan shall also contain an organizational chart that shows the reporting relationships of the personnel involved in implementing the plan.

PART 4 – OPERATOR DUTIES

#	Title of Section	Proposed Policy Intentions
4.1	Availability of Documents	(1) The operator shall keep a copy of the authorization and other related approvals and plans required under these Regulations, the Act and the regulations made under the Act in a conspicuous location at each installation, pipeline control centre *[COGOA onshore only]* or operations site and shall make them available for examination at the request of any person at that location. The operator shall ensure that a copy of all operating information and procedures, maintenance and inspection records and other procedures and documentations necessary to execute the work or activity and to operate and maintain the installation or pipeline safely, without pollution and without waste are (a) readily and reliably accessible at each installation, pipeline control station centre *[COGOA onshore only]* or operating site and emergency response operations centre, (b) revised and updated as required to ensure they always remain current, and (c) usable under all expected circumstances at each such location.
4.2	Emergency response procedures	The operator shall ensure emergency response procedures are readily and reliably available at all emergency response operations centres or operating sites, and are usable under all foreseeable events at each such site.
4.3	Safety and Environmental Protection	(1) The operator shall take all reasonable precautions required to ensure safety and environmental protection including ensuring that: (a) any operation necessary for the safety of persons at an installation or operations site or on a support craft has priority, at all times, over any other work or activity at an installation or operations site or on that support craft; (b) safe work methods are followed during all work or activities; (c) there is a shift handover system to effectively communicate any conditions, mechanical or procedural deficiencies or other problems that might have an impact on safety or environmental protection; (d) differences in language or other obstacles to effective communication do not jeopardize safety or environmental protection; (e) all persons at, or in transit to or from, an installation or an operations site receive instruction in and are familiar with safety and evacuation procedures and with their roles and responsibilities in the contingency plans, including emergency response procedures; (f) any drilling or well operation is conducted in accordance with good oilfield practices to maintain well control at all times throughout the well's life cycle; (g) if there is loss of control of a well at an installation, all other wells at that installation are shut in until the well that is out of control is secured; (h) plans are in place to deal with potential hazards; (i) all equipment required for safety and environmental protection is available and in an operable condition; j) the list of structures, facilities, equipment and systems included in the safety plan and environmental protection plan is updated after the modification, replacement or addition of any major component; (k) the administrative and logistical support that is provided for drilling, well or production operations includes accommodation, transportation, first aid and storage, repair facilities and communication systems that are fit for the purposes for which they will be used in the area of operations; (l) a number of trained and competent individuals sufficient to complete the authorized work or activities and to carry out any work or activity safely and without pollution is available; and (m) any operational procedure that creates a hazard to safety or the environment is corrected and all affected persons are informed of the alteration. (2) The operator must ensure the measures and arrangements for source control and containment equipment to stop the flow from an uncontrolled well and to minimize spill duration and environmental effects outlined in the Contingency Plan continue to be accessible throughout the authorization period as promptly as possible, and ensure they are deployed as soon as the circumstances permit.

#	Title of Section	Proposed Policy Intentions
4.4	Storing and Handling of Consumables	The operator shall ensure that explosives, fuel, potable water, spill treating agents and containment products, safety-related chemicals, drilling, completion and well stimulation fluids, cement and other consumables are (a) readily available and stored in quantities that are sufficient for normal conditions and any foreseeable emergency condition; and (b) stored and handled in a manner that minimizes their deterioration, ensures safety and prevents pollution.
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.
4.6	Tampering with equipment	No person shall tamper with, activate without cause, or misuse any safety or environmental protection equipment.
4.7	Cessation of a Work or Activity	(1) The operator shall ensure that any work or activity ceases without delay if that work or activity (a) endangers or is likely to endanger the safety or integrity of any operation, the well, the installation or the vessel; or (b) causes or is likely to cause pollution.
4.8	Notification to the Board	When a geoscientific, geotechnical or environmental program is commenced, terminated or cancelled by an operator, the operator shall forthwith notify the Chief Conservation Officer in writing of the date of commencement, termination or cancellation.
4.9	Spill Treating Agents – operator duties and CCO approval	(1) The operator shall ensure that application measures for spill treating agents are safe for the individuals involved in response operations. (2) The operator shall ensure that the application of spill treating agents follows the methodology established in the contingency plan, with modifications approved by the Chief Conservation Officer, as necessary. (3) The operator shall ensure that spill treating agents are applied by competent persons and in accordance with good spill treating agents application practices. (4) The operator shall ensure that all equipment and materials listed in the contingency plan are available and maintained in accordance with the manufacturers' specifications, and in a condition to perform as expected at all times. (5) The operator shall develop a spill treating agent-use monitoring in alignment with best practices, with consideration of the local environment and implement the plan as soon as possible after spill treating agents are used in response operations. (6) The Chief Conservation Officer may approve the use of a spill treating agent under the Act at the time of a spill if the Chief determines that: i. a net environmental benefit likely will result from the application of the STA; and ii. the spill treating agent is likely to be effective in the circumstances. (7) The Chief Conservation Officer must vary, suspend, or revoke the approval given under the Act if the Chief Conservation Officer determines that: i. Monitoring of the use of the STA indicates that a net environmental benefit no longer is likely for a specified period, in a specified area, or both; or ii. Monitoring of the use of the STA indicates that modification is required to achieve a net environmental benefit.

Installation, Systems and Equipment Design, Operation and Maintenance

PART 5 – CERTIFICATE OF FITNESS

#	Title of Section	Proposed Policy Intentions
5.1	**Installations and Vessels**	The following (offshore – COGOA only) installations and vessels are prescribed for the purposes of section 5.12 [equivalent to s.139.2 C-NL and s.143.2 C-NS] of the Canada Oil and Gas Operations Act: • each production installation, drilling installation, accommodation installation, as well as any vessel and dive plant used for diving programs to be operated during any activity authorized by the Board
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 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.
5.3	**Substitutions**	For the purposes of subparagraph 5.2(a)(i), the Certifying Authority may substitute, for any equipment, methods, measure or standard required by any Regulations referred to in that subparagraph, equipment, methods, measures or standards the use of which is authorized by the Chief Safety Officer or Chief Conservation Officer, as applicable under section 16 of the Canada Oil and Gas Operations Act (COGOA). (or equivalent sections in the Accord Acts- 205.069 for Can-NL Act and 210.07 for Can-NS Act)
5.4	**Limitations**	The Certifying Authority shall endorse on any certificate of fitness it issues details of every limitation on the operation of the installation or vessel that is necessary to ensure that the installation or vessel meets the requirements of paragraph 5.2(a).
5.5	**Conditions for Certification**	The Certifying Authority shall not issue a certificate of fitness unless, for the purpose of enabling the Certifying Authority to determine whether the installation or vessel meets the requirements of paragraph 5.2(a) and to carry out the scope of work referred to in paragraph 5.2(b), a. the person applying for the certificate i. provides the Certifying Authority with all the information required by the Certifying Authority;

		ii. carries out or assists the Certifying Authority to carry out every inspection, test or survey required by the Certifying Authority; and iii. submits to the Certifying Authority an inspection and monitoring program, a maintenance program and a weight control program for approval; and b. the programs are adequate to ensure and maintain the integrity of the installation, the Certifying Authority approves the programs referred to in subparagraph (a)(iii).
5.6	**Conflict of Interest**	(1) The certifying authority shall not issue a certificate of fitness in respect of an installation or a vessel if the certifying authority lacks the degree of independence and impartiality necessary to carry out it's duties as certifying authority. (2) At a minimum, the Certifying Authority must a) maintain appropriate segregation of management lines between any work being undertaken by the certifying authority on the design, construction or installation of the installation b) ensure that no party (person or corporate entity) that has carried out the work to be certified or verified takes part in the certification or verification activities; c) ensure appropriate barriers and processes are in place to deal with potential or perceived conflicts of interest that could result in bias in their ability to independently verify compliance with the regulatory requirements and to otherwise execute their responsibilities as a certifying authority; and d) Demonstrate the above in the statement of work submitted to the Chief Safety Officer for approval under 5.9. (3) The Certifying Authority must demonstrate to the Chief Safety Officer's satisfaction, and prior to the issuance of a certificate, how it has achieved/ensured the required independence and impartiality, and identified any possible or perceived conflicts prior to beginning activities related to the Scope of work. (4) The Certifying Authority must continue to monitor for and identify all potential conflicts of interests throughout the duration of the certification activities and as soon as possible inform the applicant and the Board of any such real or perceived conflicts. (5) When considering a change of Certifying Authority as per 5.14, a Certifying Authority is not considered to be in a conflict of interest, even if it was involved, other than as a Certifying Authority or a classification society, in the design, construction, transportation, installation, and/or commissioning of the installation or vessel or any of their systems, if a certificate of fitness has already been issued by another Certifying Authority who was not involved, other than as a Certifying Authority or classification body, in the design, construction, transportation, installation and/or commissioning of the installation or vessel or any of their systems. (6) Once the installation, equipment and systems have been commissioned and a Certificate of Fitness issued for the installation, then if there is a change in Certifying Authority, the incoming Certifying Authority would not be considered in a conflict of interest even if they or a subsidiary had been involved in the design, construction, installation or commissioning of the installation or vessel or their systems. The incoming Certifying Authority or its subsidiaries cannot, however, be involved in the design, construction, installation or commissioning, other than as a Certifying Authority or classification body, of any pending or future modifications or upgrades to the installation or vessel or their systems.
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 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 Occupational Health and Safety Regulations listed in Schedule 2 (TBD), 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, as well as a description of how the associated performance standards are to be developed; 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 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.
5.8	**Submission of the Scope of Work**	The Certifying Authority shall, for the purposes of issuing a certificate of fitness in respect of an offshore installation or vessel, submit a scope of work, based on the approved certification plan in s. 5.7, to the Chief Safety Officer for approval. 
5.9	**Approval of the Scope of Work**	The Chief Safety Officer shall approve a scope of work where the Chief Safety Officer determines that the scope of work; a. is sufficiently detailed to permit the Certifying Authority to determine whether the installation or vessel meets the requirements of paragraph 5.2(a); and b. provides the means for determining whether i. the environmental criteria for the region or site and the loads assumed for the installation or vessel are correct; ii. the safety critical elements defined in the certification plan for the installation or vessel are complete; iii. in respect any installation included in a development concept, the concept safety analysis required by s. 6.2 meets the requirements of that section; iv. in respect of a new installation or vessel, the installation has been constructed in accordance with a quality assurance program referred to in s. 6.1. v. the operations manual meets the requirements of s. 6.26; vi. the construction and installation of the vessel or the installation has been carried out in accordance with the design specifications established in Part 6, in those sections of Part 7 listed in Schedule 1, in those sections of the OHS regulations listed in Schedule 2 (e.g. OHS reg sections to be verified against), and for diving vessels and plants, in those sections of Framework or OHS regulations listed in Schedule 3; vii. the materials used in the construction and installation of the installation or vessel meet the design specifications set out in Parts 6 and 7; and viii. the structures, facilities, equipment and systems critical to safety, and to the protection of the natural environment, are in place and functioning appropriately; c. has clearly articulated the list of performance standards to be verified, and related Certifying Authority methods to verify them and for the ongoing fit for purpose determination; and d. is sufficiently detailed in describing the type, extent and frequency of reporting that is acceptable to the Chief Safety Officer for ongoing monitoring of the certification process being undertaken by the Certifying Authority in support of s. 5.13 and any reporting requirements of these regulations.
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.

		(2) The scope of work will also specify the work to be undertaken prior to renewing any certificate of fitness.
5.11	**Certification Period**	(1) If the Certifying Authority determines that, when the installation or vessel is maintained in accordance with the programs submitted to it under subparagraph 5.5(a)(iii), the installation or vessel will meet the requirements of paragraph 5.2(a) for a period of at least five years, the Certifying Authority shall endorse on the certificate of fitness an expiration date that is five years after the date of issuance. (2) If the period of time referred to in subsection (1) is less than five years, the Certifying Authority shall endorse on the certificate of fitness an expiration date that is the number of years or months in that lesser period after the date of issuance. (3) A certificate of fitness shall expire on the expiration date that is endorsed on it. The operator can request up to a maximum of a three month extension to the Certifying Authority provided the rationale for the extension is accepted by the Chief Safety Officer.
5.12	**Applicable Site or Region**	1) The Certifying Authority shall endorse on the certificate of fitness a description of the site or region in which the installation or vessel is to be operated. (2) A certificate of fitness is valid for the operation of the installation or vessel at the site or in the region that is endorsed on it.
5.13	**Certificate No Longer Valid**	(1) Subject to subsections (2) and (3), a certificate of fitness ceases to be valid where: a. the Certifying Authority or the Chief Safety Officer determines i. that any of the information submitted under subsection 5.5 was incorrect and that the certificate of fitness would not have been issued if that information had been correct, ii. that the installation or vessel no longer meets the requirements of paragraph 5.2(a), or iii. that the installation or vessel has not been inspected, monitored and maintained in accordance with 5.2a(iii) or that any limitations endorsed on the certificate of fitness have not been implemented or addressed; or b. the Chief Safety Officer determines that the Certifying Authority has failed to carry out the scope of work relating to the installation or vessel in respect of which the certificate of fitness was issued. (2) At least 30 days before a determination is made pursuant to subsection (1), notice, in writing, that a determination is going to be made shall be given: a. in the case of a determination by the Certifying Authority, by the Certifying Authority to the Chief Safety Officer and the person to whom the certificate of fitness in respect of which the determination is to be made has been issued; and b. in the case of a determination by the Chief Safety Officer, by the Chief Safety Officer to the Certifying Authority and the person referred to in paragraph (a). (3) Before making a determination pursuant to subsection (1), the Certifying Authority or the Chief Safety Officer, as the case may be, shall consider any information in relation to that determination that is provided by any person notified pursuant to subsection (2).
5.14	**Change in Certifying Authority**	(1) Where a person to whom a certificate of fitness has been issued intends to change the Certifying Authority in respect of an installation or vessel, the person shall: a. notify the Chief Safety Officer as soon as possible after that person determines that they will be changing the Certifying Authority; b. develop and submit to the Chief Safety Officer a detailed transition plan outlining all of the activities to be completed before transitioning from the

		outgoing Certifying Authority to the incoming Certifying Authority prior to the commencement of transition activities and must demonstrate that there will not be any gaps, delays or negative impacts on the extent and quality of the verification activities as a result of the transition from one Certifying Authority to another; and c. ensure that the new incoming CA has submitted for approval to the Chief Safety Officer a new Scope of Work prior to the commencement of transition activities. (2) There will only be one active Certificate of Fitness, and therefore only one Certifying Authority of record, at any given time. Therefore, there must be a defined point in time where the incoming Certifying Authority takes over as the Certifying Authority of record at which time their Certificate of Fitness is now the one of record and the outgoing Certifying Authority's Certificate of Fitness is no longer valid. (3) If the person proposes a change of Certifying Authorities prior to the issuance of an initial certificate of fitness, the new incoming Certifying Authority cannot rely on the outgoing Certifying Authorities' certification work and must undertake their own independent verification activities.
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.
5.16	**Reporting 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. (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.

PART 6 – INSTALLATION ANALYSIS, DESIGN, CONSTRUCTION AND MAINTENANCE

#	Title of Section	Proposed Policy Intent
6.1	**Quality Assurance Program**	(1) The operator shall ensure that every installation is designed, constructed, installed, commissioned, inspected, maintained, operated, modified, suspended, decommissioned and abandoned in accordance with a comprehensive, established, documented and implemented process based quality assurance program to ensure that the installation is and remains fit for purpose and meets specified regulatory requirements. (2) The quality assurance program shall be based on the principles of client focus, leadership, engagement of people, process approach, improvement, evidence based decision making and relationship management in which risk based processes are used in formulating the program requirements. (3) The quality assurance program shall assign senior management to have overall accountability for the implementation and effectiveness of the program through: a. establishing and communicating the policy; b. ensuring appropriate resources and infrastructure are in place for the effective operation and control of all processes; c. ensuring that responsibilities, authorities and competencies for relevant roles are assigned, understood and complied with; d. establishing processes for reporting on the performance of the system and ensuring the integrity of the system is maintained when changes are planned and implemented; e. ensuring the system is subject to regular schedule of Internal audits with any corrective actions being adequately addressed to closure; and f. ongoing Management review at prescribed intervals. (4) The quality assurance program shall have a continuous improvement cycle in which all processes are planned and documented with established quality objectives at relevant functions and levels, implemented in accordance with the established plans, monitored, measured, evaluated and records maintained for the effectiveness in meeting the established objectives, and modified as necessary to improve overall performance.
6.2	**Concept Safety Analysis** **And** **QRA**	(1) Every operator shall, at the time the operator applies for a development plan approval, submit to the Chief Safety Officer a comprehensive Concept Safety Analysis of the development concept that considers all activities associated with each phase in the life cycle of the development, [including the [offshore] construction, installation, operation, decommissioning and abandonment phases], as well as all installations, facilities, equipment and systems that are proposed as part of the development concept. (2) The Concept Safety Analysis shall: a. Identify all hazards having the potential to cause a major accidental event; b. Include a detailed and systematic assessment of the unmitigated risks associated with each of those hazards, including the likelihood and consequences of each potential major accidental event; c. Define target levels of safety for the risk to life and the risk of damage to the environment that are to be achieved for all activities within each phase of the life-cycle of the installation, facilities, equipment and systems; d. Identify all underlying assumptions and control measures that are to be implemented to reduce those risks to a level that is as low as reasonably

		practicable; and e. Provide a determination of the effects of any potential additional risks resulting from the implementation of the proposed control measures. (3) The operator shall ensure that the design assumptions and all control measures identified in the Concept Safety Analysis are included in the Safety Plan, Environmental Protection Plan and Contingency Plan, as appropriate, submitted with the authorization application. (4) Target levels of safety noted in paragraph (2) c) must be approved by the Chief Safety Officer at the time the operator applies for a development plan approval. (5) The target levels of safety referred to in paragraph (2) c) shall be based on assessments that are a. quantitative, where it can be demonstrated that input data are available in the quantity and of the quality necessary to demonstrate the reliability of the results; b. qualitative, where quantitative assessment methods are inappropriate or not suitable. (6) The operator shall review, re-validate, maintain and update the Quantitative Risk Assessment that is based on the Concept Safety Analysis as often as necessary, and, in all cases, at a minimum interval of every five (5) years, throughout the life of the development to account for changes in the installation(s) and design basis physical and environmental operating conditions and limits that may affect its validity and to verify the ongoing suitability of the control measures to maintain risk to a level as low as reasonably practicable. (7) The operator shall include in the Quantitative Risk Assessment a definition of the situations and conditions, including changes in design basis physical and environmental operating conditions and limits, and of the changes in operating procedures and practices that would necessitate an update of the Quantitative Risk Assessment.
6.3	**Innovations**	(1) The operator shall ensure that any new proposed technology has been independently verified, through a systematic and comprehensive technology qualification process, to be safe and fit for purpose for its intended application. (2) Any proposal to apply design methods, materials, joining techniques, construction techniques, or other technologies that have not previously been used in comparable situations shall be proven through: a. engineering studies, prototypes or model tests, or a combination thereof, to demonstrate the adequacy of the method, material or technique; and b. implementation of a performance monitoring and inspection program that is designed to permit the determination of the effectiveness of the method, material or technique.
6.4	**Physical and Environmental Conditions**	(1) The Operator shall ensure that every installation or pipeline is designed to withstand or avoid, without loss of overall structural integrity or main safety function, all foreseeable site-specific physical and environmental conditions, or any foreseeable combination of physical and environmental conditions at its intended location. (2) The Operator shall ensure that comprehensive and reliable environmental design criteria are systematically determined for every installation or pipeline based on representative regional and site-specific data and statistical analysis and modeling of physical, oceanographic, meteorological, ice, geotechnical and seismic conditions and hazards, including:

		a. Oceanographic conditions, including waves and sea states, currents, tides, marine growth, water depth, bathymetry, variations in sea level and any potential submerged or partially submerged navigational and other hazards; b. Land and inland water conditions including currents, ice, terrain and shoreline features, and any potential submerged or partially submerged navigational and other hazards [COGOA for onshore only] c. Meteorological conditions, including wind speed and prevailing direction, air and sea temperature, precipitation, number of daylight hours, and variations in visibility; d. Geotechnical conditions and geoharzards, including seismic hazards, slope stability, soil [COGOA onshore only] sea floor and sediment characteristics, scour, erosion, subsidence, flooding [COGOA onshore only], gas hydrates and biogenetic gases [COGOA only], shallow gas and permafrost conditions; e. Ice conditions, including icebergs, sea ice, ice drift, ice scouring, strudel scouring, icing of surfaces and any other issues associated with arctic and cold regions, as appropriate; f. Inland ice conditions, including ice flow directions, ice scouring, and any other associated ice features, as appropriate [COGOA only]; and g. Any other naturally occurring phenomena that may affect or pose a hazard to the installation. (3) The Operator shall ensure that every installation operating in a marine environment where ice conditions could be expected is designed to withstand or avoid foreseeable ice conditions to ensure safety and environmental protection, taking into consideration: a. Measures to manage, minimize or avoid ice loads on the installation; b. Measures to protect marine riser, offloading and other sub-sea systems; c. For mobile installations and vessels, i. Measures to protect or prevent damage to propulsion or positioning systems; and, ii. Measures to ensure safe transit through ice-infested waters. d. Measures to prevent or manage loads associated with ice and snow accumulation on the installation's structural components; and e. Measures to ensure that ice conditions would not adversely impact the functionality of safety and environmentally critical systems and related devices. (4) Based on the results of analysis and tests described in s. 6.5, the Operator shall identify and record the physical and environmental conditions under which the installation or pipeline can safely operate and under which it can survive and shall ensure: a. All physical and environmental conditions that could pose a hazard to the installation or pipeline are documented and communicated to operating personnel; b. Safe operating environmental limitations are defined, communicated and included in operating procedures; and c. Measures to detect, avoid, prevent, reduce and manage physical and environmental hazards are developed and implemented in operations and/or incorporated into the design of the installation where required. (5) Design for cold climate operation, when identified as an environmental condition in the analysis required above, shall include suitable means to reduce safety and environmental risks associated with cold climate operations to as low as reasonably practicable, including but not limited to, materials selection, housings, windbreaks, insulation, heat tracing and other means or measures designed to: a. ensure reliable function of all safety and environmental protection related equipment and systems, including systems and equipment needed to operate in the event of an emergency; b. prevent fluids from freezing or having property changes where this would affect safety, the operability of the installation or lead to environmental damage;

		c. reliably prevent snow and ice accretion from occurring where any accretion endangers safety and the environment, d. reliably remove snow and ice accretion where it occurs and accumulation endangers safety and the environment, including redundant capabilities; e. permit drilling and production operations and inspection and maintenance activities to be conducted safely; f. ensure all electrical cabling in open or unheated spaces, [irrespective of system] shall maintain its properties under cold-climate conditions and is protected from mechanical damage from impact or damage.
6.5	**General Design, Tests and Analysis**	(1) The operator shall ensure that every installation or pipeline is designed to reduce risks to as low as reasonably practicable. (2) Without limiting the generality of (1), an operator shall additionally define target levels of safety for the risk to life and the risk of damage to the environment that are to be achieved for all activities within each phase of the life-cycle of the installation or pipeline including all related facilities, equipment and systems. (3) The operator shall ensure an installation or pipeline, including its structural components, skids, modules and other structures (installed) is designed for its intended use and location, taking into account: the nature of the activities on and around the installation or pipeline and associated hazards, including geohazards; material properties or dimensions that may vary in time due to environmental condition effects such as corrosion or variable ambient or operating temperatures, failure modes, applicable factors of safety, and features for inspection. (4) The design of an installation or pipeline, including structural components, skids, modules and other structures (installed), shall include such analyses, model tests, numeric modelling and site investigations as are necessary to determine the behaviour of the installation or pipeline, and of the soils that support the installation or pipeline or their anchoring systems, under all foreseeable construction, transportation, installation, and operating conditions and loads during design service life, including any potential geohazards. (5) In particular, installations and pipelines and their structural components skids, modules and other structures (installed) shall be designed to ensure that: a. they will withstand extreme loads [including loads imposed by geohazards] liable to occur during their construction and anticipated use; b. they will perform as intended under all expected normal loads during their operation; c. they will not fail under repeated loads; d. consequent damage is not disproportionate to the cause, and that local damage does not lead to progressive or complete loss of integrity of the structure; e. in the event of all foreseeable damage to the installation or pipeline it will retain sufficient integrity for the necessary time to enable action to be taken to safeguard the safety of persons on or near it; f. for offshore installations i. floating structures incorporate sufficient damaged stability and reserve of buoyancy such that credible scenarios of unintended flooding do not result in loss of the structure; and ii. station keeping systems of floating structures incorporate sufficient redundancy such that the structure can withstand the loss of a station keeping component. (6) The operator shall ensure that, with reference to (5) (d) and (e), the design of every installation includes consideration of all credible accidental loading scenarios, including vessel collision and helicopter impact.

6.6	**Fire, Explosion and Hazardous Gas Risk Assessment**	(1) The operator shall ensure that a methodical and comprehensive fire and explosion risk assessment, as well as a hazardous gas containment and risk assessment are carried out for every installation to: a. identify the types, sources, likelihood and unmitigated consequences of fires and explosions that could occur at the facility; and b. identify: i. where practicable, design measures to eliminate identified fire, gas and explosion hazards; and ii. where hazards cannot be eliminated through design measures, then identify all necessary control measures, including but not limited to prevention, detection and mitigation measures, to reduce the risk arising from identified fire, gas and explosion hazards to as low as reasonably practicable. (2) The assessments shall consider: a. accidental scenarios determined through a formal evaluation of fire, blast and evacuation, including assessment of potential fire loadings and blast pressures based on the specific hazards associated with the general layout of the installation, production and process activities, well operations, and operational constraints, and the duration and type of fire or explosion event, including but not limited to consideration of: i. hydrocarbon fires (including: single or multi-phase gas jet fires, diffusive gas cloud fires, blow outs, Boiling Liquid Expanding Vapour Cloud Explosions (BLEVEs); liquid spray fires; liquid pool fires; LNG fires); ii. fires on the sea or on land [COGOA onshore only]; and iii. combustion of other combustible substances such as diesel fuel, propane [COGOA onshore only], hydraulic fluids, lubricants, cable insulation, methanol, mono and tri ethylene glycols; b. suitable means of detecting: i. explosive or toxic gas releases from identified possible sources; and ii. outbreaks of fire, in the event that such releases occur; c. suitable means of isolating and safely storing hazardous substances, such as fuel, explosives and chemicals; d. safe means of evacuation, escape and rescue as it relates to identified fire and explosions hazards; and e. suitable levels of emergency shut down of the installation systems upon detection of b).
6.7	**Passive Fire and Blast Protection**	(1) The operator shall ensure that every [offshore – COGOA only] installation is equipped with sufficient passive fire and blast protection and barriers, that are designed, certified, arranged, installed and maintained to reduce the effects of fire and blast to safety of personnel, the installation and the environment to a level that is as low as reasonably practicable, and to: a. prevent escalation of fire and explosion events from one area to adjacent areas; b. ensure the integrity of temporary safe refuge(s) and associated facilities for communication, command, monitoring, control and evacuation for the time necessary, as determined in accordance with 7.37; c. protect personnel from fire (heat and smoke) for sufficient time to enable escape to temporary safe refuge; d. protect safety critical systems and equipment including any equipment that is to remain active in the event of an emergency or the failure or malfunction of which would cause increase risk to safety or the environment; and e. maintain structural integrity for the required period of time [per 6.5 (4)(e)]. (2) The operator shall ensure that passive fire and blast protection and division arrangements are designed to protect against and mitigate foreseeable

		accidental events and loads identified in the fire, explosion and hazardous gas risk assessment required under 6.6. (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. (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. New onshore section (COGOA onshore only): The operator of an onshore installation shall ensure that the design and control measures identified in the Fire, Explosion and Hazardous Gas Risk Assessment (6.6) are implemented to: a) prevent escalation of fire and explosion events from one area to adjacent areas; b) ensure the integrity of temporary safe refuge(s) and associated facilities for communication, command, monitoring, control and evacuation for the time necessary, as determined in accordance with 7.39. c) protect personnel from fire (heat and smoke) for sufficient time to enable escape to temporary safe refuge; [At minimum], the operator shall ensure that temporary safe refuge, muster stations, and accommodations are located a suitable physical distance from areas with identified, fire, gas and explosion hazards to safety and the environment from the effects of fire and explosions.
6.8	**Prevention and Mitigation of Major Accidents**	(1) The operator shall ensure that the reliability and availability of every system, the failure of which could cause or contribute substantially to a major accident event or the purpose of which is to prevent or limit the effects of a major accident event, is demonstrated through formal and appropriate risk and reliability analysis techniques to identify required redundancies and measures to protect that system from failure. (2)The operator shall ensure that the results of the analysis in (1) are reflected in the design of installations, systems and equipment, and in associated

		operating and maintenance manuals.
6.9	**Offshore Pipelines**	(1) The operator of a pipeline shall develop a pipeline integrity management program that anticipates, prevents, manages and mitigates conditions that could adversely affect safety or the environment during the design, construction, operation, maintenance or abandonment of a pipeline. (2) The operator shall ensure that all [offshore – Accord Act versions only] pipelines are designed, constructed, installed, operated, and maintained in accordance with CAN/CSA-Z662-15 *Oil and gas pipeline systems*.
6.10	**Materials for Installations and Pipelines**	The operator shall ensure the initial and continued structural integrity of an installation or pipeline by using materials that are: a. suitable for their intended use and location, taking into account material properties or dimensions that may vary over time, or in response to environmental condition effects [including, but not limited to, repetitive loading, corrosion (including deterioration due to incompatibilities of joined materials), effects from accidental events (including fire, explosions or dropped objects), or distortions or deformations imposed during construction; b. non-combustible, where practicable; and c. selected to ensure their behaviour, in the event of fire or explosion, will not increase the probability that fire or explosion will impact areas beyond its point of origin, and that they will not increase exposure of personnel to toxic fumes or smoke.
6.11	**Classification**	The operator shall ensure that every installation that is a floating platform shall be classed by a classification society. Further, ~~construction~~ vessels must be appropriately classed for the intended activity.
6.12	**Air Gap**	**Air gap:** The operator shall ensure that every offshore installation (i.e. bottom founded, column stabilized) has sufficient air gap to operate safely and without incidents under the maximum anticipated environmental load conditions. **Freeboard:** The operator shall ensure that every installation [i.e. if and when it is floating, in service or in transit] has sufficient freeboard to operate safely and without incident under the maximum anticipated environmental load conditions.
Def'n	**Definition of air gap**	The clearance between the highest water or ice surface that occurs during the extreme environmental conditions and the lowest exposed part not designed to withstand wave or ice impingement.
Def'n	**Definition of freeboard**	The distance measured vertically downward between the top of the hull and the mean water surface at a given draft (ice or green water), or the distance measured vertically from the recorded high-water mark to the top of a structure (e.g. artificial island, dam…) associated with the water [COGOA only].

6.13	**Motion Response and Stability of Mobile Floating Platforms**	(1) The operator shall ensure the stability and safe operability of every floating platform (under intact and damaged conditions) relative to all motions and loads to which it is anticipated to be subjected, including by: a. determining the stability and motion response characteristics using analytical methods or model tests, or a combination thereof; b. determining the critical maximum loads and motions the platform is capable of withstanding; c. monitoring and recording all loads that could affect motions, stability and inclination of the platform; and d. ensuring that all equipment are properly sea-fastened to preclude their unintended movement. (2) The operator shall ensure that stability characteristics of every floating platform are determined and maintained in accordance with the relevant requirements of the International Maritime Organization MODU Code or Intact Stability Code as appropriate/ applicable and as amended from time to time. (3) The operator shall undertake a gap analysis between the requirements in the current version of the MODU code and the version that was used for the design and construction of the platform. Any gaps must be risk assessed and mitigations implemented as required by the risk assessment. (4) An inclining test is required to be conducted during every 5-year classification society survey for every floating platform, except where there is no significant discrepancy between weight records and the results of the second test, in which case subsequent tests need only be carried out during every alternate 5-year survey.
6.14	**Special Considerations for Self-Elevating Mobile Platforms**	(1) The operator shall ensure the stability and safe operability of every installation that is a self-elevating mobile platform and that: a. a site specific assessment of stability and seabed, lakebed or riverbed [COGOA only] restraint will be carried out for each operating location; b. their structures are designed to withstand all anticipated static and dynamic loads imposed in all modes of operation including transit, installation and retrieval, and elevated conditions; and c. they are equipped with systems to actively monitor the following: i. hull inclination; ii. leg penetration; iii. leg loads; and iv. rack phase differential (where applicable to the design). (2) Jacking mechanisms for installations that are self-elevating mobile platforms shall be designed so that a single failure of any component does not cause an uncontrolled descent of the platform. (3) The operator shall ensure that operations on an installation that is a self-elevating mobile platform [once the rig is jacked and operational] are suspended, and all wells associated with the installation are brought to a safe shut in condition, should any of the following occur: a. Hull inclination (longitudinal or transverse) and/or rack phase differential exceeds allowable limits; b. Unexplained changes occur in the load of any of the installation's legs; c. Leg penetration increases; or d. Any other event that threatens the stability of the installation. (4) The operator shall ensure that operations remain suspended until such time as the cause has been investigated and the change in condition is

		understood and has been rectified.
6.15	**Station Keeping**	**Mooring Requirements:** (1) The operator shall ensure every mooring system for a floating platform is designed to maintain the platform's position and orientation within prescribed limits and is suitable for its intended use and location, taking into account changes to the condition of the mooring system and operating environment over time. (2) The design of every mooring system shall include sufficient analysis and model testing to ensure: a. safety; b. protection of the environment; c. stability and serviceability of the floating structure; d. sufficient redundancy to enable the installation to maintain position with the loss of a single mooring component, or, for thruster assisted mooring systems, the loss of the most effective thruster or a single failure in the power or control system; e. the installation is capable of moving from its position to avoid accidental events for which it is not designed; f. for thruster assisted moorings, survivability of the platform in the event of power blackout in extreme weather conditions; g. serviceability of the mooring system equipment, including related topside equipment; h. integrity and serviceability of drilling, production, export or other types of risers; i. safe access to and clearances with respect to nearby subsea or surface installations, support vessels, and evacuation systems; and j. any other special positioning requirement. (3) Every floating platform must have systems and processes to actively detect loss of station keeping or failure of any mooring system component/station keeping component. Mooring line tensions shall be monitored and maintained within operating limits. (4) The operator shall ensure that suitable arrangements are in place to monitor and maintain the integrity of a mooring system throughout its design service life. (5) Inspection and maintenance procedures shall be developed, implemented and documented to ensure continued integrity to fulfill original design expectations, and shall include: a. planned maintenance and inspection of the system; b. periodic assessment of its condition; c. assessment of damage or suspected damage; and d. arrangements for timely repair and/or change-out in the event of damage or deterioration. **Dynamic Positioning Requirements:** (6) The operator shall ensure that every dynamic positioning system on an installation is capable of reliably maintaining the floating platform's position and orientation within prescribed limits to ensure safety, protection of the environment and integrity of operations and property.

		(7) The design of every dynamic positioning system shall: a. be carried out with sufficient numerical analysis and model testing to ensure position reference and directional control can be maintained within specified tolerances to satisfy design operational requirements under all expected functional and environmental loads at its intended location; b. include a failure modes and effects analysis to ensure sufficient segregation and redundancy of safety critical systems and components to maintain position in the event of (credible scenarios of) equipment failure, fire or flooding; c. withstand loss of all dynamic positioning system components in any one watertight compartment or fire subdivision, from fire or flooding; and d. include systems to monitor critical system operability and integrity parameters, and to provide alerts for critical system faults. (8) Every dynamic positioning system shall be maintained to ensure continued reliability and integrity to design specification. (9) The operator shall ensure that every floating platform that uses dynamic positioning has a disconnect system capable of (and has been demonstrated to be capable of): a. planned disconnection, which allows ample time to prepare risers and subsea flowlines for disconnect; b. emergency disconnection, which allows sufficient time to safely shut in wells and subsea assets; and c. safe reconnection to be carried out in an orderly sequence and within pre-determined environmental limits. (10) The operator shall ensure that the Emergency Disconnect System is initiated should the excursion limits be exceeded.
6.16	**Disconnectable Mooring System**	(1) The operator shall ensure that the mooring disconnection system included on an installation that is a floating platform to satisfy the requirements of 6.15(2)(e) (to limit exposure to foreseeable design situations that would exceed specified mooring system or structural design limits) is designed to ensure disconnection can be accomplished in a controlled manner without: a. impairing the safety of personnel on board the installation or a neighbouring infrastructure; b. creating undue risk to the environment; and c. risk of drift off. (2) Every disconnectable mooring system shall be designed and maintained to ensure that the combined risk of exposure to design situations that would exceed structural or mooring system design limits, and risk of failure to safely disconnect are as low as reasonably practicable, and, within approved target levels of safety. (3) Nothwithstanding (2), the design of every disconnectable mooring system shall include a primary system and at least one back up system to achieve disconnection, both of which can be operated from a local and remote location. (4) Every floating platform that has a disconnectable mooring system for the purposes of (1) shall be: a. capable of safely manoeuvering away under its own power; and b. capable of maintaining safe position and heading while disconnected.

		(5) The operator shall ensure that clear criteria and procedures are established for disconnect for all credible risk scenarios in accordance with 6.15(2)(e), and that procedures are implemented (by competent personnel) to monitor environmental conditions to forecast and provide alerts for worsening conditions that may require disconnection. (6) The operator shall ensure that every disconnectable mooring system is capable of (and has been demonstrated to be capable of): a. planned disconnection, which allows ample time for depressurizing and flushing of flowlines and for start-up of production after the platform has been reconnected; b. emergency disconnection, which allows sufficient time to safely shut in wells and subsea assets; and c. safe reconnection to be carried out in an orderly sequence and within pre-determined environmental limits. (7) The operator shall ensure that the disconnect capability is demonstrated on a periodic basis for the installation it is being used.
6.17	**Ballast and Bilge Systems**	(1) The operator shall ensure that every floating platform is equipped with redundant and robust ballast and bilge systems to maintain necessary draught, stability and hull strength under all anticipated environmental and operating conditions, with capability to bring the platform to a safe condition from an unintended draught, trim or heel. The systems shall be designed to prevent unintended transfer of fluid within the system, to empty and fill all tanks within the system and to empty watertight spaces in an efficient manner. (2) The operator shall ensure that the ballast and bilge systems of every floating platform are designed and maintained in accordance with the relevant requirements of the International Maritime Organization MODU Code or the Intact Stability Code as amended from time to time. (3) No floating platform shall be considered to comply with this section until the ballast and bilge system has been assessed through a failure modes and effects analysis. (4) Every column-stabilized mobile offshore platform shall be equipped with a secondary ballast control station equipped with: (a) an effective means of communication with other spaces that contain equipment relating to the operation of the ballast system; (b) a ballast pump control and status system; (c) a ballast valve control and status system; (d) a tank level indicating system; (e) emergency lighting; (f) heel and trim indicators; (g) a permanently mounted ballast schematic diagram; (h) Draught indicating system; (i) power availability indicating system (main and emergency); and (j) Ballast system hydraulic/pneumatic pressure-indicating system. (5) The main and secondary ballast control stations shall be located above the waterline in the final condition of equilibrium after flooding when the platform is in a damaged condition.

6.18	**Watertight Integrity of Floating Platforms**	(1) The operator shall ensure that every floating platform is designed, built, equipped, monitored, operated and maintained to ensure its watertight integrity. (2) Every floating platform will be designed with sufficient watertight compartmentation to ensure preservation of reserve buoyancy and damage stability under all foreseeable environmental, operating and accidental conditions. (3) Freeboard, watertight compartmentation, and arrangement and specification of watertight and weathertight appliances shall be determined in accordance with class and relevant requirements of the International Maritime Organization, including the IMO *MODU Code, Intact Stability Code* and the *International Convention on Load Lines*, as amended from time to time. (4)The Operator shall ensure that the arrangement and specification of watertight and weathertight appliances includes all necessary safety features to reduce risk to personnel to as low as reasonably practicable. (5) Every floating platform shall be designed with systems and equipment that provide for operating, monitoring and alarm indication, both locally and at the ballast control stations, of the operational position of watertight doors and hatches, as well as detection and alarm indications of water ingress into watertight protected spaces that are not designed to have accumulation of fluid. (6) The operator shall ensure that for every floating installation that is flagged outside Canada, a list of all flag state administration decisions and exemptions from IMO code requirements are identified and that a risk assessment be conducted to identify areas that require mitigating measures to reduce risks to as low as reasonably practicable. The list, analysis and proposed action plan shall be submitted to the Chief Safety Officer prior to an authorization being issued.
6.19	**Classification and Access to Hazardous Locations**	(1) The operator shall ensure that every platform is divided into different hazardous areas according to the type of activities that will be carried out and according to the associated hazards; and that higher risk areas are segregated from lower risk areas, and from areas containing important safety functions. (2) The operator shall ensure that hazard identification and risk assessments are carried out for each area to identify hazardous areas in which an explosive atmosphere may occur. (3) Hazardous areas identified in (2) 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. (4) The operator shall ensure that direct access between hazardous and non-hazardous areas and between hazardous areas of different classification are avoided where practicable and minimized where necessary. (5) Where such openings are necessary, they shall be designed to prevent uncontrolled (atmospheric) communication between the areas. (6) The operator shall ensure that mechanical and electrical piping systems on every installation are designed to preclude direct communications between hazardous and non-hazardous areas and between hazardous areas of different classifications.
6.20	**Ventilation of Hazardous and**	(1) The operator shall ensure that every enclosed hazardous area on an installation is ventilated:

	Non-Hazardous Locations	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 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 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; 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. (6) The power for a mechanical ventilation system provided in accommodation areas, working areas, flammable liquid storage areas and other hazardous locations of an installation shall be capable of being shut off from the control station and from a position that is outside the area being served by the ventilation system and that will remain accessible during any fire that may occur within the area being ventilated. (7) The main inlets and outlets of all ventilation systems shall be capable of being closed from a position that is outside the area being served by the ventilation system and that will remain accessible during any fire that may occur within the area being ventilated. (8) The operator shall ensure that every ventilation system serving for non-hazardous areas on installations is equipped with emergency or contingency measures in the event of a mechanical ventilation failure or gas detection, including: a. audible and visual alarms; b. automated means of isolation to prevent gas from entering the non-hazardous area; and c. the ability to remotely seal the area (including inlets and outlets of all ventilation systems) from the control station and from a position outside the area being served by the ventilation system which will remain accessible during any fire that may occur within the area being ventilated.
6.21	**General Electrical**	(1) All electric motors, lighting fixtures, electrical wiring and other electrical equipment on the installation shall be designed, selected, installed, maintained,

	Standards	tested and operated to ensure safety and reliability under all foreseeable physical, environmental, and operating conditions to which they will be exposed. (2) The operator shall ensure that every electrical system is designed with safeguards and other protection so as to: a. avoid any abnormal conditions and faults that can result in danger for the personnel and the facility. b. alert and mitigate abnormal conditions and faults that can result in danger for the personnel and the facility. (3) The operator shall ensure that where a primary or secondary distribution system for power, heating or lighting, with no connection to earth, is used on an offshore installation, a device capable of continuously monitoring the insulation level to earth and of giving an audible or visual indication of abnormally low insulation values shall be provided. (4) The operator shall ensure that the primary source of electrical power on every offshore installation: a. ensures continuous availability of power generation and distribution; b. is capable of supporting all normal operations without recourse to the emergency source of electrical power required by s. 7.36; and c. if one of the power plants is out of operation, is capable of supporting all operations except drilling and production operations. 5) The operator shall ensure that the primary source of electrical power on every onshore installation or operations site (a) is capable of supporting all normal operations without recourse to the emergency source of electrical power; and, b) if the primary source of electrical power is out of operation, the emergency source of electrical power is capable of supporting all operations except drilling and production operations. (6) The operator shall ensure that primary circuits from the power plant serving an installation can be shut down from two separate locations or control points, including one being located at the power plant.
6.22	**Design for Removal of Fixed Offshore Installations**	The design of an installation shall consider the removal of the installation at end of life unless the abandonment of the installation or an alternative use for the installation has been approved by the Board through the development plan. The design, including any modifications through the lifecycle of the facility, must include measures that are necessary to facilitate the installation's removal from the site in a way that minimizes safety hazards, as well as adverse effects on future users of the site, navigation and other uses of the sea, as well as on the [marine Accord Act versions only] environment during and after the removal.
6.23	**Offshore Transportation and Installation of Facilities (Installations)**	(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:

		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.
6.24	**Asset Integrity**	(1) The operator shall ensure that all installations, facilities, equipment and systems are tested, inspected, maintained and operated to ensure safety and environmental protection and prevent waste under the maximum load and operating conditions that may be foreseeable during any operation and continues to perform in accordance with the original design standards. (2) The operator shall ensure that winterization of all installations, facilities, equipment and systems is confirmed, in place and operable prior to conducting operations in cold climate as per s. 6.4. (3) The operator shall ensure that a non-destructive examination of critical joints and structural members of an installation at an interval to ensure continued safe operation of the installation and in any case, at least once in every five-year period. (4) The operator shall design and implement a monitoring, testing, inspection, and maintenance program that 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. (5) The operator shall ensure that records of maintenance, tests and inspections are kept. (6) The operator shall ensure that a preservation program is in place to ensure the integrity of any out of service equipment being stored for potential

		future use is maintained and the equipment is confirmed fit for purpose prior to being brought back in to service. (7) The preventative maintenance and inspection program outlined in (3) shall consider the condition of the out of service equipment at the time it is being brought back into service. (8) The operator shall develop and implement a weight control program for every offshore installation to ensure that weights and centres of gravity are maintained safely within design limits.
6.25	**Installations Operation**	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.
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 manage the loading, ballasting and stability of the platform within approved criteria for intact and damaged stability under varying conditions of service, including: i. the location, type and weights of permanent ballast installed on the installation; ii. hydrostatic curves, or equivalent data; iii. a capacity plan showing the capacities and the centers of gravity of tanks and bulk material stowage spaces; iv. tank sounding tables or curves showing capacities, the centres of gravity in graduated intervals and the free surface data of each tank; v. stability information in the form of maximum KG versus draught curve, or other suitable parameters, based upon compliance with the required intact and damaged stability criteria; vi. lightship data based on the results of an inclining experiment, and updated values of the center of gravity following any deadweight surveys; and vii. representative examples of loading conditions for each approved mode of operation, together with the means for evaluation of other loading conditions;

		k. for offshore installations [COGOA only], general arrangement plans showing watertight and weathertight boundaries; l. for offshore installations [COGOA only], the location and type of watertight and weathertight closures, vents, air pipes, etc, and the location of downflooding points; m. for offshore installations [COGOA only], a permissible deck loading plan, with information concerning variable load limits and preloading; n. details of audible and visible signals and alarms used in general alarm, public address and fire and gas alarm systems, and any color coding system(s) used for the safety of personnel on the installation; o. information on corrosion protection systems used and any requirements for the safety and maintenance of the systems; p. drawings that show/include: i. general arrangements of the deck structure, accommodation areas, temporary safe refuge, helideck or helipad [COGOA onshore only] and equipment contained on the topside facilities, and sufficient details as are needed to permit verification and management of integrity of hulls, mooring components, critical primary and support structures, foundation elements, jacking systems, risers and conductors; ii. arrangement of hazardous areas and equipment; iii. fire control and evacuation plan, including: A. locations of escape routes, fixed fire extinguishing systems and lifesaving appliances; and B. arrangements of fire and blast divisions and associated equipment, such as fire dampers; iv. arrangement of ballast and bilge systems, and sufficient and clear operating instructions to ensure: A. necessary draught, stability and hull strength can be accurately maintained under all anticipated environmental and operating conditions; and B. the platform can be returned to a safe condition from an unintended draught, trim or heel; and v. arrangement and location of all openings that could affect the stability of the platform and their means of closure; q. the operating and maintenance requirements for all the lifesaving appliances on the installation; r. identification of the helicopter(s) used for the design of the helicopter deck, and the maximum helicopter weight and wheel centres, and maximum size of the helicopter for which the helicopter deck on the installation has been designed, including the extent of the obstacle-free approach zone for the helicopter; s. special arrangements or facilities for the inspection and maintenance of the installation, any equipment or plant, and any crude oil storage facilities on or in the installation; t. special precautions or instructions to be followed when repairs or alterations to the installation are to be carried out; u. any unique operational or emergency requirements covering safety critical features of the installation, including the shutdown systems and reference to relevant procedures; v. a description of any equipment for elevating and lowering the installation and of any special types of joints, including details of their purpose, proper operation and maintenance; w. details of the air gap or freeboard, and of the means of ensuring that requirements determined in accordance with 6.12 are met; x. station keeping systems and limiting conditions of operation, including the environmental loads the anchors can sustain to keep the installation moored in place, including the estimated holding power/capacity of the anchors in relation to the soil at the drill site or production site; y. for an installation that is a floating platform, a description of the station keeping capabilities and operating limits, and all procedures for addressing a failure of any safety critical station keeping component or excursion outside of defined limits; z. details of the number of persons to be accommodated during normal operations; aa. description and limitations of any onboard computer (or computer based control system(s)) used in operations such as ballasting, anchoring, dynamic positioning and in trim and stability calculations;

		bb. plan of towing arrangements if any and limiting conditions; cc. brief particulars of all the equipment on the installation, including flow sheets (process flow diagrams) and instructions for the installation, operation and maintenance of the equipment; dd. description of the main and emergency power systems and limiting conditions of operation; ee. the procedure for preparing, and the description and format for, periodic reports concerning the integrity of the installation; ff. a procedure for notifying the Chief Safety Officer and the Certifying Authority of any situation or event described in section 7.1; and gg. information and operating limits necessary to ensure safe operation of subsea [Accord Act versions only] production systems.
6.27	**Dive Vessels and Dive Plants**	(1) The operator shall ensure that all vessels used for diving programs are classed by a classification society and shall meet SOLAS requirements. (2) The operator shall ensure that, for all vessels used for diving programs, the dynamic positioning system will have sufficient redundancy to protect divers during dive operations. Note: Additional specific policy intentions respecting diving vessels and dive plants are to be developed in the coming months and presented at a future consultation session later in 2017. 

PART 7 – SYSTEMS AND EQUIPMENT DESIGN, OPERATION AND MAINTENANCE

#	Section Title	Proposed Policy Intent
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. (2) The operator shall ensure that any impairment in the installation, equipment, pipeline, vessel and support craft that may be a hazard to safety or the environment is rectified without delay. (3) If it is not possible to rectify the impairment without delay, the operator shall ensure that it is rectified as soon as the circumstances permit, undertake a risk assessment to determine mitigation measures to be put in place to minimize the hazards while the impairment is being rectified, and implement those measures (4) Subject to subsection (5), no holder of a certificate of fitness in respect of an offshore installation shall make any repair, replacement or modification to safety critical elements, or bring on board an installation any equipment, that would change the design, performance or integrity of safety critical elements, without notification to the Chief Safety Officer and the Certifying Authority [if applicable – COGOA only]. (4.1) Subject to (5), no operator of an onshore work or activity shall make a repair, replacement or modification to a Safety Critical Element, or bring onsite any equipment that would change the design performance or integrity of SCE or the installation, without notification to the Chief Safety Officer. – COGOA onshore only (5) In an emergency, the operator of an installation may repair or modify the installation when the manager of the installation considers that the delay required to comply with subsection (4) would endanger personnel or the environment. (6) Where an operator makes a repair or modification to an installation pursuant to subsection (5), the operator shall immediately after dealing with the emergency, notify the Chief Safety Officer and the Certifying Authority [if applicable – COGOA only].
7.2	**Facilities for Inspection and Maintenance**	The operator shall ensure that every installation is designed and equipped to be accessible, and provided with clear markings and identifications of areas to be inspected, in a manner that allows safe and effective: a. monitoring, maintenance and inspection of the installation or pipeline; and b. in the case of an [offshore – COGOA only] installation not intended to be periodically dry docked, on-location inspection of the hull and other underwater appurtenances.
7.3	**Pressure and Piping Systems**	(1) This Part does not apply to: a. a heating boiler that has a heating surface of 3 m2 or less; b. a pressure vessel that has a capacity of 40 L or less;

		c. pressure systems that are installed for use at one atmosphere of pressure or less; d. a pressure vessel that has an internal diameter of 152 mm or less; e. a pressure vessel that has an internal diameter of 610 mm or less and that is used for the storage of hot water; f. a pressure vessel that has an internal diameter of 610 mm or less and that is connected to a water pumping system containing air that is compressed to serve as a cushion; g. a refrigeration plant that has a capacity of 18 kW or less of refrigeration; or h. domestic water and plumbing systems **Design** (2.1) The Certifying Authority having jurisdiction must approve who will be the design appraisal authority following a request from the installation owner. [i.e. often times it will be the CA who is nominated by the installation owner]. (2) The operator shall ensure that boilers and pressure systems are designed to minimise the risk of hazards to personnel and property by establishing the following barriers: a. preventing an abnormal condition from causing an undesirable event; b. preventing an undesirable event from causing a release of hydrocarbons; c. safely dispersing or disposing of hydrocarbon liquids releases; d. preventing formation of explosive mixtures; e. preventing ignition of flammable liquids or gases and vapours released; and f. limiting exposure of personnel to fire hazards. (3) The operator shall ensure all boilers and pressure systems, including components, used on an installation are designed, constructed, installed, tested, inspected, operated and maintained to ensure they will safely withstand all foreseeable combinations of loads, forces, pressures, temperatures and fluids and substances to which they may be exposed during design service life. (4) The operator shall ensure that the design of boilers and pressure systems and components equipment shall: a. utilize comprehensive methods which are known to incorporate adequate safety margins and shall include such analyses and numeric modeling as are necessary to determine their behavior and failure modes under all foreseeable operating conditions, and shall consider: i. internal and external pressure; ii. ambient and operating temperatures; iii. static pressure and mass of contents in operating and test conditions; iv. foreseeable dynamic loading, reaction forces and moments resulting from, but not limited to, supports, attachments, and piping; v. structural and mechanical integrity threats including but not limited to corrosion, erosion, and fatigue, and any other threats that may be identified through risk analysis; vi. changes in contained fluids and substances over time [e.g. H2S], including decomposition of unstable fluids and substances; b. eliminate or reduce hazards as far as reasonably practicable and, where hazards cannot be eliminated, include protection measures to ensure safety, with consideration of:

		i. closures and openings, including measures to indicate closure status and prevention of opening or physical access whilst pressure differential exists; ii. containment of hazardous substances, including dangerous discharge of pressure relief blow-off; iii. surface temperature; and iv. decomposition of unstable fluids; c. include provisions to monitor and to reliably protect against exceeding safe limits of pressure, temperature and fluid levels; d. include provisions to permit all examinations of critical pressure components necessary to ensure ongoing integrity; e. include means for draining and venting, to permit safe cleaning, inspection and maintenance, and to avoid harmful effects such as water hammer, vacuum collapse, corrosion and uncontrolled chemical reactions, at all stages of operation, including pressure testing; f. include provisions to prevent escalation of foreseeable external accidental events; [e.g. fire, dropped objects, etc.] and g. include provisions to limit and mitigate effects of any loss of containment [e.g. containment of fluids and drainage to safe location]. (5) The operator shall ensure that materials used for the manufacture of boilers and pressure systems and components are: a. suitable for their intended application and location under all foreseeable operating and abnormal conditions and in any foreseeable emergency event, taking into account material properties or dimensions that may vary over time [e.g. creep, corrosion, erosion], or distortions or deformations imposed during construction and handling [e.g. transportation, installation]; and b. compatible with their operating environment and chemically resistant to contained fluids, as may change over time, during design service life. (6) The operator shall ensure that the design of every boiler and pressure system and component shall be verified to be fit for purpose by the Certifying Authority. **Construction, Testing and Installation** (7) The operator shall ensure that every boiler and pressure system, including components used on an installation shall be constructed, installed and commissioned by a competent person, and shall include such inspections and tests [including non destructive evaluation and proof tests] as are necessary to ensure integrity of pressure components, joining and assemblies, and compliance with approved designs. **Use, Operation, Repair, Alteration and Maintenance** (8) The operator shall ensure that a boiler or pressure system or component will not be used unless it has been inspected and tested by an authorized inspector and verified by the Certifying Authority to be fit for purpose and in accordance with the approved design: a. after installation; and b. after any welding, alteration or repair is carried out on it. (9) The operator shall ensure that every boiler or pressure system used on an installation must be operated within safe operating envelope, maintained and repaired by a competent person, in accordance with operating procedures. (10) The operator shall ensure that Operating procedures shall be established and must inform users of operating hazards [that could not be eliminated in design] and indicate whether it is necessary to take appropriate special measures to reduce risks at the time of installation and/or use. (11) The operator shall ensure that repairs and alterations shall not be made to a pressure-retaining component of a boiler or pressure system without the

		prior approval of the Certifying Authority. (12) A person must not alter, interfere with or render inoperative any boiler or pressure system fitting except for the purpose of adjusting or testing the fitting. **Inspections** (13) The operator shall ensure that every boiler or pressure system in use on an offshore installation must be inspected by a authorized inspector under a monitoring, testing, inspection, and maintenance program developed in accordance with 6.24, and as frequently as is necessary to ensure that the boiler, pressure vessel or piping system is safe for its intended use. **Records** (14) The operator shall ensure that a register of all boilers and pressure systems and components is maintained, including accurate records of: a. design calculations, drawings and specifications, including evidence of design approval by an authorized inspector; b. design code or standard applied; c. operating limits including pressure and temperature ratings; d. manufacturer's data report, including: i. documented evidence that construction, testing and installation have been carried out in accordance with the approved design under a suitable quality assurance program accredited by an authorized inspector; ii. approved welding, brazing and non-destructive examination procedures, test records and the results of welder qualification tests against the procedures; iii. records of qualification for competent persons involved in manufacture, inspection and testing, and welder qualification records; and iv. materials traceability records; e. a record of each inspection carried out under 7.3 (6)(7) and (13), which must be completed and signed by the inspector or competent person who carried out the inspection and must include: i. the date of the inspection; ii. the identification and location of the boiler or pressure system that was inspected; iii. the range of safe operating pressure and temperature at which the boiler or pressure vessel may be operated, iv. a declaration as to whether the boiler or pressure system meets the standards against which it was designed and constructed; v. a declaration as to whether, in the opinion of the inspector or competent person who carried out the inspection, the boiler, pressure vessel or piping system is safe for its intended use; vi. if appropriate in the opinion of the inspector or competent person who carried out the inspection, recommendations regarding the need for amendments to the monitoring, testing, inspection and maintenance program established under 7.3 (13) vii. any other observation that the inspector or competent person who carried out the inspection considers relevant to the safety of employees; and f. a record of each repair or alteration made to the boiler or pressure systems.

		Marking (15) The operator shall ensure that every boiler or pressure system shall be uniquely identified and marked with sufficient information acceptable to the authority having jurisdiction to permit safe installation and operation and reference to relevant records of design, construction, inspection, testing, maintenance and repair. **Certification** (16) All operating procedures in 7.3 (10) and records noted in 7.3 (14) shall be verified to the satisfaction of the Certifying Authority, at a frequency described in the approved scope of work of the Certifying Authority to allow for the ongoing determination of the fitness for purpose of every boiler or pressure system.
Def'n	**Proposed Definition (included in definitions Annex) "Pressure Systems (and components)"**	Means piping, vessels, safety components and pressure components; where applicable, pressure components include elements attached to pressurized parts, such as flanges, nozzles, couplings, supports, lifting lugs, safety valves, gages, and similar
Def'n	**Proposed Definition (included in definitions Annex) "Authorized Inspector"**	Means a suitably competent person, including the Certifying Authority or another person approved by the authority having jurisdiction to inspect process vessels and pressure piping systems.
7.4	**Mechanical Equipment**	(1) The operator shall ensure that all mechanical equipment on an installation: a. is fit for its intended function and will operate, and be operated, safely and reliably under all foreseeable environmental and operating conditions, including with consideration for the manufacturer's instructions; and b. is designed, selected, located, installed, commissioned, protected, inspected, operated and maintained to ensure that risks to safety, and to the environment are identified and reduced to a level that is as low as reasonably practicable. (2) The operator shall ensure that means to first prevent, and if not possible, mitigate safety and environmental hazards are undertaken and selected based on a risk assessment that considers the following: a. loss of containment of hazardous substances; b. overspeeding and loss of restraint of high energy machine elements;

		c. extreme surface temperatures and moving parts; d. loss of control and integrity, or escalation, following foreseeable accidental events; and e. ignition of potentially explosive atmospheres in hazardous areas from sparks, flames and excessive heat. (3) The operator shall ensure that every internal combustion engines and turbine is: a. suitably equipped to prevent ignition, and hazardous area rated and certified for its area of operation and with: i. combustion air supplied from a nonhazardous area; and ii. exhaust discharged to a non-hazardous area; and b. equipped with safety devices, including manual shut off and automatic fuel shut off, to prevent catastrophic damage from overspeeding, high exhaust temperature, high cooling water temperature, low lubricating oil pressure, or other foreseeable hazards to safe operation, except where automatic shut-off will increase risk to safety and the environment. (4) The operator shall ensure that mechanical equipment critical to emergency response, including but not limited to, emergency generators and fire pumps, are not subject to (3)(b), but must have automatic overspeed shut off protection. (5) The operator shall ensure that controls and manual shut offs shall be located so they remain protected and accessible for safe operation in the event of foreseeable accidental damage and events should the associated equipment become inaccessible as a result of the damage or events. (6) The operator shall ensure that mechanical equipment that is essential to the safety and propulsion of a floating or mobile platform will continue to operate safely and reliably at full rated power under static and dynamic angles of inclination specified by the IMO *MODU Code* and *Classification Society Rules*. (7) The operator shall ensure that operating limits are determined for each mechanical equipment and included in the operations manual, and that clear instructions are available for reference. (8) The operator shall ensure that basic operating instructions for every internal combustion engine shall give details of stop, start and emergency procedures and be permanently attached to the engine.
7.5	**Corrosion Management**	(1) The operator shall ensure all equipment, process vessels, piping, valves, fittings and structural elements that are part of an installation or pipeline, the failure of which as a result of corrosion would cause a safety or environmental hazard, are designed, operated, monitored and maintained to prevent and manage corrosion over the life-cycle of the installation or pipeline to prevent their failure. (2) The operator shall establish and implement a comprehensive corrosion management program to manage risk of critical failures from corrosion related degradation, to ensure the ongoing integrity of safety critical systems. (3) The corrosion management program shall include: a. identification of all safety critical elements that are susceptible to degradation by corrosion, and the failure of which could cause a hazard to safety or the environment; b. such analysis as is needed to determine corrosion degradation mechanisms, limits and failure modes, taking into consideration foreseeable operating

		and environmental conditions and chemical exposures; c. measures to prevent corrosion, as far as is reasonably practicable, and to mitigate or protect against the effects of corrosion; d. inspection and monitoring of corrosion and of corrosion protection and prevention systems; e. collection and analysis of baseline and ongoing data to monitor the corrosion behaviour and determine the effectiveness of corrosion management program and protection systems; f. ongoing assessment of inspection, maintenance and repair schedules as per section 6.24 based on the data and analysis in e); g. timely preventative maintenance of corrosion protection and prevention systems h. timely maintenance and repair of safety critical elements, based on the ongoing data and analysis collected, and in accordance with 6.24 prior to reaching acceptable limits established in b); i. analysis for continual improvement of the corrosion management program based on the data and analysis set out in e) above.
7.6	**Control Systems**	1) The operator shall ensure that, where practicable and required to minimize risks to safety and the environment, control systems shall be designed so that: a. the controlled equipment cannot be inadvertently activated; b. an effective basic diagnostic capability is incorporated; c. operator controls are designed taking into consideration simultaneous operation from multiple stations; and d. human factors are taken into consideration. (2) The operator shall ensure that control systems shall be designed, where practicable, so that the controlled equipment does not create a safety or environmental hazard where the system fails or is shut down. (3) The operator shall ensure that equipment operated by a new or altered control system shall not be used until that control system has been thoroughly checked and tested to verify that it functions in the intended manner. (4) The operator shall ensure that there is up-to-date documentation that is readily available that describes the design, installation, operation and maintenance of the control systems. (5) The operator shall ensure that control system hardware is protected from circumstances that could adversely affect the performance of the system, including mechanical damage, vibration, extreme temperatures or humidity level, high electromagnetic field levels and power disturbances. (6) The operator shall ensure any wireless remote control system shall incorporate: a. error checking to prevent the controlled equipment from responding to corrupt data; and b. identification coding methods to prevent a transmitter other than the designated transmitter from operating the equipment. (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.
7.7	**Integrated Software Dependent**	(1) The operator shall ensure the initial and ongoing availability, reliability, maintenance, safety and security of all integrated software dependent systems, the failure or malfunction of which would cause a hazard to safety or the environment. (2) The operator shall ensure that safety critical software shall be designed, commissioned and maintained by competent personnel and demonstrated to

	Systems	be safe, reliable, maintainable, and fit for purpose through a formal and comprehensive testing and validation program that shall consider: a. all foreseeable operating and emergency conditions; and b. systems complexity, dependencies and interactions between integrated systems, failure modes, and level of risk associated with malfunction or failure. (3) The operator shall ensure that any changes made to any features of critical software are not undertaken without thorough assessment, testing and approvals and to ensure the software continues to operate as intended and without increasing hazards to safety or the environment. (4) The operator shall ensure that measures are implemented to maintain the security of the integrated software dependent system from external threats, including prevention of unauthorized access.
7.8	**Monitoring Systems**	(1) The operator shall ensure that: a. operations such as drilling, flow testing, processing, transportation, storage, injection, re-injection and handling of oil and gas and other produced fluids on the installations are effectively monitored to prevent incidents and waste; b. all alarms, safety, monitoring, warning and control systems associated with those operations are managed to prevent incidents and waste; c. all appropriate persons are informed when the applicable alarm, safety, monitoring, warning or control systems associated with those operations are taken out of service, and when those systems are returned to service; and d. when such alarm, safety, monitoring, warning or control system are taken out of service, or found to be impaired, the related operations are either suspended until the system is brought back into service or appropriate measures are implemented to offset the risk while the system is not available. (2) The operator shall develop and implement a monitoring program for the physical environment during any work or activity to ensure: a. sufficient data on the physical environment is collected and maintained to support hazard identification and risk analysis; b. appropriate mitigation measures may be initiated in a timely manner to address identified risks to safety or the environment; and c. contingency plans may be initiated in a timely manner to protect the health and safety of all personnel, the integrity of the installation, and to minimize potential environmental impacts. (3) The operator shall ensure that the installation or operations site is sufficiently equipped, and is supported by the additional use of external measures and equipment, to enable observing, measuring, forecasting and recording of physical environmental conditions as required by (2). (4) The operator shall make all physical and environmental data monitored under this section which are of significance to safety and the protection of the environment in carrying out petroleum activities, publicly available.
7.9	**Communication Systems**	(1) The operator shall ensure every installation and operational site is equipped with communication systems: a. capable of communicating continuously, including with built in redundancy: i. with externally-based emergency response teams; ii. with all personnel on the installation (both individually and installation wide), on the site or in transit, as appropriate; iii. with all support craft; iv. if offshore, between the installation or site and: A. onshore facilities, including the ability to transmit written data; B. nearby vessels and aircraft; and C. other nearby installations; and

		b. designed and protected to enable operation in an emergency. (2) The operator of a [offshore – COGOA only] staffed installation shall ensure that the radio communication systems comply with the *Ship Station Radio Regulations* and the *Ship Station Technical Regulations*, as if the installation were a ship to which those Regulations apply. (3) The operator shall ensure that each [offshore – COGOA only] installation complies with the *VHF Radiotelephone Practices and Procedures Regulations*, as if the installation were a ship to which those Regulations apply.
7.10	**General Alarms**	(1) The operator shall ensure that every installation is equipped with a general alarm system that is capable of alerting personnel to any hazardous conditions other than fire or gas that might: a. endanger personnel; b. endanger the installation; or c. be harmful to the environment. (2) The operator shall ensure that every general alarm system referred to in subsection (1) shall be: a. operational and in operation at all times other than when the system is being inspected, maintained or repaired; b. where applicable, flagged as being subject to inspection, maintenance or repair; and c. designed in such a manner as to prevent tampering. (3) Where a general alarm system for an installation is being inspected, maintained or repaired, the operator of the installation shall ensure that the functions that the system performs are performed manually.
7.11	**Gas Release Systems**	(1) The operator shall ensure every installation that includes process tanks, process vessels and piping has a gas release system that enables the safe and controlled release of pressure and is designed to: a. reduce pressure in the entire process system in a timeframe that ensures a safe release of pressure as quickly as possible; b. release gas without posing a hazard to personnel or equipment; c. minimize the effect on the environment; d. be activated from the main control centre; and e. be activated from control stations that are located and spaced so that they remain protected and accessible for safe operation in the event of foreseeable accidental damage and events and in accordance with a risk management analysis. (2) Every gas release system shall be designed and constructed to ensure that oxygen cannot enter the system during normal operation. (3) The operator shall ensure any flaring system and its associated equipment are designed a. such that a continuous flame using an automatic igniter system, including redundant ignition capabilities is included where any possible hazard may be created if an unlit release to the flare may produce toxic gas concentrations or gas concentrations of more than 50% of the Lower Explosive Limit; b. to withstand the radiated heat at the maximum flaring rate; c. to prevent flashback; d. to withstand all loads to which it may be subjected.

		(4)The operator shall ensure every gas release system shall be designed and located, taking into account the amount of combustibles to be released, the prevailing winds, the location of other equipment and facilities, including rigs, the dependent personnel accommodation, the air intake system, embarkation points, muster areas, the helicopter approaches and other factors affecting the safe, normal flaring or emergency release of the combustible liquid, gases or vapours, so that when the system is operating it will not damage the installation, other installations, the land or other platforms in the vicinity used for the exploration or exploitation of resources, or injure any person. (5) The operator shall ensure that every gas release system shall be designed and installed taking into account the limits set out in the [*Occupational Health and Safety Regulations (subject to each applicable area of jurisdiction)*] regarding maximum noise and thermal radiation on areas where personnel may be located. (6) Any vent that is used to release gas to the atmosphere without combustion shall be located and designed to minimize the risk of accidental ignition of the gas. (6) With the exception of water, any liquid that cannot be safely and reliably burned at the flare tip of a gas release system shall be removed from the gas before it enters the flare.
7.12	**Helicopter Facilities and Operations**	(1) The operator shall ensure every helicopter deck that is part of an installation or helipad/helicopter landing pad [COGOA only] is designed and equipped to prevent incidents or damage from the use of helicopters or aircraft, including: a. an obstacle-free take-off and approach that is appropriately oriented relative to prevailing winds; b. ability to withstand the static and dynamic functional loads imposed by helicopters; c. ability to accommodate expected helicopter sizes; d. emergency response and fire-fighting equipment so that helicopter emergencies can be responded to safely and effectively; e. fuel storage tanks located safely and protected against damage, impact and fire; f. conspicuous markings and signage; g. suitable lighting for safe operations, including reduced visibility conditions; h. suitable communication and meteorological equipment to enable safe helicopter operations; and i. ready and safe access to the helicopter deck and helicopters, notably from the temporary safe refuge and the accommodations. (2) The operator shall ensure that the helicopter deck and associated operations and maintenance on offshore installations [COGOA only] shall conform to the requirements of CAP 437 *Standards for Offshore Helicopter Landing Areas* as published by the UK Civil Aviation Authority. (3) The operator shall ensure that the helicopter facility equipment and procedures, as well as all relevant training, have been accepted by the helicopter service provider prior to operations.
7.13	**Cranes and Handling Devices**	(1) The operator shall ensure every crane or other handling device on an installation is designed, constructed, operated and maintained, to the extent that is reasonably practicable: a. with necessary safety devices and features to ensure safe operations; b. within pre-defined safe operating limits; c. so that if there is a failure of any part of the material handling equipment, it will not result in loss of control of the equipment, or create a safety or

		environmental hazard; and d. based on the conditions under which it is to be used, including consideration of movements of: i. supply vessels relative to the installation; and ii. on a floating platform, the platform itself. (2) The operator shall ensure that cranes or other handling devices are operated, tested, maintained and inspected by competent and trained personnel taking into consideration the recommendations of the original equipment manufacturer and relevant industry standards or best practices. (3) The operator shall ensure that every crane has emergency slewing, where applicable [i.e. if cranes have slewing capabilities], and lowering capability. (4) The operator shall ensure that every crane and other material handling equipment shall be uniquely identified and marked with sufficient information to permit safe operation and reference to relevant records of design, construction, inspection, testing, maintenance and repair. (5) Before a materials handling equipment is placed in service, a competent person shall inspect, proof test and certify in writing the rated capacity of a materials handling equipment in accordance with criteria established by the manufacturer or applicable design or safety standard where: a. the equipment is new; b. the rated capacity of the equipment cannot be determined; c. the continued safe use of the equipment cannot be assured due to its age or history; d. repairs or modifications have been made to load carrying components; e. modifications have been made which affect the rated capacity; f. the materials handling equipment has been in contact with an electric arc or current; or g. in any case, at an interval that will ensure continued safe operations. (6) The operator must ensure that every crane must: a. have posted inside the crane control cab load capacity charts that specify the boom angle and safe working load for each block and for each operating mode (static, dynamic and personnel lifting), as required; and, b. be equipped with: i. a safe load indicating system, inclusive of load and moment measuring devices which is programmed for the different operating modes; ii. boom and block travel limiting devices; iii. a load measuring device that has been calibrated, at minimum, according to manufacturer's specifications; iv. a device to indicate the boom angle where the rated capacity is affected by the boom angle; v. where applicable, a device to indicate the boom extension or load radius where the rated capacity of the equipment is affected by boom extension or load radius; vi. an anemometer; vii. emergency stop capabilities; and viii. gross overload protection systems. (7) The operator shall ensure that all crane hooks must be equipped with positively engaged safety latches or equivalent that will prevent a load from falling out of the hook under all operating conditions.

		(8) A person must not move a crane in the vicinity of a helicopter deck when a helicopter is landing or taking off. (9) The operator shall ensure that the Certifying Authority has certified any lifting device that lifts over 10 tonnes or is used for personnel lifts.
7.14	**Navigation and collision Aids**	(1) The operator shall ensure that every vessel or offshore installation is equipped with the navigation lights and sound signal systems: a. that are required by the *Collision Regulations*, as if the offshore installation were a Canadian vessel; and, b. where compliance with the height and or distance requirements is not possible, be installed to maximize their visual and audible alerting capabilities for collision avoidance, (2) The operator shall ensure that every manned offshore installation are equipped with radars for identifying hazards within proximity to the installation.
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.
7.16	**Well Control**	(1) The operator shall ensure that adequate procedures, materials and equipment are in place and utilized throughout the life of the well to prevent the loss of well control. (2) The operator shall ensure that, during all well operations, reliably operating well control equipment is installed to detect and control kicks, prevent blow-outs and safely carry out all well operations. (3) During riserless operations (no Blow Out Preventer installed), the operator shall ensure that measures necessary to mitigate the risk of shallow hazards shall be implemented. (4) The operator shall ensure that the drilling BOP shall be installed prior to drilling out of the surface casing, and that there is a minimum of two (2) independent and verified well barrier envelops in place throughout the life of the well (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. In the event of a replaced barrier envelope the operator shall ensure that the new barrier envelope is verified and that every effort is made to restore the barriers to the originally approved well design in a timely manner. (6) The operator shall ensure that, except when drilling under-balanced, one of the two barriers to be maintained is the drilling fluid envelope (7) The operator shall ensure that pressure control equipment associated with well operations is installed and pressure-tested on installation and as often as necessary to ensure its continued safe operation. (8) If well control is lost or if safety, environmental protection or resource conservation is at risk, the operator shall ensure that any action necessary to

		rectify the situation is taken without delay.
7.17	**Casing and Cementing**	(1) The operator shall ensure that, for the life of the well, the casing and wellhead system is designed so that a. the well can be drilled safely, the targeted formations evaluated and or developed and waste prevented; b. the maximum anticipated conditions, forces and stresses that may be placed upon them are withstood; c. the integrity of gas hydrate and permafrost zones — and, in the case of an onshore well, potable water zones — is protected; d. that wellhead design fatigue is understood through appropriate analysis and the well is operated so as not to exceed the wellhead design fatigue life; and e. if the annulus is to be utilized for production or injection operations that as part of the design process a barrier analysis is conducted to confirm that two barrier envelopes will be maintained even in the event of a casing impairment. (2) The operator shall ensure that the casing is installed at a depth that provides for adequate kick tolerances and safe well control operations. (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. **Cement design and slurry analysis** (4) The operator shall ensure that the cement design has been subjected to a comprehensive suite of lab testing and pre-job quality control as per the design to ensure that the design will provide the expected isolation and can be placed effectively, including contingencies for upset conditions that could occur during the cement job. **Waiting on Cement Time** (5) After the cementing of any casing or casing liner and before drilling out the casing shoe, the operator shall ensure that the cement has reached the minimum compressive strength sufficient to support the casing and provide zonal isolation. **Casing Pressure Testing** (6) After installing and cementing the casing and before drilling out the casing shoe, the operator shall ensure that the casing is pressure-tested to the value required to confirm its integrity for maximum anticipated operating pressure over the life of the well.
7.18	**Formation Leak-Off or Integrity**	The operator shall ensure that a. a formation leak-off test or a formation integrity test is conducted before drilling more than 10 m of new formation below the shoe of any casing other

	Testing	than the conductor casing; b. a formation leak-off test or a formation integrity test is conducted before drilling more than 10 m horizontal or vertical displacement from the previous casing string; c. he formation leak-off test or the formation integrity test is conducted to a pressure that allows for safe drilling to the next planned casing depth and to verify the adequacy of the cement at the shoe prior to drilling ahead; and d. a record is retained of each formation leak-off test or formation integrity test and the results included in the daily well operations drilling report referred to in section 14.12 and in the well history report referred to in section 14.18.
7.19	**Well Completion and operation**	(1) An operator that completes a well shall ensure that: a. it is completed, tested and operated in a safe manner and allows for maximum recovery; and does not cause waste or pollution for the life of the well; b. except in the case of commingled production, each completion interval is isolated from any other porous and permeable interval penetrated by the well; c. if applicable, the production of sand, carbonate or other solids is controlled and does not create a safety hazard or cause waste; d. each packer is set as close as practical to the top of the completion interval and that the pressure testing of the packer to a differential pressure is greater than the maximum differential pressure anticipated under the production or injection conditions; e. if practical, any mechanical well condition that may have an adverse effect on production of oil and gas from, or the injection of fluids into, the well is corrected; f. the injection or production profile of the well is improved, or the completion interval of the well is changed, if it is necessary to do so to prevent waste; g. if different pressure and inflow characteristics of two or more pools might adversely affect the recovery from any of those pools, the well is operated as a single pool well or as a segregated multi-pool well; h. during completion operations and prior to the removal of pressure control equipment and handover for operations, all barrier elements are to be tested to the maximum pressure to which they are anticipated to be subjected, and where possible pressure testing is to be in the direction of flow; 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; j. in the event of a replaced well barrier envelope the operator shall ensure that every effort is made to restore the well barriers to the originally approved well design in a timely manner; and k. following any workover or intervention, any affected barrier elements are pressure-tested. (2) The operator of a segregated multi-pool well shall ensure that: a. after the well is completed, segregation has been established within and outside the well casing and is confirmed; and b. if there is reason to doubt that segregation is being maintained, a segregation test is conducted within a reasonable timeframe.
7.20	**Production Tubing**	The operator shall ensure that the production tubing used in a well is designed and maintained for compatibility with the fluids to which it will be exposed and to withstand the maximum conditions, forces and stresses that may be placed on it and to maximize recovery from the pool.
7.21	**Subsurface Safety Value**	(1) The operator of a development well that is completed shall ensure that the well is equipped with a fail-safe surface controlled subsurface safety valve that is designed, installed, operated, tested, and maintained to prevent uncontrolled well flow when it is activated. (2) If a completed well is located where permafrost is present in unconsolidated sediments, the operator shall ensure that a subsurface safety valve is installed in the tubing below the base of the permafrost.

7.22	**Marine Riser**	(1) The operator shall ensure that every marine riser is, throughout the duration of the well operation, capable of: a. furnishing access to the well; b. isolating the well-bore from the sea; c. withstanding the differential pressure of the drilling fluid relative to the sea; d. withstanding the maximum anticipated loads; and e. permitting the drilling fluid to be returned to the installation. (2) The operator shall ensure that every marine riser is supported in a manner that effectively compensates for the forces caused by the motion of the installation, the drilling fluid or the water column. (3) The operator shall ensure that riser analysis and, when required, weakpoint analysis is completed and submitted to the Certifying Authority for acceptance.
7.23	**Well, Well Head and Tree Equipment**	(1) The operator shall ensure that a. the components of an installation and well tubulars, trees and wellheads are operated in accordance with good engineering practices [best practices]; and b. any part of an installation that may be exposed to a sour environment is designed, constructed and maintained to operate safely in that environment. (2) The operator shall ensure that the wellhead and tree equipment, including valves, are designed and maintained to operate safely and efficiently under the maximum load conditions anticipated during the life of the well.
7.24	**Formation Flow Test Equipment**	(1) The operator shall ensure that: 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 a 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. a release system that permits the test string to be hydraulically or mechanically disconnected within or below the blow-out preventers.
7.25	**Drilling and Well Operating Practices**	The operator shall ensure that adequate equipment, procedures and personnel are in place to recognize and control normal and abnormal conditions, to allow for safe, controlled well operations and production operations and to prevent pollution.
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

	Scheme	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.
7.27	**Reference for Well Depth**	The operator shall ensure that any depth in a well is measured from a single reference point, which is the rotary table of the drilling rig.
7.28	**Directional and Deviation Surveys**	The operator shall ensure that: a. directional and deviation surveys are taken at intervals that allow the position of the well-bore to be accurately known during drilling operations; b. directional and deviation surveys are adequate to accurately manage the wellbore in respect to identified geohazards, to intersect the geological targets for the well, and to be able to intersect the well bore in the event a relief well is required; and c. except in the case of a relief well, a well is drilled in a manner that ensures compliance with wellbore collision avoidance practices and procedures and that does not intersect an existing well.
7.29	**Subsea Production Systems**	(1) The operator shall ensure that all subsea production systems and related control systems are designed, built, installed, commissioned, tested, operated, inspected, monitored and maintained to reduce risks to safety and to the environment to as low as reasonably practicable under all foreseeable environmental and operating conditions, for all modes of operation. (2) The operator shall ensure that the design of subsea production systems shall ensure: a. the effect of a single failure cannot develop into a situation that may cause a major accidental event; b. barriers in each conduit capable of carrying fluids are sufficiently redundant, reliable and arranged to: i. prevent uncontrolled flow of well fluids; ii. minimize the release of conduit inventory in the event of unintended release; and iii. permit testing of the barrier integrity without increasing risk to safety or the environment; c. subsea facilities and pipeline systems can withstand and are sufficiently protected from mechanical damage caused by other activity [including from dropped objects, drilling and well intervention, as well as activities such as trawling and anchor drags]; d. subsea facilities are arranged to permit safe accessibility for operation, maintenance, inspection and testing during design service life; e. foreseeable threats to safety and the environment can be identified in sufficient time to enable the system to avoid the threats or be brought to a safe state to prevent escalation; f. production risers are sufficiently protected or designed to withstand or safely avoid all foreseeable hazards and environmental loads for the site, [including but not limited to ice loads, motion of the installation and excursion limits], but excluding icebergs; g. the ability to support the blowout preventer during drilling and the tree and any workover or intervention pressure control equipment after completion; h. that the subsea production system supports and seals connections to the well, offshore pipelines, other subsea production systems or other installations; and i. that in the event of a loss of control or communication, the subsea production system is designed to revert to a failsafe state. (3) The operator shall ensure that, where risers are designed to disconnect to avoid foreseeable hazards, riser fluids shall be able to be safely isolated or displaced by water. (4) The operator shall ensure that no subsea production system shall be considered to comply with this section until it has been assessed through a failure modes and effects analysis.

		(5) The operator shall ensure that, when a riser has been disconnected, its integrity shall be demonstrated through testing once reconnected, before being brought back into service. (6) The operator shall ensure that, if the installation is designed to leave station under the pre-determined environmental operating limits, the riser will be designed to disconnect, and will meet the requirements of s. 6.16 that speaks to disconnectable mooring systems. (7) The operator shall ensure that subsea production systems will only be controlled by one facility at any given time.
7.30	**Fire and Gas Detection**	(1) The operator shall ensure that every installation is equipped with a fire and gas detection system that is designed, selected, installed, tested and maintained to: a. provide continuous, reliable, automatic monitoring functions to alert personnel to the presence and location of hazardous fire and flammable and toxic gas conditions; and b. enable control actions to be initiated manually or automatically in order to prevent escalation of abnormal conditions into major accident events. (2) The operator shall ensure that every fire and gas detection system is designed, arranged, including location, number, and types of detectors, tested and maintained such that: a. they are based on the Fire, Explosion and Hazardous Gas Risk Assessment in 6.6 and that they will ensure that any such fire, explosive or toxic gas accumulation, or other foreseeable abnormal conditions related to hazards identified in the Assessment will be detected; b. upon detection of such hazards the system shall activate automatically, and be capable of being activated manually in suitable locations, an alarm system that includes distinct audible and visual alarms at the main control center and in areas where personnel are normally present, to enable response that is appropriate to the nature and level of the hazard or event; c. as far as practicable, the system is functionally and physically independent of other systems; d. system components, including fire and gas detection devices are selected and located to ensure: i. reliable and early detection, taking into account response characteristics, redundancy and performance under foreseeable conditions for which detection is required; ii. they are demonstrated to be suitable for detection of foreseeable types of fire or gas in their area of operation; and iii. they include [health status] features to indicate their failure or malfunction (i.e. self-monitoring features); e. flammable or toxic gas (including smoke) will be detected in air intakes of mechanically ventilated non-hazardous areas; f. inspection and testing of field devices, system internal functions and executive outputs can be carried out without impeding system functionality; g. in the event of failure of the normal power source, the system will switch over to an emergency source of electrical power to ensure uninterrupted operation of the system for the duration required to restore main power or to safely evacuate personnel and an audible and visual indication will be provided at the control center; h. the system and its components are suitably protected from mechanical, fire and environmental damage to remain capable of fulfilling their intended functions under foreseeable operating and environmental conditions [under which they must operate]; i. all necessary information is continuously provided at the control center and other strategic locations to permit personnel to manage emergency situations; j. means to manually initiate fire and gas alarm shall be available at or near the office of the manager of the installation, at the control center, at every control station and other defined locations throughout the facility identified in the Fire, Explosion and Hazardous Gas Risk Assessment required under 6.6; and

		k. the system can be reset when conditions are confirmed to be returned to a safe state. (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.
7.31	**Ignition Prevention**	(1) The operator shall ensure that materials and equipment on an installation are arranged, at all times, to prevent ignition of combustible and explosive fluids, and that measures are taken: a. to prevent fire and explosion, including measures to prevent uncontrolled release or accumulation of combustible or explosive substances; and b. to prevent the ignition of such substances and atmospheres. (2) All mechanical and electrical equipment located in a hazardous area identified in accordance with 6.19(2) shall be suitably designed, rated, protected, ventilated and maintained for safe operation in their intended location. (3) All equipment that is not suitably rated for use in a hazardous area shall be operated only at a safe distance from any potential source of combustible or explosive fluids and shall be equipped with automatic and manual means of deactivation in the event of gas detection (deactivation includes shut off and de-energize). (4) Any equipment that is to remain active in the event of an emergency associated with gas release is to be suitably rated for operation as if it was located in a hazardous area. (5) The operator shall ensure that hot work is only carried out under a permit to work system that has pre-determined safe distances from wells and other sources of ignitable and explosive fluids and other risk mitigation measures identified through risk analysis to prevent ignition. (6) The operator shall ensure that the requirements in this section are supported by comprehensive risk assessments specific to the installation. (7) The operator shall ensure that cargo tank internal atmospheres are maintained outside the explosive limits and that such systems will be designed, equipped with sufficient barriers, alarms and redundancy to: a. prevent risks to safety during all modes of cargo operations; and b. ensure that personnel are made aware when such systems become impaired.
7.32	**Emergency Shutdown and Blowdown**	(1) The operator shall ensure that every installation has an emergency shutdown system that is capable of shutting down, isolating and depressurizing all potential sources of ignition and sources of flammable liquids or gases, and that is designed, installed, tested and maintained: a. to prevent escalation of abnormal conditions into major accident events; and b. to limit the extent and duration of any major accident events which may foreseeably occur. (2) The operator shall ensure that the emergency shutdown system design shall be based on a formal risk assessment and analysis, and that shutdown logic shall include a hierarchy of shutdown levels, action sequences and timelines that are appropriate to the degree of risk posed by identified hazards, and shall consider: a. automated and manual activation to ensure effective shutdown b. isolation of hydrocarbon and flammable fluid inventories, including but not limited to, reservoirs, wells, production systems, and pipelines from sources

		of ignition; c. shutdown of electrical, mechanical and other equipment and systems, to bring them to a predefined safe state, unless suitably rated and designed to remain operational at those predefined safe states; d. sizing and segregation of hydrocarbon inventory to limit the quantity of material released on loss of containment; e. emergency depressurization and disposal of hydrocarbon inventory to a safe location (which cannot include cold venting). f. closure of subsurface, subsea and pipeline safety valve(s); g. essential systems and timelines that are necessary to support safe escape, shelter and evacuation of personnel, or to maintain the integrity of the installation; h. selective shutdown of ventilation systems required by s. 6.20, except the fans necessary for supplying combustion air to engines required to operate during emergency situations unless gas has been detected in the intake to engines; and i. any activation of fixed fire suppression systems required under 7.33. (3) The operator shall ensure that emergency shutdown systems: a. are designed, arranged and maintained to have a high degree of reliability and, as far as practicable, to be functionally and physically independent of other systems such that they will not adversely affect or be adversely affected by the operation of other safety critical systems or essential emergency systems that are required to remain live during an event; b. are suitably protected from mechanical, fire, explosion and environmental damage, and capable of fulfilling their intended functions under all operating and environmental conditions under which they must operate; and c. remain capable of fulfilling critical shutdown functions during testing and maintenance that may affect the operation of the emergency response system. (4) The operator shall ensure that emergency shutdown systems are arranged and maintained such that: a. emergency shutdown initiation activates audible and visual alarms in the control center and at locations outside the central control room such that all personnel are alerted; b. system status is continually monitored in the control center, including, where applicable, status, extent and duration of any overriding commands; c. adequate information is continuously provided at the control center to ensure emergency response personnel have the necessary information to manage the emergency, including but not limited to: i. emergency shutdown level initiation and source of initiation; ii. emergency shutdown effects which have failed to be executed upon emergency shutdown activation; and iii. status, including failure, of emergency shutdown system components; d. the activation of a manual emergency shutdown activation point will initiate the installation's general alarm; e. emergency shutdown can be initiated from multiple manual activation stations that are: i. well marked; ii. protected against unintentional activation and degradation from environmental conditions under which they would be operating; and iii. located at strategic positions which provide a high likelihood of being able to be activated in emergency conditions, with at least one located outside hazardous areas; f. manual activation points for highest level or complete shutdown of the installation are provided at the control center, and at other suitable locations including, but not limited to, the helicopter deck and emergency evacuation stations; g. where a hydraulic or pneumatic accumulator is used to operate any part of the emergency system, the accumulator shall: i. be located as close as is practicable to the part that it is designed to operate, except where that part is part of a subsea production system; ii. have capacity for a sufficient number of operations to ensure shutdown can be reliably achieved; and

		iii. notwithstanding ii), in the event of a failure of the accumulator, the shutdown valves shall revert to a fail-safe mode; h. the system contains facilities for testing of both input/output devices and internal functions in order to ensure the functionality of the complete system; i. in the event of failure of the normal power source, uninterrupted operation of the system shall be assured until the normal power source is restored or all emergency shutdown operations have been completed; j. systems or equipment are to revert to a fail-safe or least hazardous condition if failure of the emergency shutdown system or any critical function or component will increase risk; k. where two or more installations or facilities are connected, or where temporary equipment is on an installation: i. emergency shutdown systems shall be linked such that emergency shutdown signals can be transmitted to any of the connected installations or systems, and vice versa; and ii. consideration shall be given to command sequence and priority between the connected systems; l. temporary equipment on an installation shall adhere to the emergency shutdown system logic of the installation; m. once activated, it will not be possible to override or reset the emergency shutdown system until such time as the events that triggered the system are returned to a safe state and the equipment is locally confirmed to be safe for operations; and n. overriding commands and functions cannot be inadvertently engaged. (5) 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 emergency shutdown function. (6) In the case of a production installation, on activation of the emergency shutdown system, the surface-controlled subsurface safety valve shall close in not more than two minutes after the tree safety valve has closed, except where a longer delay is justified by the mechanical or production characteristics of the well.
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, deluge 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 [offshore – COGOA only] installation where there is a risk of fire are outfitted with a fixed fire suppression system.

		(6) The operator shall ensure that at least two dedicated, segregated and independently driven fire pumps will service a dedicated firewater ring main and each fire pump shall also be equipped with at least two independent starting arrangements. (7) The operator shall ensure that the fire pumps are located as far as possible from spaces that contain equipment used for storing and processing petroleum, and are designed to include remote control activation if required. (8) Firewater pumps, piping and associated valves shall be designed and placed such that a sufficient supply of firewater is ensured to any area on the facility, including if a segment of the ring main firewater piping is damaged. (9) The firewater system must be able to run continuously for a minimum of 18 hours. (10) The number and position of the hydrants and/or fire hose reels shall be such that at least two jets of water, not emanating from the same location, may reach any part of the installation normally accessible. For areas where the use of hydrants and hose reels is impracticable portable fire extinguishing equipment may be provided. (11) Audible and visible alarms will be activated at the control center upon activation of any of the fixed fire suppression systems, or upon a loss of any firewater pressure, as well as outside the spaces being protected if the suppression system creates a hazard to personnel. (12) For unstaffed installations, subsections (5) to (9) do not apply.
7.34	**Temporary and Portable Equipment**	(1) The operator shall ensure that any temporary or portable equipment used on an installation is suitable and fit for its intended use and in compliance with these regulations [where such regulations pertain to such equipment]. (2) Before any temporary or portable equipment is installed or taken into service on an installation, a systematic assessment shall be carried out of the equipment and its integration to determine its impact on existing safety critical elements and Quantitative Risk Assessment. . (3) The operator shall identify and implement procedures and arrangements necessary to manage temporary equipment to reduce risk to as low as reasonably practicable and without compromising target levels of safety. (4) Temporary or mobile equipment that is or affects a safety critical element shall be verified by the Certifying Authority [in the case where the safety critical element is under a certificate of fitness, and the Chief Safety Officer if the element is not under a certificate of fitness – COGOA only], considering initial suitability, safe placement and hook-up, and continuing suitability (as necessary) [in the context of the Quantitative Risk Assessment and the Certificate of Fitness.]
7.35	**Emergency Electrical Power and Systems**	(1) The operator shall ensure every installation is equipped with an independent emergency source of electrical power that is designed, arranged, installed, operated and maintained to ensure reliable and robust emergency power to systems that must remain functional to ensure safety and/or integrity of the installation in the event of a main power failure. (2) The systems that must be provided emergency power are the following: a. all lights referred to in subsection (3); b. All hazard detection, emergency response, and lifesaving systems, including all related equipment; c. all communications systems and related equipment necessary to comply with the contingency plan;

		d. all the emergency shut-down systems; e. all navigation aids required by section 7.14f) all ballast control systems, pumps and powered water tight doors and hatches necessary to stabilize the installation, including secondary ballast control systems where applicable; g. all equipment and systems necessary to secure the production or drilling operations in progress at any one time in a safe manner [including a well disconnect system. blow-out prevention systems, and pumping systems]; and h. any staffed diving equipment dependent on an electrical supply (3) Every installation shall be equipped with lights supplied by the emergency source of power described in subsection (1), in the following locations: a. all embarkation and debarkation stations (or locations); b) all escape routes, service and accommodation area corridors, stairways, exits, and personnel lift cars; c) the control center, all control stations, and any area from which installation communication systems are operated; d) all spaces from which drilling, production, or other machinery are controlled that are essential for the performance of those operations or where loss of lighting may create a hazard to safety or contribute to a major accident event [including emergency shut-down equipment, power plants, and main generating stations]; e) all areas where emergency response equipment are stored; and, f) every helicopter landing deck and every obstacle marker on that deck. (4) Where the emergency source of electrical power required by subsection (2) is a mechanically driven generator, the installation shall be provided with: a. a transitional source of electrical power, unless the generator will automatically start and supply the power required by subsection (2) in less than 45 seconds from the time the primary source of electrical power fails; and b. a self-contained battery system designed to supply sufficient power, automatically on failure or shutdown of both the primary and the emergency sources of electrical power, to operate, for a period of at least one hour the equipment described in subparagraphs (i) and (ii) and, for a period of at least four days, the equipment described in subparagraph (iii): i. the lights located in every emergency exit route, at every escape route, in every machinery space, the control center and every emergency assembly room and at every launching station of the lifesaving system; ii. the internal communication system and the general alarm system; and iii. the navigation lights, sound signal systems and illuminated markings referred to in section 7.14. (5) The operator shall ensure that emergency power systems are designed and maintained such that: a. systems requiring electrical power to fulfil their functions and, where required, to allow the installation to be safely shut down and evacuated following loss of main power shall have a secure power supply of sufficient capacity and duration for effective management of the installation and the emergency situation while main power generation is unavailable, including: i. reduction of risks to as low as reasonably practicable; ii. essential systems and lighting, and timelines that are necessary to support emergency response, safe escape, refuge and evacuation of personnel, or to maintain the integrity of the installation; iii. supply loads and duration for systems that may have to be operated simultaneously during emergency situations; iv. starting currents and the transitory nature of loads; v. for floating offshore platforms, systems required to maintain the marine and stability of the platform; and vi. systems required to bring and maintain the well to a safe and secured state; b. sufficient redundancy to allow maintenance of the emergency power system without compromising the ability to power the essential systems;

		c. sufficient redundancy to ensure a high degree of reliability and, as far as practicable, to be functionally and physically independent of other systems; d. they are suitably arranged and protected from mechanical, fire and other accidental and environmental damage, to ensure they are capable of fulfilling their intended functions under foreseeable operating and environmental conditions under which they must operate, including static and dynamic angles of inclination according to 7.4(6); e. mechanical driven emergency power generators shall have redundant means of being started and have dedicated source of fuel; and f. emergency sources of power are readily and safely accessible. (6) The operator shall ensure that emergency power systems are designed and maintained such that: a. systems requiring electrical power to fulfil their functions and, where required, to allow the installation to be safely shut down and evacuated following loss of main power shall have a secure power supply of sufficient capacity and duration for effective management of the installation and the emergency situation while main power generation is unavailable, including: i. reduction of risks to as low as reasonably practicable; ii. essential systems and lighting, and timelines that are necessary to support emergency response, safe escape, refuge and evacuation of personnel, or to maintain the integrity of the installation; iii. supply loads and duration for systems that may have to be operated simultaneously during emergency situations; iv. starting currents and the transitory nature of loads; v. for floating offshore platforms, systems required to maintain the marine and stability of the platform; and vi. systems required to bring and maintain the well to a safe and secured state; b. sufficient redundancy to allow maintenance of the emergency power system without compromising the ability to power the essential systems; c. sufficient redundancy to ensure a high degree of reliability and, as far as practicable, to be functionally and physically independent of other systems; d. they are suitably arranged and protected from mechanical, fire and other accidental and environmental damage, to ensure they are capable of fulfilling their intended functions under foreseeable operating and environmental conditions under which they must operate, including static and dynamic angles of inclination according to 7.4(6); e. mechanical driven emergency power generators shall have redundant means of being started and have dedicated source of fuel; and f. emergency sources of power are readily and safely accessible.
7.36	**Evacuation and Escape**	(1) The operator shall ensure that every installation has the most suitable and most effective facilities and technology practicable for safe and controlled emergency response during accidental events, including: a. routes and other necessary equipment and devices which allow personnel to escape from the immediate effects of a hazardous event to a place of temporary refuge; b. provision of temporary refuge for the time required for incident assessment and controlled evacuation; c. arrangements to permit the rescue of injured personnel; and d. arrangements for safe evacuation of all personnel from the installation, including suitable means, where practicable, for persons to descend from the installation to the water. (2) The operator shall ensure that safe, direct, protected and unobstructed exits, access, and escape routes are provided from all areas of the installation, that are intended to be regularly occupied by personnel, to temporary refuge, muster areas and embarkation or evacuation points. (3) The operator shall ensure that all areas intended to be regularly occupied by personnel are provided with at least two exits and escape routes,

		separated as widely as practicable such that at least one exit and the connected escape route will be passable during an accidental event. (4) The operator shall ensure that primary escape routes are provided on both sides of the offshore installation. (5) The operator shall ensure that all escape routes from the accommodation areas and temporary safe refuge to the muster station, evacuation and embarkation stations, as well as those stations, are provided with fire protection for sufficient period of time, and suitably marked and illuminated, to allow for the safe evacuation of personnel for a timeframe defined by the escape and evacuation studies and the time frames established in the escape and evacuation plans. (6) Escape routes shall be of suitable size to enable efficient movement of the maximum number of personnel who may require using them, and for unrestricted manoeuvring of fire-fighting equipment and use of stretchers. (7) The operator shall ensure that every offshore installation is equipped with temporary safe refuge that, in an emergency response event, including an uncontrolled incident, will: a. protect personnel from fire, explosion, and associated hazards, including but not limited to gas and smoke, during the period of time for which they may need to remain on the installation; b. enable safe evacuation c. provide sufficient space, signage, lighting and arrangements to accommodate the maximum number of persons that could be located in the temporary safe refuge prior to evacuation; and d. provide sufficient facilities for communication, command, monitoring and control of any major incident until personnel have been evacuated or the situation has been brought under control. (8) In particular, the operator shall ensure every accommodation installation, temporary safe refuge, the control centre, dependent personnel accommodations, and any area required to remain safe for human occupation in an emergency at every installation are a. designed to prevent ingress of hazardous or toxic substances, and b. located and designed to enable occupation for a sufficient period of time following onset of an emergency to implement emergency procedures and evacuate personnel. (9) The operator shall implement measures to validate the temporary safe refuge performance on a regularly defined basis (usually defined in safety plan).
7.37	**Life Saving 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. (5) In addition, each installation should carry liferafts suitable for the operating height from which they will be deployed, of such aggregate capacity as will accommodate the total number of persons on board. (6) The operator shall ensure that lifeboats meet the requirements for Class I lifeboats as set out in Schedule V.1 and are equipped with Class A equipment as described in Schedule II to the *Life Saving Equipment Regulations*, as if the installation were a Class I ship to which those Regulations apply. (7) The operator shall ensure that liferafts meet the requirements set out in Schedule XIII and are equipped with Class A equipment as described in Schedule I to the *Life Saving Equipment Regulations*, as if the liferafts and lifeboats were in waters and on vessels to which those Regulations apply. (8) The operator shall ensure that the launching devices for the lifeboats and liferafts meet the requirements for launching devices set out in Schedule IX to the *Life Saving Equipment Regulations*, as if the launching devices were located in waters to which those Regulations apply. (9) The operator shall ensure that evacuation systems and equipment sizing and capacity is suitable for the demographics of the workforce in the operating region. (10) The operator shall implement measures to demonstrate functionality and performance of all evacuation systems and equipment on a regularly defined basis (usually defined in safety plan). (11) The operator shall ensure that emergency locator equipment are installed as required by the *Life Saving Equipment Regulations* and *Ship Station Radio Regulations*. (12) The operator shall ensure that lifeboats are capable of uninterrupted communications with other survival, support and rescue craft. (13) The operator shall ensure that lifeboats are outfitted with towing arrangements.

PART 8 – GEOSCIENCE, GEOTECHNICAL AND ENVIRONMENTAL OPERATIONS

Section #	Section Title	Proposed Policy Intent
8.1	**Geoscience, Geotechnical and Environmental Operations**	(1) An operator conducting a geoscience, geotechnical or environmental operation shall ensure a. all equipment and materials that are used during the operation are handled, operated, inspected, tested and maintained to ensure safety and environmental protection, taking into consideration the manufacturer's instructions and any safety standards available; b. all equipment is regularly inspected and any defective components are promptly repaired or replaced with components that comply with the manufacturer's instructions; c. the installation, operation and maintenance is performed by competent personnel; d. all energy sources are: i. kept free from any substance that could create a hazard; ii. operated in a manner that prevents accidental activation of the energy source; e. in the case of an electrical or electromagnetic energy source, the energy source is equipped with circuit breakers on the charging and discharging circuits, and cables that are adequately insulated and grounded to prevent current leakage and electrical shock; f. where a seismic or electrical energy source is used, all such operations must be completed in a manner that eliminates all potential safety risks to divers and that minimum distances required to ensure safety of divers have been identified and followed; and g. for onshore operations, (Note: Onshore COGOA only) i. work conducted close to a survey monument does not cause damage or displacement; ii. particular care is taken to protect the environment when in proximity to lakes, streams or rivers; iii. where an electrical energy source is used, all electrodes on the land surface are clearly flagged or cordoned off to prevent unauthorized access; iv. charges are loaded into a shot-hole and detonated using safe equipment, tools and procedures; v. shot holes loaded with explosives are properly flagged; vi. shot hole drilling procedures address the possibility of encountering flowing water and shallow gas and, if encountered, remedial action is taken without delay to minimize danger and potential damage to near-surface aquifers and the land surface; vii. all persons are protected from the possibility of contact between electrical cord and overhead power lines; viii. seismic energy sources or equipment do not cause detonation of another shot hole, damage or cratering; ix. no attempt is made to remove a charge from a shot hole; x. if a charge fails to detonate, actions are taken to prevent future access to the charge; and xi. shot holes are plugged and other surface disturbances are remediated following conduct of a geophysical operation.
8.2	**Damage to Property**	Every operator shall take all reasonable safeguards against damage to property as a result of a geoscience, geotechnical or environmental operation.

8.3	**Testing of Energy Sources**	(1) The operator shall minimize energy source testing on the deck of a vessel or installation. (2) Where an energy source is activated for testing purposes during a geoscience, geotechnical or environmental operation, the operator shall ensure that a. the person in charge of a vessel, platform or aircraft, or at the operations site, is advised that the test is being carried out; b. all persons aboard the vessel, platform or aircraft, or at the operations site, are adequately alerted and measures put in place to isolate them from exposure to any hazard associated with the energy source; c. all equipment is properly secured; and d. the testing is carried out in a manner that does not create a hazard. (3) The operator shall ensure that every person conducting an offshore geoscience, geotechnical or environmental operation from a vessel or platform have fully immersed in water any electrical or electro-magnetic energy source that they are testing. (4) The operator shall ensure that all primary vessels involved in a geoscience or geotechnical operation are classed by a Classification Society.
8.4	**Vessel Classification and Helicopter Deck**	If the geoscience, geotechnical or environmental program is proposing to transfer personal with helicopters, the helicopter deck a. should meet the requirements outlined in CAP 437 for helicopter deck and b. complies with the classification requirements outlined by the Classification Society.
8.5	**Third Party Assessment**	The operator shall ensure that an independent third party that is deemed competent by the Board has assessed and certified all seismic equipment packages that are installed temporarily on a vessel to conduct a seismic program to ensure they are fit for purpose.
8.6	**Evacuation Systems**	The operator shall ensure that evacuation systems and equipment sizing and capacity on all vessels is suitable for the demographics of the workforce in the operating region.

PART 9 – SUPPORT OPERATIONS

Section #	Section Title	Proposed Policy Intent
9.1	**Support Craft and Safety Zone**	(1) The operator shall ensure that all support craft are designed, constructed, operated and maintained to provide the necessary support functions and operate safely in the foreseeable physical environmental conditions prevailing in the area in which they operate. (2) The operator of an installation on which persons are normally present shall ensure that at least one support craft is a. available at a distance that is not greater than that required for a return time of twenty minutes; b. available in the immediate vicinity [close proximity] of the installation and fully ready [prepared to conduct] to undertake rescue and recovery operations, whenever a helicopter is landing or taking off, or personnel are working over the side, or otherwise exposed to the risk of falling in the water, and c. suitably equipped to supply the necessary emergency services including rescue and first aid treatment for all personnel on the installation in the event of an emergency. (3) The operator shall ensure that, for any vessels undertaking diving, construction, or geoscience, geotechnical, a fast rescue craft is available and ready for deployment in the event of an emergency. (4) If the support craft exceeds the distance referred to in paragraph 9.1(2)(a), both the installation manager and the person in charge of the support craft shall log this fact and the reason why the distance or time was exceeded. (5) Under the direction of the installation manager, the support craft crew shall keep the craft in close proximity to the installation, maintain open communication channels with the installation and be prepared to conduct rescue operations during any activity or condition that presents an increased level of risk to safety.
9.2	**Safety Zone**	(1) For the purposes of this section, the safety zone around an offshore installation consists of the area within a line enclosing and drawn at a distance of 500 m from the outer edge of the installation or any component of the installations. (2) For a vessel engaged in a diving operation or a geoscience, geotechnical or environmental operation, the safety zone around the operation consists of the area within a line enclosing and drawn at a distance sufficient to ensure risks to safety, the environment and property are minimized. (3) A support craft or an aircraft, vessel or vehicle associated with work or activity on the installation or an offshore operations site, shall not enter the safety zone without the consent of the installation manager or the person in charge of the operations site. (4) The operator shall take all reasonable measures to notify persons who are in charge of aircraft, vessels or vehicles of the safety zone boundaries, of the facilities within the safety zone and of any related potential hazards.

Reporting and Resource Management

PART 10 – EVALUATION OF WELLS, POOLS, AND FIELDS

Section #	Title of Section	Proposed Policy Intentions
10.1	GENERAL	49. The operator shall ensure that the well data acquisition program and the field data acquisition program (set out in section 3.2) are implemented in accordance with good oilfield practices. Agreed to define "Good Oil Field Practices" Suggested starting point for the definition: Good Oilfield Practices means those practices, methods, standards and procedures generally accepted and followed by prudent, diligent, skilled and experienced operators in petroleum exploration, development and production operations.
10.2	GENERAL	50. (1) If part of the well or field data acquisition program cannot be implemented, the operator shall ensure that (a) a conservation officer is notified as soon as the circumstances permit; and (b) the measures to otherwise achieve the goals of the program are submitted to the Board for approval. (2) If the operator can demonstrate that those measures can achieve the goals of the well or field data acquisition program or are all that can be expected in the circumstances, the Board shall approve them (i.e. procedures submitted under 1 b).
10.3	GENERAL	51. The operator shall ensure that every formation in a well is tested and sampled to obtain reservoir pressure data and fluid samples from the formation, if the Board determines that the data or samples would contribute to the geological and reservoir evaluation.
10.4	Formation Flow Testing	The operator shall ensure that (a) no development well is put into production unless a formation flow test has been approved by the Board and has been subsequently carried out in accordance with the approval; and (b) if a development well is subjected to a well operation that might change its deliverability, productivity or injectivity, a formation flow test is conducted after the well operation is ended and the flow or injection conditions have stabilized to determine the effects of that operation on the well's deliverability, productivity or injectivity.
10.5	Formation Flow Testing (Continued)	The operator may conduct a formation flow test on a well drilled on a geological feature if, before conducting that test, the operator (a) submits to the Board a detailed testing program; and (b) obtains the Board's approval to conduct the test.
10.6	Formation Flow Testing (Continued)	The Board may require that the operator conduct a formation flow test on a well drilled on a geological feature, other than the first well, if the Board believes that the test would contribute to the geological and reservoir evaluation.
10.7	Formation Flow Testing (Continued)	The Board shall approve a formation flow test if the operator demonstrates that the test will be conducted safely, without pollution and in accordance with good oilfield practices and that the test will enable the operator to (a) obtain data on the deliverability of the reservoir and productivity of the well; (b) establish the characteristics of the reservoir; and (c) obtain representative samples of the formation fluids.

Section #	Title of Section	Proposed Policy Intentions
10.8	Submission of Samples and Data	53. The operator shall ensure that all cutting samples, fluid samples and all cores collected as part of the well and field data acquisition programs are (a) transported and stored in a manner that prevents any loss or deterioration (b) delivered to the Board within 60 days after the well termination date unless analyses are ongoing, in which case those samples and cores, or the remaining parts, are to be delivered on completion of the analyses; and (c) stored in durable containers properly labelled for identification.
10.9	Submission of Samples and Data	54. (1) The operator shall ensure that after any samples necessary for analysis or for research or academic studies have been removed from a conventional core, the remaining core, or a longitudinal slab that is not less than one half of the cross-sectional area of that core, is provided to the Board. 54(2) The operator shall ensure that after any samples necessary for analysis or for research or academic studies have been removed from a sidewall core, the remaining core is provided to the Board.
10.10	Submission of Samples and Data	55. Before disposing of cutting samples, fluid samples, cores or evaluation data collected under these Regulations, the operator shall ensure that the Board is notified in writing and is given an opportunity to request delivery of the samples, cores or data.

PART 11 – MEASUREMENTS

Section #	Title of Section	Proposed Policy Intentions
11.1	Flow and Volume	(1) Unless otherwise included in the approval issued under clause 3.3 (Phase I), the operator shall ensure that the rate of flow and the volume of the following are measured and recorded: (a) the fluid that is produced from each well; and (b) any fluid or waste material that is injected into each well. (2) Unless otherwise included in the approval issued under clause 3.3 (Phase I), the operator shall ensure that the following is measured and recorded: (c) the manner in which fluids are disposed of, [including through venting, burning, flaring, and transportation for processing whether through offloading or pipeline] and; (d) the quantity of disposed fluids.
11.2	Flow and volume (continued)	The operator shall ensure that any measurements are conducted in accordance with the flow system, flow calculation procedure and flow allocation procedure, approved under clause 3.3 (Phase I).
11.3	Flow and volume (continued)	The operator shall ensure that group production of oil, water and gas from wells and injection of a fluid into wells is allocated on a pro rata basis, in accordance with the flow system, flow calculation procedure and flow allocation procedure approved under clause 3.3 (Phase I).
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).
11.5	Testing, Maintenance and Notification	The operator shall ensure (a) that meters and associated equipment in the flow system are calibrated and maintained to ensure their continued accuracy; (b) that equipment used to calibrate the flow system is calibrated in accordance with good measurement practices; (c) that any component of the flow system that may have an impact on the accuracy or integrity of the flow system and that is not functioning in accordance with the manufacturer's specifications is repaired or replaced without delay, or, if it is not possible to do so without delay, corrective measures are taken to minimize the impact on the accuracy and integrity of the flow system while the repair or replacement is proceeding; and (d) that a conservation officer is notified, as soon as the circumstances permit, of any modification, malfunction or failure of any flow system component that may have an impact on the accuracy of the flow system and of the corrective measures taken.
11.6	Transfer Meters	The operator shall ensure that (a) a conservation officer is notified at least 30 days, or as agreed to in writing, before the day on which any transfer meter prover or master meter used in conjunction with a transfer meter is calibrated; and (b) a copy of the calibration certificate is provided to the Chief Conservation Officer as soon as the circumstances permit, following completion of the calibration.
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.

PART 12 – PRODUCTION CONSERVATION

Section #	Title of Section	Proposed Policy Intentions
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.
12.2	Commingled Production	No operator shall engage in commingled production except in accordance with the approval granted under 12.3.
12.3	Commingled Production (Continued)	The Board will approve commingling if the operator can demonstrate that overall recovery will be maximized by allowing commingling.
12.4	Commingled Production (Continued)	The operator engaging in commingled production shall ensure that the total volume and the rate of production of each fluid produced is measured and the volume from each pool or zone is allocated in accordance with the requirements of Part 11.
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 (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 notifiedas soon as the circumstances permit, of the burning and the amount burned.

Section #	Title of Section	Proposed Policy Intentions
12.7	Pilot Scheme	(1) For the purposes of this section, “pilot scheme” means the application of technology at a scale for the determination of commercial production of petroleum from a pool, field or zone accessible from a production installation that has an approved development plan (e.g., as a deferred development), in order to obtain information on reservoir or technology performance for the purposes of optimizing production performance under the approved development plan or amending the development plan. (2) The Board will establish the duration of the pilot scheme based on the time required to achieve the stated goals and objectives. When the objectives of the pilot scheme have been achieved, production must be discontinued. (3) The operator shall ensure that interim evaluations of any pilot scheme respecting a pool, field or zone are submitted to the Board at periodic intervals approved by the Board. (4) When the pilot scheme reaches the end of its set time period, the operator shall ensure that a report is submitted to the Board that sets out: (a) the results of the scheme and supporting data and analyses; and (b) the operator’s conclusions as to the potential of the scheme for application to full-scale production.

PART 13 – TERMINATIONS AND DECOMMISSIONING

Section #	Title of Section	Proposed Policy Intentions
13.1	Suspension or Abandonment of a Well	The operator shall ensure that every well that is suspended or abandoned is left in a condition that (a) provides for isolation of all oil or gas bearing zones and discrete pressure zones; and, in the case of an onshore well, groundwater (COGOA only); (b) prevents any formation fluid from flowing through or escaping from the well-bore; and c) ensures it can be readily located. The operator shall verify the isolation of all oil and gas bearing zones and discrete pressure zones (in the case of an onshore well, groundwater) prior to suspending or abandoning the well. The means to verify the isolation of zones required by paragraph (a) is to be provided as part of the application for well approval for the suspension or abandonment of a zone or well. (to include in Phase I language)
13.2	Suspension or Abandonment of a Well (Continued)	The operator of a suspended well shall ensure that the well is monitored and inspected to maintain its continued integrity and to prevent pollution.
13.3	Suspension or Abandonment of a Well (Continued)	The operator shall ensure that, on the abandonment of any offshore well, the seafloor is cleared of any material or equipment that might interfere with navigation or other uses of the sea, or have an adverse effect on the marine environment. (COGOA onshore only) The operator shall ensure that, on the abandonment of any onshore well, the well is left in a condition that protects groundwater and prevent any adverse effect on the environment.
13.4	Removal of Drilling Installations	No operator shall remove or cause to have removed a drilling installation from a well drilled unless: a) the well has been terminated in accordance with these Regulations; or b) the removal of the installation is for emergency purposes.

PART 14 – RECORDS AND REPORTING

Section #	Title of Section	Proposed Policy Intentions
	DEFINITIONS	"abandoned" means in relation to a well, a well or part of a well that has been permanently plugged; "commenced" in relation to a geoscience, geotechnical or environmental program, means when the authorized activities related to the project have started "completed" in relation to a well, means a well that is prepared for production or injection operations; "completed" in relation to a geoscience, geotechnical or environmental program, means when the authorized activities have concluded

Section #	Title of Section	Proposed Policy Intentions
		"completion interval" means a section within a well that is prepared to permit the (a) production of fluids from the well; (b) observation of the performance of the reservoir; or (c) injection of fluids into the well. "cancelled" in relation to a geoscience, geotechnical or environmental program, means the operator no longer intends to undertake the authorized work or activity. "non-productive time" in relation to a geoscience, geotechnical or environmental program, means any period of time where data acquisition is delayed or interrupted for any reason. "suspended" in relation to a geoscience, geotechnical or environmental program, means the activities associated with the program have temporarily ceased. "suspended", in relation to a well or part of a well, means a well or part of a well in which drilling or production operations have temporarily ceased. "termination" means when a well has been abandoned, suspended or completed "well operation" means the operation of drilling, completion, recompletion, intervention, workover, suspension or abandonment of a well; "workover" means an operation on a completed well that requires removal of the tree or the tubing;
14.1	Reference to Names and Designations	When submitting any information for the purposes of these Regulations, the operator or the operator's representative shall refer to each well, pool, and field by the name given to it under Clauses 1.1 and 1.2 (Phase I), or if a zone, by its designation under Clause 1.2 (Phase I).
14.2	Location Surveys	The operator shall ensure that a survey is used to confirm the location of a well and the location of a production installation.
14.3	Location Surveys (continued)	The operator shall ensure that (a) the survey is certified by a person licensed under the *Canada Lands Surveyors Act*, and (b) a copy of the survey plan filed with the Canada Lands Survey Records is provided to the Board.
14.4	Submission of Data and Analysis	The operator shall ensure that a final copy of the results, data, analyses and schematics obtained from the following sources is provided to the Board: (a) testing, sampling and pressure surveys carried out as part of the well and field data acquisition programs referred to in Clause 10.1 and testing and sampling of formations referred to in Clause 10.3; and (b) any segregation test or well operation.
14.5	Submission of Data and Analysis (continued)	Unless otherwise indicated in these Regulations, the operator shall ensure that the results, data, analyses and schematics are provided within 60 days, unless otherwise agreed in writing with the Board, after the day on which any activity referred to in paragraphs 14.4(a) and (b) is completed.
14.6	Management of Records /	The operator shall ensure that records necessary to support operational and regulatory requirements are readily accessible for inspection by the Board.

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	Accessibility to records	
14.7	Records	The operator shall ensure that records are kept of (b) the location and movement of support craft, (c) emergency drills and exercises, incidents, near-misses (d) the quantities of consumable substances on the installation or at the operations site (e) other information critical to safety or the protection of the environment; (f) all inspection, maintenance and operating activities, including any activity that may be critical to the safety on the installation or operations site, the protection of the environment or the prevention of waste; (g) in the case of an installation, (i) the inspection of the installation and related equipment for corrosion and erosion and any resulting maintenance carried out, (ii) the pressure, temperature and flow rate data for compressors and treating and processing facilities; (iii) the calibration of meters and instruments, (iv) the testing of surface, subsea and subsurface safety valves, (v) the status of each well and the status of well operations, and (vi) the status of the equipment and systems critical to safety and protection of the environment including any unsuccessful test result or equipment failure leading to an impairment of the systems; (h) in the case of a floating installation, (i) all installation movements, data, observations, measurements and calculations related to the stability and station-keeping capability of the installation, (ii) results of every test and analysis conducted pertaining to its stability and station-keeping capability, and (iii) every change in weight or position of weight on the platform that may affect the stability of the platform
14.8	Meteorological Observations	The operator of an offshore [only put "offshore" for COGOA regs] installation or operations site shall ensure (a) that a comprehensive record of observations of physical environmental conditions is maintained onboard/at the installation or at the operations site; and (b) that forecasts of meteorological conditions, sea states and ice movements are obtained and recorded each day and each time during the day that they change substantially from those forecasted.
14.9	Incidents 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

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		(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.
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.
14.11	Notification of commencement, completion, termination or cancelation of a Geoscience, Geotechnical, Environmental program	(3) The operator shall immediately notify the Board in writing when a geoscientific, geotechnical or environmental program a) commences, b) is completed, and c) is terminated or cancelled.
14.12	Daily Reports	The operator shall ensure that a copy of the following is provided to the Board daily: (a) the daily well operation report; (b) the daily geological report, including any formation evaluation logs and data; and (c) in the case of a production installation, a summary, in the form of a daily production report, of the records referred to in paragraph 14.7(f) and the daily production record.
14.13	Daily Formation Flow Test Records and Reports	The operator shall ensure that (a) in respect of exploration and delineation wells, a record of formation flow test results is submitted to the Board daily; and (b) in respect of all wells, a formation flow test report is submitted to the Board as soon as the circumstances permit, following completion of the test.
14.14	Daily Production Record	The operator shall ensure that a daily production record, which includes the metering records and other information relating to the production of oil and gas and other fluids in respect of a pool or well, is retained and readily accessible to the Board until the field in which the pool is located is abandoned and at that time shall offer the record to the Board before destroying it.
14.15	Weekly Geoscience, geotechnical, environmental operations report (or program status report)	(1) For any geoscientific, geotechnical or environmental program (with field work), the operator shall ensure weekly status reports are provided to the Board from the commencement of the program until its completion, suspension or cancellation. See sub(2) below.

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14.16	Weekly Geoscience, geotechnical, environmental operations report (or program status report)	(2) The reports required by sub-section (1) shall be in a form and manner prescribed by the Board and shall include, as a minimum: a) the program number assigned by the Board; b) identification, location and status of the installations, operations site, vessels, vehicles (to include vibroseis seismic surveys, only onshore COGOA) or aircraft undertaking the program; c) a description of activities undertaken during the preceding week, including (i) key project dates, including commencement, suspension and completion dates, (ii) quantity of data collected, broken down by data acquisition technique, (iii) identification and location of data collection points, lines or areas, (iv) maps illustrating the completed data acquisition program against the proposed data acquisition program, (v) maps illustrating the upcoming data acquisition program, (vi) a time breakdown of program activities including any non-productive time, (vii) a summary of causes of non-productive time, and (viii) any failure to comply with a condition of the authorization; d) for any offshore [COGOA version only] program (i) the number of persons onboard all installations, vessels or survey aircraft (i.e. conducting the geoscience program and not including helicopters transferring personnel) directly involved in the program, (ii) number of persons transferred by helicopter or vessel directly involved in the program, (iii) communications or interactions with fishing activities, (iv) Summary of daily maintenance and operating activities, including any activity that maybe critical to safety and environmental protection, (v) Summary of emergency drills and exercises, incidents and other observations and information critical to safety and environmental protection (vi) any wildlife observations or interactions, and (vii) actions taken to avoid interference with wildlife, fishing activities or any other commercial uses of the sea; and e) for any onshore geophysical or geotechnical program, the location of any shot hole where water or gas comes to the surface of a shot-hole; (onshore COGOA only)
14.17	Monthly Production Report	The operator shall ensure that a report summarizing the production data collected during the preceding month is submitted to the Board not later than the 15th day of each month.
14.18	Final Well History and Well Operations Report	(1) The well history report shall contain a record of all operational, engineering, petrophysical, geophysical and geological information that is relevant to the drilling and evaluation of the well. Well Operations Records and Reports (2) Every operator shall ensure that (a) a well termination record is provided to the Board within 21 days of the well termination date following the abandonment, planned suspension that are longer than 21 days, completion or re-completion of a well; (b) a well history report is provided to the Board within 90 days after the well termination date; and (c) where the well operation involves a workover or well intervention, a well operations report is provided to the Board within 30 days of completion of the operation. (3) As applicable, the reports required by paragraphs (2)(b) and (2)(c) shall contain a record of all operational, engineering, petrophysical, geophysical, geological information that is relevant to the well operation, including any problems encountered during the well

Section #	Title of Section	Proposed Policy Intentions
		operation. (4) In addition to the requirements of sub-section (2), the report required by paragraph (2) (c) shall describe any impact on the performance of the well including any effect on productivity, injectivity and recovery (known at the time of reporting). (5) The record required by paragraph (2)(a) shall describe the manner in which the well has been abandoned, suspended, completed or re-completed in accordance with these regulations and shall include a schematic of the well illustrating the nature and location of the plugs used to abandon or suspend the well or the equipment used to complete the well. (6) The records and reports required by sub-section (2) shall be signed and dated by the operator or the operator's representative.
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.
14.20	Annual Production Report	AA versions are different here: 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."
14.21	Final/Annual Safety Report	Within 90 days following completion or suspension of an authorized work or activity, or for an ongoing (i.e. that will continue into the following calendar year) work or activity, not later than March 31 of each year, the operator shall ensure that a safety report relating to the preceding calendar year is provided to the Board and includes (a) a summary of safety performance during the applicable calendar year, including with respect to the safety goals identified through the management system (b) a discussion of efforts undertaken to improve safety.
14.22	Final Geoscientific, Geotechnical or Environmental Program Environmental Report	For each geoscientific, geotechnical or environmental program the operator shall ensure an environmental report is provided to the Board within 90 days after the operation is completed or suspended and includes (a) a description of the general environmental conditions, during the geoscientific, geotechnical or environmental program and, if applicable, a description of ice management activities and non-productive time caused by weather or ice; (b) a summary of environmental protection measures and mitigation actions taken, as well as their effectiveness and adjustments made for continual improvement, and a summary of the project's performance with respect to any environmental goals identified through the management system; (c) a description of environmental contingency plan exercises; and (d) wildlife observation data , in the form and manner prescribed by the Board.
14.23	Final Drilling Environmental Report	For each drilling installation for an exploration or delineation well, the operator shall ensure that an environmental report relating to each well is provided to the Board within 90 days after the well termination date and includes: (a) a description of the general environmental conditions during the drilling program and a description of ice management activities and non-productive time caused by weather or ice; and (b) a summary of environmental protection measures and mitigation actions taken, as well as their effectiveness and adjustments made for continual improvement, and a summary of the project's performance with respect to any environmental goals identified through the management system;

Section #	Title of Section	Proposed Policy Intentions
		(c) a description of environmental contingency plan exercises; (d) wildlife observation data , in the form and manner prescribed by the Board.
14.24	Final/Annual Production Project Environmental Report	For each production project or offshore (only AA) pipeline project, the operator shall ensure that, not later than March 31 of each year, an annual environmental report relating to the preceding year is provided to the Board and includes (a) for an installation or an operations site a summary of the general environmental conditions during the year (b)a description of ice management activities; (c) a summary of environmental protection measures and mitigation actions taken, as well as their effectiveness and adjustments made for continual improvement, and a summary of the project's performance with respect to any environmental goals identified through the management system. (e) a description of environmental contingency plan exercises; and (f) wildlife observation data , in the form and manner prescribed by the Board.
14.25	Other Annual Reports	The operator shall ensure that the Board is made aware, at least once a year, of any report containing relevant information regarding applied research work or studies in which the operator has participated, funded or commissioned relating to the operator's authorized work or activities and that related to safety, environmental protection or resources management, and that a copy of any report is provided to the Board on request.
14.26	Final Geoscientific, Geotechnical or Environmental Program Data Reporting	(1) The operator shall ensure that the final operations and processing report(s) as defined in sub (3) and the interpretation report as defined in sub (5)(if applicable) together with the final processed data are provided to the Board, unless otherwise authorized to in writing by the Board, within 12 months of completing any geoscientific, geotechnical or environmental program.
14.26	Final Geoscientific, Geotechnical or Environmental Program Reports	(2) The operations and processing report (s) required by sub-section (1) shall be provided in a form and manner prescribed by the Board and shall contain as applicable: a) the program number assigned by the Board; b) the title, author and date of the report and the executive summary and table of contents; c) the names of the operator, contractors and any interest owners; d) a description of all installations, vessels or aircraft used to execute the program, including any support vessels; e) a description of the program including (i) key project dates, including commencement, suspension and completion dates, (ii) the equipment used, (iii) the operational methods employed, (iv) the number of crew, and (v) the quantity of data collected, broken down by data acquisition technique; f) location maps illustrating the data acquisition program including the identification and location of data points, lines or areas and the type of data acquired; g) location maps that show the boundaries of the area that is subject to each interest covered by the operation and the identification number of each such interest; h) a time breakdown illustrating the type and duration of all activities including any non-productive time; (i) the accuracy of the navigation system, the accuracy of the positioning and survey systems, the parameters and configuration of both the energy source and the recording system, and (j) a description of the geoscience data acquired including the data processing sequence and parameters; and (k) shot point maps, track plots, flight lines with numbered fiducial points, gravity station maps, location maps for any samples or core holes, and any photographs and videos as applicable.

Section #	Title of Section	Proposed Policy Intentions
14.26	Final Geoscientific, Geotechnical or Environmental Program Reports	(3) Subject to section 14.27, the interpretation report required by sub-section (1) shall be provided in a form and manner prescribed by the Board and shall contain as applicable: a) bathymetric or topographic maps compiled from the data collected; b) a written discussion along with interpretative maps that are appropriate to the data collected including; i) time and depth structure and isopach maps, velocity and residual velocity maps, and seismic attribute maps; ii) final Bouguer gravity maps and any residual or other processed gravity maps; iii) final total magnetic intensity contour maps and any residual, gradient or other processed magnetic maps; iv) final controlled source electromagnetic resistivity mapS; v) surficial maps generated from any seabed, geohazard or a pipeline route survey; and vi) any geological maps; c) a written discussion of the interpretation with reference to i) geological and geophysical correlations; ii), correlations between gravity, magnetic, controlled source electro magnetic and seismic data including correlations to any data acquired during previous surveys; iii) in the case of seabed surveys, the geophysical correlation of shallow seismic data with data from cores and geotechnical boreholes; iv) details of corrections or adjustments that were applied to the data during processing or compilation; v) the operator's velocity information that was used in a time-to-depth conversion; vi) core and sample descriptions; vii) geoscientific and geotechnical analyses; and viii) geohazard reports; d) a description of: i) synthetic seismograms; ii) seismic modelling studies that use synthetic seismograms; iii) vertical seismic profiles at wells that were used in the interpretation of the operation data; iv) amplitude versus offset studies; v) any seismic inversion studies; vi) any other seismic studies related to the program.
14.26	Final Geoscientific, Geotechnical or Environmental Program Reports	(4) The final reports required by sub-section (1) shall be accompanied by all acquired data in a form and manner prescribed by the Board including, as applicable, a) track plot, shotpoint location and sample location data, time stamped when available, b) bathymetric data, c) all final processed seismic data for each 2D seismic line in time and depth, d) a final processed 3D volume and each line generated from that volume in time and depth, e) any vertical seismic profiles, synthetic seismograms, amplitude versus offset data or any seismic inversion data, f) for any seabed, geohazard (check for consistency of language) or a pipeline route survey, i) processed high-resolution data for each line, ii) location maps for any samples, iii) any photographs and any videos; and iv) sub-bottom profiler and side-scan sonar data; g) for any environmental programs, any photographs, video or other graphic information that are relevant and contribute to the drafting and interpretation of the final data and final report; h) in the case of a gravity or magnetic survey, a series of gravity and magnetic profiles across all gravimetric and magnetic surveys, i) in the case of controlled source electromagnetic data, final processed cross-sections on all receiver lines, curves from all receivers and 2D and 3D final models generated.

Section #	Title of Section	Proposed Policy Intentions
14.26	Final Geoscientific, Geotechnical or Environmental Program Reports	(5) In submitting a map pursuant to subparagraph 14.26 3(b), the operator shall incorporate any previous data collected by the operator that are related to the area covered by the map and that are of a type similar to the data from which the map was produced.
14.27	Final Geoscientific, Geotechnical or Environmental Program Reports	An operator who has conducted a non-exclusive survey need not submit an interpretation report required by sub-section 14.26 (3) provided the data from that survey are available for purchase or lease by the public.
14.28	Data purchases	(1) Where an operator who has conducted a non-exclusive survey ceases to make available for purchase or lease any data from that survey , the operator shall ensure that, within 12 months after the date on which the operator ceased to make the data available, the interpretation report specified by sub-section 14.26 (3) is provided to the Board.
14.28	Data purchases	(2) Every purchaser of geoscientific, geotechnical or environmental data that in an area that is subject to an interest, where the costs of the purchase of the data are credited against a (work) deposit or rentals requirements of the interest, and every participant, shall submit to the Board an interpretation report specified by sub-section 14.26 (3).
14.28	Data purchases	(3) Where a purchaser of geoscientific data from an area that is subject to an interest has reprocessed and/or reinterpreted, as applicable, and the data and the costs of the reprocessing are submitted as part of an application to be credited against a (work) deposit or rental requirements of the interest, the purchaser shall submit to the Board a processing report specified by sub-section 14.26 (2), interpretation report specified by sub-section 14.26(3) and any accompanying data as specified by sub-section 14.26 (4).
14.28	Data purchases	(4) The reports and data required by subsections (2) and (3) shall be submitted by the interest holder (check with rights people) , prior to the time the costs referred to in subsection (2) or (3) are credited.
14.28	Notification to the CCO	(5) A person who has submitted a report referred to in this section shall, in respect of data that pertain to the location of shot points or stations, immediately notify the Chief Conservation Officer of any errors, omissions or corrections identified in or made to the data subsequent to the submission of the report.
14.28	Form and Manner	Existing language (6) A report referred to in this section shall be submitted in the form and manner approved by the Chief Conservation Officer.
14.29	Retention of Geophysical Data	(1) Following completion of any geoscience, geotechnical or environmental program, the operator shall ensure the following information and materials are retained in Canada: a) all field and final processed data in digital format and a description of the data format; b) any samples ; and c) all other data, observations, readings and supporting information obtained during the program.
14.29	CCO power to request information	(2) The Chief Conservation Officer may require an operator to supply the information and materials referred to in subsection (1) in a form and manner determined by the Chief Conservation Officer.
14.30	Destruction or removal of information from Canada	No person shall destroy, discard or remove from Canada any of the information or material referred to in section 14.29 unless the person has given the Chief Conservation Officer not less than 60 days' notice of that intention and, if requested by the Chief Conservation Officer within the notice period, has given the Chief Conservation Officer the information or material or a copy thereof.

Section #	Title of Section	Proposed Policy Intentions
		Add (6) Information or material referred to in section 14.29 may be removed from Canada without the approval of the Chief Conservation Officer for the purpose of being processed in a foreign country, provided that the information or material is returned to Canada as soon as the processing is complete.
14.31	Approval by CCO	The Chief Conservation Officer shall approve the destruction, discarding or removal from Canada of any of the information or material referred to in section 14.26 if the Chief Conservation Officer is satisfied the information or material is not of significant use or value.

ANNEX 1 – DEFINITIONS

Term	Proposed Definition
Abandoned (abandonné)	in relation to a well, means a well or part of a well that has been permanently plugged
Abandonment (Abandonnement)	in relation to an installation, means decommissioning activities that commence with the cessation of operations, and ends with the removal of all or part of the installation.
Accidental Event (Événement accidental)	means an unplanned or unexpected event or circumstance or series of events or circumstances that may lead to loss of life or damage to the environment
Accommodation Area (secteur d'habitation)	means dependent personnel accommodation or an accommodation installation
Accommodation Installation (installation d'habitation)	means an installation that is used to accommodate persons at a production site, drill site or a dive site and that functions independently of a production installation, drilling installation or diving installation, and includes any associated dependent diving system
Act (loi)	means the [insert appropriate Act -- COGOA or Accords Acts]
Artificial Island (île	means a humanly constructed island to provide a site for the drilling for, or the production, storage, transportation, distribution, measurement, processing or handling of, oil or gas

artificielle)	
Authorization (autorisation)	means an authorization issued by the Board under paragraph 5(1)(b) of the Act (COGOA, or equivalent sections under the Accord Acts);
Authorized Inspector (inspecteur autorisé)	means a suitably competent person, including the Certifying Authority or another person approved by the authority having jurisdiction to inspect process vessels and pressure piping systems
Barrier (barrière)	this term is not linked to "well barriers" and must be read as meaning what is defined in the dictionary
(Well) Barrier Envelope (enveloppe de barrière (du puits))	means envelope of one or several well barrier elements preventing fluids from flowing unintentionally from the formation into the wellbore, into another formation or to the external environment
(Well) Barrier Element (élément de barrière du puits)	means a physical element which in itself does not prevent flow but in combination with other well barrier elements forms a well barrier
Board (Office)	means the [insert appropriate Board] established by section xx of the [insert appropriate Act]
Casing Line (tubage partiel)	means a casing that is suspended from a string of casing previously installed in a well and does not extend to the wellhead
Certificate of Fitness (Certificat de conformité)	means a certificate issued by a Certifying Authority in accordance with Part 5 of the Framework Regulations
Certifying Authority (société d'acréditation)	means, for the purposes of section X of the Act (insert appropriate Act references), the American Bureau of Shipping, Bureau Veritas, Det Norske Veritas (Canada) Ltd or Lloyd's Register North America, Inc.

Classification Society (Société de classification)	Means a member of the International Association of Classification Societies (IACS), with recognized and relevant competence and experience in floating structures, and with established rules and procedures for classification/certification of installations used in petroleum or natural gas activities in locations with similar physical environmental conditions for an extended period of time.
Comingled Production (production mélangée)	means production of oil and/or gas from more than one a. pool or zone through a common well without separate measurement of the production from each pool or zone, or b. well through a common pipeline without separate measurement of the production from each well - Note: (b) applies to COGOA only
Completed (complété)	in relation to a well, means a well that is prepared for production or injection operations
Completed (Achevé)	in relation to a geoscience, geotechnical or environmental program, means when the authorized activities have concluded
Completing Interval (interval de complétion)	means a section within a well that is prepared to permit the a. production of fluids from the well; b. observation of the performance of the reservoir; or c. injection of fluids into the well
Conductor Casing (tubage initial)	means the casing that is installed in a well to facilitate drilling of the hole for the surface casing
Control Centre (centre de contrôle)	means a continuously crewed work area at which a control system is located that is critical to a. the operation of an installation or a pipeline, and b. safety and the prevention of waste and pollution
Control Systems (système de contrôle)	means any systems, stations or panels used to monitor the status and control the operation of equipment used for or in support of drilling, production, processing and/or transportation of oil and gas, and includes control systems for the operation of an installation
Damaged Condition (avarie (endommagé)	means, with respect to a floating platform, the condition of the floating platform after it has suffered damage to the extent determined in accordance with IMO MODU Code requirements or with the rules of a classification society

Decommissioning (mis hors service)	means the process of planning and implementing the removal, disposal or re-use of an installation when it is no longer needed for its current purpose
Dependent Personnel Accommodation (logement du personnel connex)	means personnel accommodation, other than an accommodation installation, that is associated with an installation and does not function independently of the installation
Design Service Life (vie utile)	means the assumed period for which a structure is used for its intended purpose with anticipated maintenance, but without substantial repair
Development Concept (concept de mise en valeur)	means the complete design concept selected by the operator that outlines how the operator intends to develop a pool or field or multiple pools or fields within the scope of a development plan, that outlines all activities associated with each phase in the life cycle of the development and that identifies all of the required installations, facilities, equipment and systems to implement each stage in the lifecycle, and that highlights any unique feature
Development Plan (plan de mise en valeur)	means the development plan that is approved by the Board in accordance with section X of the Act (insert appropriate reference for each Act)
Diving Operation (opération de plongée)	means an activity involving one or more dives or ADS dives or both and the tasks associated with those dives or ADS dives, but does not include the use and operation of a remotely operated vehicle if the vehicle is not used in conjunction with a diver or an ADS
Diving System (Système de plongée)	means the plant or equipment used in or in connection with a diving operation, and includes the plant and equipment that are essential to a diver or to a pilot of a crewed submersible 
Drilling Base (base de forage)	means the stable foundation on which a drilling rig is installed, and includes the ground surface, an artificial island, an ice platform, a platform fixed to the seafloor and any other foundation specifically used for drilling operations
Drilling	means a drilling unit or a drilling rig and its associated drilling base, and may include an associated dependent diving system and dependent personnel

Installation (installation de forage)	accommodation
Drilling Program (Programme de forage)	means the program for the drilling of one or more wells within a specified area and time using one or more drilling installations and includes any work or activity related to the program
Drilling Rig (appareil de forage)	means a rig that consists of the complete suite of equipment used to conduct well operations, any associated dependent personnel accommodation and other associated equipment, including power, control and monitoring systems
Drilling Unit (unite de forage)	means a fixed or mobile platform or vessel used in any well operation and fitted with a drilling rig, and includes other facilities related to well operations and marine activities that are installed on a platform or vessel
Drill Site (site de forage)	means a location where a drilling rig is or is proposed to be installed
Emergency response Operations Centre (centre d'intervention d'urgence)	means the location or locations from which emergency management activities are coordinated
Environmental Load (charge environnementale)	means a load imposed by climate, waves, currents, tides, wind, ice conditions, regional ice features such as sea ice and icebergs, snow, a seismic event or any other naturally occurring phenomenon, or by any combination of those phenomena
Environmental Program (programme environnemental)	means a work or activity pertaining to the measurement or statistical evaluation of the physical, chemical and biological elements of the lands, oceans or coastal zones, including winds, waves, tides, currents, precipitation, ice cover and movement, icebergs, pollution effects, flora and fauna both onshore and offshore [COGOA only], human activity and habitation and any related matters
Environmental Protection	means the environmental protection plan submitted to the Board under section 3.5

Plan (plan de protection de l'environnement)	
Explosive (explosif)	has the same meaning as in section 2 of the Explosives Act
Floating Platform (plateforme flottante)	means a column-stabilized mobile offshore platform, a surface mobile offshore platform or a fixed floating platform such as tension leg platform or a SPAR
Flow Allocation Procedure (méthode de repartition du debit)	means the procedure to a. allocate total measured quantities of oil, gas and water produced from or injected into a pool or zone back to individual wells in a pool or zone where individual well production or injection is not measured separately; and b. allocate production to fields that are using a common storage or processing facility
Flow Calculation Procedure (méthode de calcul du debit)	means the procedure to be used to convert raw meter output to a measured quantity of oil, gas or water
Flowline (Conduite d'écoulement)	means any lines that are used to transport fluids from a well to a production facility or vice versa, and includes all gathering lines, but excludes offshore pipelines
Flow System (système d'écoulement)	means the flow meters, auxiliary equipment attached to the flow meters, fluid sampling devices, production test equipment and the master meter and meter prover used to measure and record the rate and volumes at which fluids are: a. produced from or injected into a pool; b. used as a fuel; c. used for artificial lift; or d. flared, vented or transferred from a production installation
Formation	means an operation

Flow Test (essai d'écoulement de formation)	a. to induce the flow of formation fluids to the surface of a well to procure reservoir fluid samples and determine reservoir flow characteristics; or b. to inject fluids into a formation to evaluate injectivity
Functional Load (charge fonctionnelle)	means any construction and operating load, or a combination of both, other than an environmental or accidental load, imposed on installations, pipelines or any other vessels
Gas Release System (système d'émission de gaz)	means a system for controlled release of gas and combustible liquid from an installation, and includes a flare system, a pressure relief system, a depressurizing system and a cold vent system
Geological Work or Activity (travail ou activité géologique)	means any work or activity involving the collection of physical materials and can include analysis of recovered materials or interpretation of well logs
Geophysical Work or Activity (travail ou activité géophysique)	means any work or activity involving the indirect measurement of physical properties of the earth (either over land not normally submerged or on or over ice or offshore) and can include any processing, analysis and/or interpretation of data obtained from such work or activity
Geoscientific Program (programme géoscientifique)	means any program that involves any geological or geophysical work or activity
Geotechnical Program (Programme géotechnique	means any work or activity undertaken to determine the physical properties of materials recovered from the seabed or shallow subsurface, to assess suitability for human-made structures

)	
Hazardous Area (secteur dangereux)	hazardous area is an area on the installation (and drill site) where flammable mixtures are, or are likely to be, present in sufficient quantities and for sufficient periods of time such as to require special precautions to be taken in the selection, installation and use of machinery and electrical equipment
Hazard (danger)	means a situation or event with the potential to cause human injury, damage to the environment, and/or damage to property
Human Factors (facteurs humains)	means the scientific discipline concerned with the application of validated scientific research about people, their abilities, characteristics and limitations to the design of systems they use, environments in which they function and interact, and jobs they perform to optimize human well-being and overall system performance
Incident (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 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, installation or support craft.
Installation (installation)	means a drilling installation, a production installation, or an accommodation installation
Integrated Software Dependent System (système dépendant d'un logiciel intégré)	means is an integrated system for which the overall behaviour is dependent on the behaviour of its software components

Integrated System (système intégré)	means a set of elements which interact according to a design, where an element of a system can be another system, called a subsystem, which may be a controlling system or a controlled system and may include hardware, software and human interaction
Joining (raccord)	in relation to a pipe, means the joining of pipe and piping components performed after the pipe and component manufacturing processes
Loads (charge)	means functional loads, environmental loads, or accidental and abnormal loads, or a combination of such loads
Machinery Space (espace méchanique)	means a space on an installation where equipment incorporating rotating or reciprocating mechanical equipment in the form of an internal combustion engine, a gas turbine, an electric motor, a generator, a pump or a compressor is located
Major Accidental Event (événement accidentel majeur)	means an [accidental] event that has the potential to cause the loss of life to multiple individuals or uncontrolled pollution
Marine Activities (activités marines)	means activities related to stability, station keeping and collision avoidance of floating platforms including mooring, dynamic positioning and ballasting
Marine Riser (colonne montante)	means the connection between a subsea blowout preventer and a surface drilling installation
Mobile Offshore Platform (plateforme mobile extracôtière)	means an offshore platform that is designed to operate in a floating or buoyant mode or that can be moved from place to place without major dismantling or modification, whether or not it has its own motive power
Multi-Pool Well (puit à gisements	means a well that is completed in more than one pool

multiples)	
Non-Combustible (non combustible)	in relation to material, means material that does not burn or give off flammable gases or vapours in sufficient quantity for self-ignition when heated to 750°C
Non-Exclusive Survey (étude non-exclusive)	means a geoscience, geotechnical or environmental program that is conducted to acquire data for the purpose of sale, in whole or in part, to the public
Offshore Drill Site (site de forage extracôtier)	means a drill site within a water-covered area that is not an island, other than an artificial island or an ice platform
Offshore Installation (installation extracôtière)	means an installation that is located at an offshore production site or offshore drill site, and includes an accommodation installation and a diving installation
Offshore Loading System (système de chargement extracôtier)	means the equipment and any associated platform or storage vessel located at an offshore production installation to load oil or gas on a transport vessel, and includes any equipment on the transport vessel that is associated with the loading system
Offshore Pipeline (pipeline extracôtier)	means an offshore pipeline as defined in the CSA Z662 *Oil and Gas Pipeline Systems*
Offshore Production Site (site de production extracôtier)	means a production site within a water-covered area that is not an island, other than an artificial island or an ice platform
Operating Condition	with respect to a mobile offshore platform, means the condition of operating at the operating draft

(condition d'exploitation)	
Operating Draft (tirant d'eau utile)	with respect to a mobile offshore platform, means the vertical distance in metres from the moulded baseline to the assigned waterline, where the platform is operating under combined environmental and operational loads that are within the limits for which the platform was designed to operate
Operations Manual (manuel d'exploitation)	means the manual referred to in section 6.26.
Operator (Exploitant)	means a person that holds an operating licence issued by the Board under paragraph X of the Act and has applied for or been granted an authorization under section X of the Act (insert appropriate references for each Act)
Passive Fire Protection (protection passive contre l'incendit)	means a coating, cladding or free-standing system which, in the event of a fire, will provide thermal protection to restrict the rate at which heat is transmitted to the object or area being protected and that is impervious to oil absorption
Permafrost (pergélisol)	means the thermal condition of the ground when its temperature remains at or below 0°C for more than one year
Physical and Environmental Conditions (Conditions physiques et environnementales)	means any physical, oceanographic, meteorological, ice, geotechnical and seismic conditions, that might affect a work or activity that is subject to an authorization
Platform (plateform)	means a platform associated with an installation
Pollution (pollution)	means the introduction into the environment of any substance or form of energy outside the limits established in the authorization
Pressure Systems (and	means piping, vessels, safety components and pressure components; where applicable, pressure components include elements attached to pressurized parts, such as flanges, nozzles, couplings, supports, lifting lugs, safety valves, gages, and similar

Components) (système (et composantes) à pression	
Process Vessel (cuve de traitement)	means a heater, dehydrator, separator, treater or any other pressurized vessel used in the processing or treatment of produced gas or oil
Production Facility (matériel de production)	means equipment for the production of oil or gas located at a production site, including separation, treating and processing facilities, equipment and facilities used in support of production operations, landing areas, heliports, storage areas or tanks and dependent personnel accommodations, but not including any associated platform, artificial island, subsea production system, drilling equipment or diving system
Production Installation (Installation de production)	means a production facility and any associated platform, artificial island, subsea production system, offshore loading system, equipment for well operations or facilities related to marine activities and dependent diving systems
Production Operation (opération de production)	means any operation related to the production of oil or gas from a pool or field
Production Project (projet de production)	means an undertaking for the purpose of developing a production site on, or producing oil or gas from, a pool or field, and includes any work or activity related to the undertaking
Production Riser (tube prolongateur de production)	means the connection between subsea production assets and a floating production platform
Production Site (emplacement de	means a location where a production installation is or is proposed to be installed

production)	
Proration Test (essai au pro rata)	means, in respect of a development well to which a development plan applies, a test conducted to measure the rates at which fluids are produced from the well for allocation purposes
Competent Person (personne compétente)	means in respect of a specified duty, a person who, because of their knowledge, training and experience, is qualified to perform that duty safely and properly
Recovery (recuperation)	means the recovery of oil and gas under foreseeable economic and operational conditions
Relief Well (puit de secours)	means a well drilled to assist in controlling a blow-out in an existing well
Repair (reparation)	means any repair of an installation, system or equipment that is intended to return the installation, system or equipment to the original design specifications or any new approved designed specifications, or a repair that is temporary in nature that will provide a short term fit for purpose solution prior to make permanent repairs (and that does not increase risk to safety or to the environment)
Safety Critical Element (élément essential pour la sécurité)	means any equipment or system (including computer programs and temporary or portable equipment) critical to the safety and integrity of the installation or critical to preventing pollution from the installation and includes any equipment or system a. that is intended to prevent or limit the effect of a hazard that would cause a major accident event; or b. any equipment or system, the failure of which could: i. cause a hazard on the installation that would cause a major accident event; or ii. contribute substantially to the effects of such a hazard on the installation.
Safety Plan (plan de sécurité)	means the safety plan submitted to the Board under section 3.4
Saturation Dive (plongée de saturation)	means a saturation dive as defined by the *Occupational Health and Safety Regulations* under the Accord Acts or under COGOA, by the existing *Diving Regulations*
Station Keeping System (système de maintien en	system capable of limiting the excursions of a floating structure within prescribed limits

position)	
Seafloor (fond marin)	means the surface of all that portion of land under the sea
Shot-hole (trou de tir)	means a hole drilled for the purpose of generating an acoustic signal
Shotpoint (point de tir)	means the surface location of a seismic energy source
Slick Line (cable lisse)	means a single steel cable used to run tools in a well
Source Control and Containment Equipment (équipement de contrôle et de confinement d'une source)	means the capping stack, a containment dome, and/or other subsea and surface devices, equipment and vessels and relief well rig whose collective purpose is to contain and control a spill source and minimize spill duration and environmental effects until well control has been regained
Subsea Production System (système de production sous-marin)	means equipment and structures that are located on or below the seafloor for the production of oil or gas from, or for the injection of fluids into, a field under an offshore production site, and includes production risers, flow lines and associated production control systems that are located upstream of the isolation valve
Support Craft (véhicule de service)	means a vessel, vehicle, aircraft, standby vessel or other craft used to provide transportation for or assistance to persons on the site where a work or activity is conducted
Surface Casing (tubage de surface)	means the casing installed in a well to a sufficient depth, in a competent formation, to establish well control for the continuation of the drilling operations
Suspended (suspension de	in relation to a well or part of a well, means a well or part of a well in which drilling or production operations have temporarily ceased

l'exploitation)	
Temporary and Portable Equipment (équipement provisoir et portable)	means equipment that is not a permanent part of the installation and which is intended to be removed after a finite period of time
Termination (cessation)	in relation to a well, means the abandonment, completion or suspension of a well's operations
Unstaffed Offshore Installation (installation sans personne extracôtière)	means an offshore installation on which persons are not normally present and in those instances when persons are present on the installation, their presence is for the purpose of performing operational duties, maintenance or inspections that will not necessitate an overnight stay
Waste Material (déchets)	means any garbage, refuse, sewage or waste well fluids or any other useless material that is generated during the conduct of any work or activity under these Regulations, including used or surplus drilling fluid and drill cuttings and produced water
Watertight (étanche)	means designed and constructed to withstand a static head of water without any leakage
Well (Delineation Well, Development Well, Exploratory Well) (puits (de délineation, d'exploitation ou d'exploration))	have the same meaning as in subsection 101(1) of the *Canada Petroleum Resources Act*. Note – Accord Act versions will refer to the relevant subsections of the Accord Acts.
Well Approval (approbation	means the approval granted by the Board under section 3.7

de puits)	
Well-bore (trou de sonde)	means the hole drilled by a bit in order to make a well
Well Control (contrôle d'un puit)	means the control of the movement of fluids into or from a well
Well Operation (travaux relatif à un puits)	means the operation of drilling, completion, recompletion, intervention, re-entry, workover, suspension or abandonment of a well
Wire Line (câble)	means a line that contains a conductor wire and that is used to run survey instruments or other tools in a well
Workover (reconditionnement)	means an operation on a completed well that requires removal of the Christmas tree or the tubing
Zone (Couche)	means any stratum or any sequence of strata and includes a zone that has been designated as such by the Board under section 1.2.