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NEWFOUNDLAND AND LABRADOR
REGULATION 71/24

Offshore Area Petroleum Operations Framework Regulations
under the
Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act
(O.C. 2024-168)

(Filed October 28, 2024)

Under the authority of section 145 of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act,* the Lieutenant-Governor in Council makes the following regulations.

Dated at St. John's, October 28, 2024.

Krista Quinlan
Clerk of the Executive Council

REGULATIONS

Analysis

Short title

1. These regulations may be cited as the *Offshore Area Petroleum Operations Framework Regulations*.

PART I
GENERAL

Definitions

2. In these regulations,

(a) "accidental event" means an unexpected or unplanned event or circumstance or series of unexpected or unplanned events or circumstances that may lead to the loss of life or damage to the environment, including pollution;

(b) "accommodations area" means the area of an installation or vessel that contains the sleeping quarters, dining areas, food preparation areas, general recreation areas, offices and medical rooms and includes all washrooms in that area;

(c) "accommodations installation" means an installation that is used to accommodate persons at a production site, drill site or dive site and that functions independently of a production installation, drilling installation or diving installation;

(d) "Act" means the *Canada–Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act*;

(e) "authorization" means an authorization issued by the board under paragraph 134(1)(b) of the Act;

(f) "authorized inspector" means a person who is recognized under the laws of Canada or of a province as qualified to inspect boilers and pressure systems or a representative of a

certifying authority who is qualified to carry out that function;

(g) "authorized work or activity" means a work or activity that is subject to an authorization;

(h) "barrier element" means a physical element that on its own does not prevent the flow of fluids but that in combination with other physical elements forms a well barrier;

(i) "barrier envelope" means an envelope consisting of a set of barrier elements that prevents the unintended flow of fluids from the formation into the well-bore, another formation or the environment;

(j) "certificate of fitness" means a certificate referred to in section 135.2 of the Act;

(k) "certifying authority" means the American Bureau of Shipping, Bureau Veritas, Det norske Veritas or Lloyd's Register;

(l) "classification society" means a member of the International Association of Classification Societies that has recognized and relevant competence and experience in, and established rules and procedures for, the classification of fixed and floating structures, including vessels, that are used in oil or gas activities in locations with physical and environmental conditions similar to those of the offshore area;

(m) "commingled production" means the production of petroleum from more than one pool or zone through a common well where the production from each pool or zone is not measured separately;

(n) "completion interval" means a section within a well that is prepared to permit

(i) the production of fluids from the well,

(ii) the observation of the performance of the reservoir, or

(iii) the injection of fluids into the well;

(o) "control centre" means a continuously staffed work area in which a control system that is critical to the operation of an installation or a pipeline, to safety or to the prevention of waste and pollution is located;

(p) "control system" means a system, station or panel used to

(i) monitor the status and control the operation of equipment used for or in support of the drilling for, or the production, processing or transportation of, petroleum, or

(ii) monitor and control the operation of an installation;

(q) "decommissioning and abandonment" means the carrying out of the following processes in accordance with an applicable Act of the legislature, an applicable regulation made under an Act of the legislature, the applicable authorization and approved development plans:

(i) the cessation of operations,

(ii) the controlled abandonment of all wells,

(iii) the retirement from service and abandonment or removal of all installations, including their systems and equipment, and

(iv) the retirement from service and abandonment or removal of all pipelines and materials;

(r) "delineation well" has the same meaning as in paragraph 115(1)(a) of the Act;

(s) "development well" has the same meaning as in paragraph 115(1)(b) of the Act;

(t) "diving installation" means an installation or vessel on which a diving system is installed;

(u) "diving project" means a work or activity that is related to the exploration or drilling for, or the production,

conservation, processing or transportation of, petroleum that involves diving;

(v) "diving system" means the equipment that is required to execute a dive, including the equipment required for compression, decompression, rescue and recovery;

(w) "drill site" means a location where a drilling rig is or is proposed to be installed;

(x) "drilling installation" means a drilling unit or a drilling rig, and the stable foundation on which the drilling unit or drilling rig is installed, including an artificial island, an ice platform, a floating platform, a platform fixed to the seabed and any other foundation specifically used for drilling, and any associated accommodations area;

(y) "drilling program" means a program for the drilling of one or more wells within a specified time and within specified areas through the use of one or more drilling installations and includes a work or activity related to the program;

(z) "drilling rig" means the equipment used to conduct well operations and associated systems, including power systems, control systems and monitoring systems;

(aa) "drilling riser" means the connection between a subsea blowout preventer and a mobile offshore platform;

(bb) "drilling unit" means a fixed or mobile offshore platform, or a vessel used in a well operation, that is fitted with a drilling rig, including the systems and equipment installed on the platform or vessel that are related to well operations and marine activities;

(cc) "environmental load" means a load imposed by meteorological or oceanographic conditions, such as winds, waves, tides, currents or snow, ice conditions, regional ice features, such as sea ice or icebergs, a seismic event or any other naturally occurring phenomenon;

(dd) "environmental program" means a program pertaining to an environmental study as that term is defined in paragraph 115(1)(d) of the Act;

(ee) "exploratory well" has the same meaning as in paragraph 115(1)(f) of the Act;

(ff) "floating platform" means a column-stabilized mobile offshore platform, a surface mobile offshore platform or a fixed floating offshore platform, including a tension leg platform or a spar platform;

(gg) "flow allocation procedure" means the procedure to allocate

(i) total measured quantities of petroleum 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

(ii) production among fields whose petroleum is combined for the purpose of storage or processing;

(hh) "flow calculation procedure" means the procedure to convert raw meter output to a measured quantity of petroleum or water;

(ii) "flow system" means the flow meters, auxiliary equipment attached to the flow meters, fluid sampling devices, production test equipment, master meter and meter prover used to measure and record the rate and volumes at which fluids are

(i) produced from or injected into a pool,

(ii) used as a fuel,

(iii) used for artificial lift, or

(iv) flared, vented or transferred from a production installation;

(jj) "flowline" means a line, other than a pipeline, that is used to transport fluids between a well and equipment used for the

production of petroleum that is located at a production site or to transport fluids between a well and the systems or equipment that are used in support of that production and between those systems or equipment and the production equipment;

(kk) "formation flow test" means an operation

(i) to induce the flow of formation fluids to procure reservoir fluid samples and determine reservoir flow characteristics, or

(ii) to inject fluids into a formation to evaluate injectivity;

(ll) "functional load" means a construction load or operating load other than an environmental load or accidental load;

(mm) "geoscientific program" means a program that involves geological work or geophysical work, as those terms are defined in paragraphs 115(1)(g) and (h) of the Act;

(nn) "geotechnical program" means a program that involves geotechnical work, as that term is defined in paragraph 115(1)(i) of the Act, that is undertaken to assess whether the seabed or shallow subsurface, as the case may be, is suitable to support installations or any other structures;

(oo) "installation" means, except in Part V, a drilling installation, production installation or accommodations installation;

(pp) "life-saving appliances" includes lifebuoys, survival craft, launching and embarkation appliances, marine evacuation systems and visual signals;

(qq) "load" includes a functional load, environmental load, accidental load and abnormal load;

(rr) "LSA Code" means the annex to International Maritime Organization Resolution MSC.48(66), International Life-Saving Appliance (LSA) Code;

(ss) "major accidental event" means an unexpected or unplanned event or circumstance or series of unexpected or unplanned

events or circumstances that may lead to the loss of more than one life or uncontrolled pollution;

(tt) "marine activities" means activities related to the stability, station-keeping and collision avoidance of floating platforms and includes mooring, dynamic positioning and ballasting;

(uu) "mobile offshore platform" means a 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 the platform has its own motive power;

(vv) "operations site" means a site where an authorized work or activity is carried out;

(ww) "operator" means a person who holds an operating licence issued by the board under paragraph 134(1)(a) of the Act and who applies for or has been granted an authorization;

(xx) "physical and environmental conditions" means the physical, geotechnical, seismic, oceanographic, meteorological or ice conditions that might affect an authorized work or activity;

(yy) "pipeline" has the same meaning as in CSA Group standard Z662, "Oil and gas pipeline systems", as it relates to offshore pipelines;

(zz) "pollution" means the introduction into the environment of a substance or form of energy outside the limits applicable to an authorized work or activity;

(aaa) "pressure system" means piping, pressure vessels, safety components and pressure components, including elements attached to pressurized parts, such as flanges, nozzles, couplings, supports, lifting lugs, safety valves and gauges;

(bbb) "production installation" means

(i) the systems and equipment used for or in support of the production of petroleum, including the systems and equipment that are used for separation, treatment and processing,

(ii) the systems and equipment used to conduct well operations,

(iii) the systems and equipment related to marine activities,

(iv) the associated aircraft landing areas, storage areas or tanks and accommodations areas, and

(v) the associated platforms, artificial islands, subsea production systems and offshore loading systems;

(ccc) "production project" means a project for the purpose of developing a production site on, or producing petroleum from, a pool or field, including a work or activity related to the project;

(ddd) "production riser" means the connection between subsea production equipment and a production platform;

(eee) "production site" means a site where a production installation is or is proposed to be installed;

(fff) "recovery of petroleum" means the recovery of petroleum under foreseeable economic and operational conditions;

(ggg) "relief well" means a well that is drilled to assist in controlling a blowout in an existing well;

(hhh) "reportable incident" means an event that resulted in any of the following occurrences or in which an occurrence referred to in subparagraphs (i) to (vi) was narrowly avoided:

(i) loss of life,

(ii) fire or explosion,

(iii) collision,

(iv) pollution,

(v) leak of a hazardous substance,

(vi) loss of well control,

(vii) impairment of a support craft or any of the structural elements of an installation, or a system or equipment, that is critical to safety,

(viii) impairment of any of the structural elements of an installation, or a system or equipment, that is critical to environmental protection, or

(ix) implementation of emergency response procedures;

(iii) "safety critical element" means a system or equipment, including software and temporary or portable equipment, that is critical to the safety or integrity of an installation or to preventing the installation from polluting, including

(i) a system or equipment

(A) that is intended to prevent or limit the effects of a hazard that could cause a major accidental event, or

(B) whose failure could

(I) cause a hazard that could cause a major accidental event, or

(II) worsen the effects on the installation of a major accidental event, and

(ii) software or temporary or portable equipment that affects a system or equipment referred to in subparagraph (i);

(jjj) "subsea production system" means equipment and structures that are located on or below the seabed for the production of petroleum from, or for the injection of fluids into, a field under a production site and includes production risers, flowlines and associated control systems that are located upstream of the isolation valve;

(kkk) "support craft" means a vessel, vehicle, aircraft or other craft used to provide transportation or assistance to persons at an operations site;

(lll) "waste material" means garbage, refuse, sewage or waste fluids or other useless material that is generated during the carrying out of a work or activity, including used or surplus drill cuttings and drilling fluid as well as produced water;

(mmm) "watertight" means designed and constructed to withstand a static head of water without leakage;

(nnn) "well control" means the control of the movement of fluids into or from a well;

(ooo) "well operation" means an operation related to the drilling, completion, recompletion, re-entry, intervention, workover, suspension or abandonment of a well;

(ppp) "workover" means an operation on a completed well that requires removal of the tree or the tubing; and

(qqq) "zone" means a stratum or sequence of strata, including a zone that has been designated as such by the board under paragraph 61(a).

Incorporation by reference

3. (1) In these regulations, the incorporation by reference of a document is an incorporation of that document as amended from time to time.

(2) Notwithstanding subsection (1), where a document that is incorporated by reference is available in both official languages, an amendment to the document is incorporated only when the amended version is available in both official languages.

PART II
EXPERIENCE, TRAINING, QUALIFICATIONS AND COMPETENCE

Requirements

4. (1) An operator shall ensure that a person to whom a duty is assigned or who carries out a work or activity under these regulations has the necessary experience, training, qualifications and competence to carry out that duty, work or activity safely, in a manner that protects the environment and complies with these regulations.

(2) The operator shall ensure that the persons referred to in subsection (1) are sufficient in number and receive the necessary supervision to ensure safety and the protection of the environment.

PART III
MANAGEMENT SYSTEM

Requirements

5. (1) An operator shall develop a management system for the purpose of reducing safety and environmental risks, preventing pollution and ensuring the conservation of petroleum resources.

(2) The management system referred to in subsection (1) shall

(a) be set out in writing;

(b) apply to the works and activities referred to in the operator's application for an authorization;

(c) correspond to the scope, nature and complexity of the works and activities and the associated hazards and risks;

(d) be explicit, comprehensive and proactive;

(e) foster a culture of safety;

(f) establish conditions under which a person who makes a report that relates to safety or protection of the environment will be protected from reprisal;

(g) include processes for integrating works and activities and technical systems with the management of human and financial resources;

(h) include processes to ensure that all persons have the necessary experience, training, qualifications and competence and receive the necessary supervision to carry out the duties they are assigned;

(i) set out the roles, responsibilities and authorities of the persons exercising functions under the management system, as well as the processes for making those persons aware of their roles, responsibilities and authorities;

(j) include processes for coordinating the carrying out and management of the works and activities among the operator, employers, suppliers, service providers and other persons that are subject to the management system;

(k) include processes for the internal and external communication of documents and information relating to safety or the protection of the environment;

(l) include a process for the efficient and immediate transmission, at every shift handover, of documents and information relating to any conditions, mechanical or procedural deficiencies or other problems that may have an impact on safety or the protection of the environment;

(m) include processes for

(i) identifying hazards that may arise during routine and non-routine operations,

(ii) assessing the risks associated with those hazards and for reducing those risks through the implementation of control measures, and

(iii) establishing an inventory of those hazards and control measures and for maintaining that inventory;

(n) include processes for investigating and reporting, for the purposes of section 180, the root causes of a reportable incident, the contributing factors and the measures to be implemented to prevent recurrence of the reportable incident;

(o) include a process for establishing a system to analyze trends in hazards and reportable incidents;

(p) include processes for identifying, evaluating and managing the systems and equipment that are critical to safety or to the protection of the environment;

(q) include processes for identifying, evaluating and managing changes that could affect safety, the protection of the environment and the conservation of petroleum resources;

(r) include processes for identifying tasks that are critical to safety, the protection of the environment and the conservation of petroleum resources;

(s) include processes for establishing and maintaining measurable goals and performance indicators that are applicable to the management system;

(t) include processes for periodic internal audit and review of the management system to identify areas for improvement and the preventive and corrective measures to be taken where deficiencies are identified;

(u) include processes for monitoring compliance and preventing non-compliance with the requirements of these regulations, the provisions of Part III of the Act and any requirements that are determined by the board under that Part;

(v) include processes for inspection, monitoring, testing and maintenance to ensure the continued integrity of all installations, including their systems and equipment, pipelines and vessels, and for the taking of corrective measures where deficiencies are identified;

(w) include the policies and indicate the standards on which the management system is based;

(x) include a process to ensure that all documents associated with the management system are approved by a person with the necessary authority, periodically reviewed and updated when necessary;

(y) include a process for establishing a system to manage records associated with the management system, and the records necessary to support operational and regulatory requirements, for the purpose of ensuring that those records are generated, identified, controlled and retained and are readily accessible for consultation and examination; and

(z) include processes for controlling and coordinating work, including with respect to the issuance of work permits required under Part X and the identification of the works and activities for which a work permit is required.

(3) The operator shall ensure that the processes and policies included in the management system and the standards referred to in the management system are readily accessible for consultation and examination.

(4) The documentation associated with the management system shall be organized and set out in a logical fashion to allow for ease of understanding and efficient implementation.

(5) In this section, a reference to a process includes the procedures that are necessary to implement the process.

Human resources

6. (1) An operator shall put in place an organizational structure that includes sufficient human resources to implement and continually improve the management system.

(2) An operator shall designate an employee as the accountable person for the management system and shall ensure that the accountable person has the necessary authority over the human and financial resources that are required to implement and continually improve the management system.

(3) An operator shall ensure that the name, position and contact information of the accountable person is submitted to the board

(a) at the time the application for an authorization is made;

(b) when a new designation is made under subsection (2); and

(c) any time a change is made to the name, position or contact information of the accountable person.

Implementation

7. (1) An operator shall ensure that the management system is implemented before the commencement of an authorized work or activity.

(2) An operator shall ensure that employees, employers, suppliers, service providers and other persons that are subject to the management system comply with the requirements of the management system.

Continual improvement

8. The accountable person referred to in subsection 6(2) shall ensure that the management system is continually improved.

PART IV
AUTHORIZATION

Application

9. An application for an authorization shall be accompanied by the following documents and information:

(a) the scope of the proposed work or activity;

(b) an execution plan and schedule for undertaking the proposed work or activity;

(c) the safety plan referred to in section 10;

(d) the environmental protection plan referred to in section 11;

(e) the contingency plan referred to in section 12;

(f) a description of the installations, including their systems and equipment, pipelines, vessels and support craft, that are to be used for carrying out the work or activity, including the layouts of the installations;

(g) in the case of a production project, a description of the field data acquisition program referred to in section 14;

(h) in the case of a drilling program or a production project,

(i) information on

(A) the proposed flaring or venting of gas, including the rationale for flaring or venting and the estimated rate, quantity and period of the flaring or venting, and

(B) the proposed burning of oil, including the rationale for burning and the estimated quantity of oil to be burned, and

(ii) the decommissioning and abandonment plan referred to in section 16;

(i) in the case of a geoscientific program, geotechnical program or environmental program,

(i) a map illustrating the location of the program's proposed works and activities and proximity to manmade structures or vulnerable natural structures, as well as any territorial or other boundaries,

(ii) a description of the methods to be used in carrying out the program's proposed works and activities and a description of the aircraft or vessel to be used, and

(iii) a description of the proposed data acquisition plan;

(j) in the case of a diving project, the dive project plan required under section 171 of the *Offshore Area Occupational Health and Safety Regulations*; and

(k) where applicable, the list required under paragraph 152(a), the records made in the course of conducting the risk assessment required under paragraph 152(b) and the action plan required under paragraph 152(c).

Safety plan

10. (1) An operator shall develop a safety plan that sets out the procedures, practices, resources, sequence of key safety-related activities and monitoring measures that are necessary to safely carry out a proposed work or activity, as well as the target levels of safety in respect of the work or activity and measures for hazard management.

(2) The safety plan referred to in subsection (1) shall include the following documents and information:

(a) specific references to and detailed descriptions of the provisions of the management system that relate to safety, sufficient to demonstrate how the obligations set out in these regulations with regard to safety will be fulfilled;

(b) a document that includes

(i) a summary of the studies that have been carried out, and a description of the processes that will be followed, for the purposes of

(A) identifying hazards related to the proposed work or activity that may occur during routine and non-routine operations, including the hazards posed by

other activities taking place near the proposed work or activity, and

(B) assessing safety risks associated with the identified hazards,

(ii) a description of the identified hazards referred to in clause (i)(A) and the results of the assessments referred to in clause (i)(B),

(iii) a summary of the measures to be implemented to anticipate safety risks related to the identified hazards,

(iv) a summary and evaluation of the measures to be implemented to reduce the safety risks associated with the identified hazards, including, where the possibility of ice hazards exist, measures for ice detection, forecasting, surveillance and reporting, including data collection, and measures for ice avoidance or deflection,

(v) a detailed description of the measures to be implemented to reduce safety risks to a level that is as low as reasonably practicable in respect of

(A) the design of all installations, including their systems and equipment,

(B) the design, winterization and operation of an installation that is to be operated in a cold climate,

(C) the design, arrangement, installation and maintenance of barriers to provide fire and blast protection,

(D) the design of all control systems,

(E) the design, selection, location, installation, commissioning, protection, operation, inspection and maintenance of mechanical equipment,

(F) the design, construction, installation, commissioning, operation, inspection, monitoring, testing and maintenance of a subsea production

system under all foreseeable physical and environmental conditions and operating conditions for all modes of operation,

(G) the management of temporary or portable equipment, and

(H) the arrangement and specification of watertight and weathertight appliances,

(vi) a detailed description of the measures to be implemented in respect of

(A) the design and location of a vent that is used to release gas into the atmosphere without combustion in order to minimize the risk of accidental ignition of the gas,

(B) the design, selection, operation, inspection, testing and maintenance of fire protection systems and equipment in order to minimize the risk of hazards to persons who use those systems and equipment,

(C) the design of boilers and pressure systems in order to minimize the risk of hazards to the installation and to persons present on the installation and to other installations, vessels or persons in proximity to the installation, and

(D) the design and maintenance of a disconnectable mooring system on a floating platform to ensure that the risk that the system will fail to safely disconnect if exposed to situations that would exceed the platform's structural limits or the system's design limits is reduced to a level that is as low as reasonably practicable, without compromising the ability to achieve the target levels of safety set out in the safety plan and environmental protection plan, and

(vii) a summary of the measures to be implemented for communicating the identified hazards and for mitigating

the safety risks associated with those hazards to all persons who are directly affected;

(c) a description of the installations or vessels that are to be used during the proposed work or activity, a description of their systems and equipment that are critical to safety and a brief description of the systems in place for the inspection, testing and maintenance of those systems and that equipment;

(d) a description of the organizational structure and chain of command for the proposed work or activity that

(i) explains the relationship between the organizational structure and chain of command, and

(ii) includes the name, position and contact information of the employee who is responsible for the management of the safety plan; and

(e) a description of the measures to be implemented to monitor compliance with the safety plan and to evaluate performance in relation to the safety plan's objectives.

Environmental protection plan

11. (1) An operator shall develop an environmental protection plan that sets out the procedures, practices, resources and monitoring measures that are necessary to protect the environment from the effects of a proposed work or activity, the target levels of safety in respect of the work or activity and measures for hazard management.

(2) The environmental protection plan referred to in subsection (1) shall include the following documents and information:

(a) specific references to and detailed descriptions of the provisions of the management system that relate to the protection of the environment, sufficient to demonstrate how the obligations set out in these regulations with regard to environmental protection will be fulfilled;

(b) a document that includes

(i) a summary of the studies that have been carried out, and a description of the processes that will be followed, for the purposes of

(A) identifying hazards related to the proposed work or activity that may occur during routine and non-routine operations, including the hazards posed by other activities taking place near the proposed work or activity, and

(B) assessing environmental risks associated with the identified hazards,

(ii) a description of the identified hazards referred to in clause (i)(A) and the results of the assessments referred to in clause (i)(B),

(iii) a summary of the measures to be implemented to anticipate environmental risks related to the identified hazards,

(iv) a summary and evaluation of the measures to be implemented to reduce the environmental risks associated with the identified hazards, and

(v) a detailed description of the measures to be implemented to reduce environmental risks to a level that is as low as reasonably practicable in respect of

(A) the design of the installations, including their systems and equipment,

(B) the design, winterization and operation of an installation that is to be operated in a cold climate,

(C) the design, arrangement, installation and maintenance of barriers to provide fire and blast protection,

(D) the design of control systems,

(E) the design, selection, location, installation, commissioning, protection, operation, inspection and maintenance of mechanical equipment,

(F) the design, construction, installation, commissioning, operation, inspection, monitoring,

testing and maintenance of a subsea production system under all foreseeable physical and environmental conditions and operating conditions for all modes of operation, and

(G) the management of temporary or portable equipment,

(vi) a detailed description of the measures to be implemented in respect of the design and location of a vent that is used to release gas into the atmosphere without combustion in order to minimize the risk of accidental ignition of the gas, and

(vii) a summary of the measures to be implemented for communicating the identified hazards and for mitigating the environmental risks associated with those hazards to all persons who are directly affected;

(c) a description of the installations or vessels that are to be used during the proposed work or activity, a description of their systems and equipment that are critical to the protection of the environment and a brief description of the systems in place for the inspection, testing and maintenance of those systems and that equipment;

(d) in the case of a drilling program or a production project, the procedures for the selection, evaluation and use of chemical substances, including process chemicals and drilling fluid ingredients;

(e) a description of the equipment and procedures for the treatment, handling and disposal of waste material;

(f) a description of the discharge streams and the limits of the discharge into the environment, including the discharge of waste material;

(g) a description of the system for monitoring compliance with the discharge limits referred to in paragraph (f), including the sampling and analytical programs for determining whether discharges are within the specified limits;

(h) a description of the organizational structure and chain of command for the proposed work or activity that

(i) explains the relationship between the organizational structure and chain of command, and

(ii) includes the name, position and contact information of the employee who is responsible for the management of the environmental protection plan;

(i) a description of the measures to be implemented to monitor compliance with the environmental protection plan and to evaluate performance in relation to the environmental protection plan's objectives; and

(j) a description of the procedure to be followed if an archaeological site or a burial ground is discovered during the proposed work or activity.

Contingency plan

12. (1) An operator shall develop a contingency plan that sets out the procedures, including emergency response procedures, and the practices, resources and monitoring measures that are necessary to effectively prepare for and mitigate the effects of an accidental event.

(2) The contingency plan referred to in subsection (1) shall include the following documents and information:

(a) a description of the method to be used for classifying accidental events and a description of the emergency response procedures for each event;

(b) a description of the procedures for the internal and external reporting of accidental events;

(c) a description of the procedures for accessing safety-related and environmental information that is necessary to mitigate the effects of an accidental event;

(d) a description of the organizational structure, chain of command and resources for managing an accidental event, including

(i) a list of key emergency response positions and a description of the roles, responsibilities and authorities associated with each of those positions, including a description of related tasks and checklists of actions that are required to be taken in the context of the contingency plan,

(ii) a description of the available support craft and the contact information for its crew or a reference to the number or title of a document that provides that description and contact information,

(iii) a description, or a reference to the number or title of a document that provides the description, of available emergency response equipment, including life-saving appliances, and the equipment's location, as well as the limits on the equipment's use and the mitigation measures to be taken in the event that the equipment is not available,

(iv) a description, or a reference to a number or title of a document that provides the description, of all available medical equipment and the equipment's location,

(v) a description of the communication system referred to in section 130 and the operating procedures for that system,

(vi) a description and the location of the emergency response operations centres,

(vii) a description of a good or service that is required to be obtained on a contractual basis for each response measure, and

(viii) a description of the location and the contents of temporary safe refuges or a reference to the number or title of a document that provides that description;

(e) details of mutual aid agreements entered into with other operators;

(f) a description of the procedures for coordinating and liaising with the relevant emergency response organizations;

(g) a description of the communication protocols with the relevant federal, provincial, territorial and municipal agencies and Indigenous governing bodies;

(h) a copy of personnel evacuation plans, including the evacuation plan for divers engaged in a dive; and

(i) an indication of the frequency with which emergency response drills and exercises are to be completed and their scope.

(3) In the case of a drilling program or a production project, the contingency plan shall also include a description of the source control and containment measures to be taken to stop uncontrolled flow from a well and to minimize the duration and environmental effects of a resulting spill, as well as the following documents and information:

(a) a description of the source control and containment equipment to be used in the event of a loss of well control;

(b) details of the contractual arrangements for the source control and containment equipment, other than a relief well drilling installation, including

(i) the name and contact information of the owner or owners of the equipment,

(ii) the arrangements for transport of the equipment to the location of the uncontrolled well, and

(iii) the arrangements for the mode of deployment of the equipment at the location of the uncontrolled well;

(c) the schedule and plan for the mobilization, deployment and operation of the source control and containment equipment, including measures to minimize deployment time that take required regulatory approvals into account;

(d) details regarding the accessibility of the source control and containment equipment and the documents and information referred to in paragraphs (a) to (c);

(e) an explanation of the adequacy of each of the source control and containment measures; and

(f) a description of the support systems and equipment that are available, including vessels and remotely operated vehicles and the consumables that may be used, such as, in the case of a relief well, a spare wellhead, spare casing and spare bulk additives.

(4) Where a spill-treating agent is being considered for use as a spill response measure, the contingency plan shall include the following additional documents and information:

(a) the name of the chosen spill-treating agent and details of an assessment of its efficacy in treating the potential sources of pollutants, including the results of any tests conducted for the assessment and a description of those tests;

(b) the results of an analysis that demonstrates that a net environmental benefit is likely to be achieved through the use of the spill-treating agent under certain circumstances;

(c) a description of the circumstances under which the spill-treating agent will be used and the estimated period within which its use will be effective;

(d) a description of the methods and protocols, including the amount and application rate, for safe, effective and efficient use of the spill-treating agent;

(e) a list of the personnel roles, equipment and materials that an operator will have available for the purpose of using the spill-treating agent, including the personnel, equipment and materials to be provided through contractual arrangements, and a description of the requirements that are required to be met for those contracts to be activated; and

(f) a monitoring plan for the use of the spill-treating agent.

(5) The assessment of efficacy under paragraph (4)(a) shall be carried out using oil obtained directly from the operations site where the spill-treating agent is being considered for use or, where oil is not available from that operations site, the assessment of efficacy shall be carried out using an oil that most closely resembles the oil that is expected to be obtained from the operations site and shall be repeated when oil becomes available from that operations site.

(6) The assessment, analysis, methods and protocols referred to in paragraphs (4)(a), (b) and (d) shall be based, taking the local environment into account, on an international standard or an alternative recognized by the board and the contingency plan shall identify each of those standards or alternatives.

(7) The methods and protocols referred to in paragraph (4)(d) and the monitoring plan referred to in paragraph (4)(f) shall conform to industry standards and best practices for spill-treating agent use, taking the local environment into account.

(8) In this section, "source control and containment equipment" means the capping stack, containment dome, subsea and surface equipment, devices or vessels and relief well drilling installations that are used to contain and control a spill source and to minimize the duration of a spill and its environmental effects until well control is regained.

Spill-treating agent – section 134.5 of Act

13. For the purpose of section 134.5 of the Act, in determining whether the use of a spill-treating agent is likely to achieve a net environmental benefit, the board shall take into account

(a) the assessment of the spill-treating agent's efficacy referred to in paragraph 12(4)(a);

(b) the results of the analysis referred to in paragraph 12(4)(b);

(c) the circumstances referred to in paragraph 12(4)(c);

(d) the methods and protocols referred to in paragraph 12(4)(d); and

(e) the monitoring plan referred to in paragraph 12(4)(f).

Field data acquisition program

14. In the case of a production project, an operator shall develop a field data acquisition program that

(a) provides for the collection of sufficient pool pressure measurements, drill cutting and fluid samples, cores and well logs, and the carrying out of sufficient formation flow tests, analyses and surveys, to enable a comprehensive assessment of the field, of the performance of development wells, of the pool depletion scheme and of any injection scheme; and

(b) identifies the quantity of samples and cores, the evaluation data and the associated analyses, surveys and reports that are to be provided to the board.

Flow system, calculation and allocation

15. (1) Where the application for an authorization is in respect of a production project, the operator shall submit the following to the board for approval:

(a) the flow system, the flow calculation procedure and the flow allocation procedure that will be used to conduct the measurements referred to in sections 75 to 79; and

(b) any alternate measurements referred to in subsection 75(2) that the operator proposes to conduct.

(2) The board shall approve the flow system, the flow calculation procedure and the flow allocation procedure referred to in subsection (1) where the applicant demonstrates that the system and procedures facilitate accurate measurements and allocation, on a pool or zone basis, of the production from and injection into individual wells.

Decommissioning and abandonment plan

16. (1) An operator shall, in the case of a drilling program or production project, develop a decommissioning and abandonment plan that includes the following information:

(a) a description of the safety and environmental protection measures to be implemented during the decommissioning and abandonment to comply with the requirements of these regulations, the provisions of Part III of the Act and any

federal or provincial legislation or international conventions or agreements relating to safety and the protection of the environment;

(b) a description of the potential effects of the decommissioning and abandonment on the environment and on future uses of the site where the program or project is carried out;

(c) the methods for restoring the site after the decommissioning and abandonment; and

(d) the forecasted costs of the decommissioning and abandonment and the manner in which the operator will finance or pay for those costs.

(2) An operator shall submit to the board an update on the forecasted costs of decommissioning and abandonment of the drilling program or production project and the manner in which the operator will finance or pay for those costs

(a) whenever there is a significant change to that information; and

(b) beginning no less than 5 years before the day on which the decommissioning and abandonment is forecasted to begin, at least once a year.

Definitions – paragraph 134(5)(c) of Act

17. The following definitions apply for the purposes of paragraph 134(5)(c) of the Act:

(a) "production facility" means the systems and equipment referred to in subparagraph 2(bbb)(i), other than a diving system, as well as associated aircraft landing areas, storage areas or tanks and accommodations areas; and

(b) "production platform" means a production installation.

Well operation

18. (1) An operator that intends to conduct a well operation shall obtain a well approval.

(2) Notwithstanding subsection (1), a well approval is not required to conduct a wire line operation, slick line operation, coiled

tubing operation or other similar operation through a tree located above sea level where

(a) the operation does not alter the completion interval or is not expected to adversely affect the recovery of petroleum; and

(b) the equipment, operating procedures and qualifications of the persons carrying out the work are in compliance with the requirements of the authorization.

(3) The following definitions apply in subsection (2):

(a) "slick line" means a single steel cable that is used to run tools in a well; and

(b) "wire line" means a line that contains a conductor wire and that is used to run survey instruments or other tools in a well.

(4) An application for a well approval shall include the estimated cost breakdown of the well operation and the following information:

(a) where the well approval is being sought to drill a well,

(i) a comprehensive description of the drilling program, a geoscientific description of the reservoir targets and a description of a geohazard,

(ii) the digital data necessary to allow for an independent geohazard assessment,

(iii) a description of the well data acquisition program referred to in section 19, and

(iv) a description of the well verification scheme referred to in section 20;

(b) where the well approval is being sought to perform a workover on, to re-enter, to complete or to recomplete a well or to suspend or abandon a well or a part of a well,

(i) a description of the well or part of the well,

(ii) a description of the proposed work or activity and the rationale for carrying out the proposed work or activity, and

(iii) barrier envelope diagrams that demonstrate that 2 barrier envelopes will be in place throughout the operation;

(c) where the well approval is being sought to complete a well, information that demonstrates that section 72 will be complied with;

(d) where the well approval is being sought to suspend a well or a part of a well, an indication of the period within which the suspended well or part of the well will be abandoned or completed; and

(e) where the well approval is being sought to suspend or abandon a well or a part of a well, the methods for verifying the effectiveness of the isolation of pools and zones that is required under subparagraph 91(1)(b)(i).

(5) The board shall approve the well operation where the operator demonstrates that the well operation will be conducted safely, without waste or pollution and in compliance with these regulations.

Well data acquisition program

19. In the case of a drilling program, an operator shall develop a well data acquisition program that

(a) provides for the collection of sufficient pressure measurements, drill cutting and fluid samples, conventional cores, sidewall cores and well logs, and the carrying out of sufficient formation flow tests, analyses and surveys, to enable a comprehensive geophysical, geological and reservoir evaluation to be made; and

(b) identifies the quantity of samples and cores, the evaluation data and associated analyses, surveys and reports that are to be provided to the board.

Well verification scheme

20. (1) An operator shall establish a well verification scheme based on criteria that the operator establishes to ensure that the design of a

well is in accordance with industry standards and best practices so that the well's integrity is maintained throughout the well's life cycle.

(2) For the purposes of subsection (1), the operator shall rank a well according to the well's level of risk and ensure that the well's ranking is confirmed by an independent person.

(3) The well verification scheme referred to in subsection (1) shall set out the verification requirements that are applicable to the design of a well according to the well's ranking and to any changes made to the design of the well during the well's construction or operation that would affect a prior verification.

(4) An operator shall ensure that the required verifications are carried out by an independent person that was not involved in the original design of the well.

Suspension of well approval

21. (1) The board may suspend a well approval where

(a) the operator conducts the well operation other than as described in the application for the well approval;

(b) the physical and environmental conditions encountered in the area of the work or activity for which the well approval was granted are more severe than the physical and environmental conditions that the manufacturer of the equipment used in the well operation established as the equipment's operating limits; or

(c) the operator uses a flow system, flow calculation procedure or flow allocation procedure that has not been approved under subsection 15(2), conducts a formation flow test that has not been approved under subsection 64(5) or engages in commingled production that has not been approved under subsection 81(2).

(2) In deciding whether to suspend a well approval, the board shall consider

(a) the effects or potential effects of the applicable situation referred to in subsection (1) on safety, the environment and the conservation of petroleum resources; and

(b) the operator's history of non-compliance with the requirements of these regulations, the provisions of Part III of the Act or any requirements that are established by the board under that Part with respect to well operations.

Revocation of well approval

22. The board shall revoke a well approval where

(a) the operator fails to remedy the situation that caused the suspension of the well approval as soon as the circumstances permit within 60 days after the date of that suspension unless, on written request by the operator, the board grants the operator an extension of time to remedy the situation; or

(b) the operator continues to operate the well despite the suspension of the well approval.

Suspension or abandonment of well

23. Where a well approval is revoked, the operator shall ensure that the well is suspended or abandoned in accordance with Part VIII.

Well approval – subsection 135(1) of Act

24. For the purposes of subsection 135(1) of the Act, a well approval relating to a production project is prescribed.

Concept safety analysis

25. (1) The approvals referred to in subsection 135(4) of the Act are subject to the operator's submission of a concept safety analysis to the chief safety officer at the time the operator submits the application and proposed development plan to the board under subsection 135(2) of the Act.

(2) The concept safety analysis referred to in subsection (1) shall

(a) be based on the development concept chosen by the operator as a general approach and described in Part I of the development plan;

(b) take into account the works and activities associated with each phase in the life cycle of the development;

(c) determine target levels of safety that are to be achieved to ensure safety and the protection of the environment for the works and activities within each phase of the life cycle of an installation, including the installation's systems and

equipment, from the installation's design up to and including the installation's decommissioning and abandonment;

(d) identify the hazards having the potential to cause a major accidental event;

(e) include a systematic assessment of the unmitigated risks associated with each of the identified hazards, including the likelihood of a major accidental event occurring and the consequences that would result;

(f) identify the control measures that are to be implemented to reduce the risks associated with the identified hazards to a level that is as low as reasonably practicable;

(g) identify the effects of additional risks that may result from the implementation of the identified control measures; and

(h) identify the assumptions on which an aspect of the concept safety analysis is based.

(3) The target levels of safety shall be based on risk assessments that are

(a) quantitative, where it can be demonstrated that input data are available in the quantity and quality necessary to demonstrate the reliability of the results; or

(b) qualitative, where the criteria in paragraph (a) are not met or where a quantitative assessment would otherwise be inappropriate.

(4) The operator shall include in the risk assessment a description of the circumstances that will necessitate an update of the risk assessment, including changes in

(a) the physical and environmental conditions;

(b) the operating conditions and the limits taken into account in the design assumptions; and

(c) the operating procedures.

(5) The operator shall update the risk assessment as often as necessary and at least once every 5 years throughout the life cycle of the development to

(a) account for the circumstances described in subsection (4); and

(b) ensure the ongoing suitability of the control measures to maintain risks at a level as low as reasonably practicable.

Resource management plan – paragraph 135(3)(b) of Act

26. (1) For the purposes of paragraph 135(3)(b) of the Act, Part II of a development plan shall contain a resource management plan.

(2) The resource management plan referred to in subsection (1) shall include a description and analysis of the following:

(a) the geological setting and features of the field and of each pool or petroleum-bearing reservoir;

(b) the petrophysical data and analytical procedures for each pool;

(c) the reservoir engineering data for each pool;

(d) estimates of in-place resources and recoverable reserves for each pool, fault block and reservoir subdivision;

(e) the proposed reservoir exploitation scheme;

(f) potential developments and the reasons why they are not included in the proposed development of the field or pool;

(g) any past drilling in the area related to the proposed development of the field or pool as well as the proposed drilling program and typical completion designs for the development wells;

(h) the production and export systems related to the proposed development of the field or pool;

(i) the expected overall operating efficiency and reliability of the proposed development of the field or pool; and

(j) past expenditures and predicted capital and operating cost data, with sufficient detail to permit an economic analysis of the proposed development of the field or pool.

(3) A resource management plan shall also contain a description of the operator's organizational structure as it relates to the implementation of the resource management plan.

PART V
CERTIFICATE OF FITNESS

Prescribed installations – section 135.2 of Act

27. For the purpose of section 135.2 of the Act, a production installation, drilling installation, accommodations installation and diving installation are prescribed installations.

Definition of installation

28. In this Part, "installation" means an installation referred to in section 27.

Issuance of certificate — requirements and conditions

29. (1) Before a certifying authority issues a certificate of fitness in respect of an installation,

(a) the person that applies for the certificate shall

(i) provide the certifying authority with the information that the certifying authority requires in relation to the application for certification, such as design specifications for the installation, including the installation's systems and equipment,

(ii) conduct or assist the certifying authority in conducting an inspection, test or survey that the certifying authority requires,

(iii) except in the case of a diving installation, submit to the certifying authority for approval a maintenance program that meets the requirements set out in section 160 and a weight control program that meets the requirements set out in section 162, and

(iv) in the case of a diving installation, submit a maintenance program to the certifying authority for approval;

(b) the certifying authority shall determine that, in relation to the production site, the drill site or the region in which the particular installation is to be operated,

(i) the installation, including the installation's systems and equipment, is fit for the purposes for which it is to be used and can be operated without posing a threat to persons or the environment,

(ii) in the case of an installation other than a diving installation, the requirements set out in the following provisions have been met:

(A) the provisions of these regulations listed in Part I of Schedule A, and

(B) the provisions of the *Offshore Area Occupational Health and Safety Regulations* listed in Part II of Schedule A, other than paragraph 22(5)(b), subsection 28(3), paragraph 28(5)(a), subsection 171(3) and paragraphs 172(1)(a), (g), (j) to (m), (o) and (p), (2)(e) and (3)(c) and (f) of those regulations,

(iii) in the case of a diving installation, the requirements set out in the following provisions have been met:

(A) section 175 and the provisions of Part IX, and

(B) the provisions of the *Offshore Area Occupational Health and Safety Regulations* listed in Part II of Schedule A, and

(iv) the installation, including the installation's systems and equipment, will continue to meet the requirements set out in subparagraph (i) and the applicable requirements set out in subparagraph (ii) or (iii), as the case may be, for the time set out in the certificate of fitness where

(A) the installation, other than a diving installation, including the installation's systems and equipment, is inspected, monitored, tested and maintained in accordance with the maintenance program and is

maintained in accordance with the weight control program referred to in subparagraph (a)(iii), or

(B) the diving installation, including the diving installation's systems and equipment, is maintained in accordance with the maintenance program referred to in subparagraph (a)(iv);

(c) the certifying authority shall

(i) in the case of an installation other than a diving installation, determine that the maintenance program and the weight control program are adequate to ensure the continued integrity of the installation, including the installation's systems and equipment, and approve the programs, and

(ii) in the case of a diving installation, determine that the maintenance program is adequate to ensure the continued integrity of the installation, including the diving installation's systems and equipment, and approve the maintenance program; and

(d) the certifying authority shall carry out the scope of work in respect of which the certificate of fitness is issued.

(2) For the purposes of subparagraphs (1)(b)(ii) and (iii), the certifying authority may substitute, for any equipment, methods, measures, standards or other things required under any regulation referred to in those subparagraphs, any other equipment, methods, measures, standards or other things, the use of which is authorized by the chief safety officer or the chief conservation officer, as the case may be, under section 146 of the Act or subsection 201.66(1) of the Act.

(3) The certifying authority shall set out in the certificate of fitness the details of any limitation on the operation of the installation that is necessary to ensure that the installation, including the installation's systems and equipment, meets the requirements set out in paragraph (1)(b).

Conflict of interest — paragraph 135.2(4)(b) of Act

30. (1) For the purposes of paragraph 135.2(4)(b) of the Act, the extent to which a certifying authority may participate in the design, construction or installation of an installation in respect of which a certificate of fitness is issued is as follows:

(a) the certifying authority or one of its subsidiaries or affiliates may be the certifying authority or classification society for the original design, construction or installation of the installation or any modification to the installation; and

(b) a subsidiary or affiliate of the certifying authority may participate in the design, construction or installation of the installation to any other extent as long as the subsidiary or affiliate does not participate in the certification or verification activities in respect of the installation.

(2) The certifying authority shall monitor for participation beyond that described in subsection (1) and shall, without delay, inform the person that applied for the certificate and the board of such participation.

Certification plan

31. (1) A person that applies for a certificate of fitness shall submit a certification plan to the chief safety officer and to the certifying authority for the purposes of the approval of the scope of work under section 32.

(2) The certification plan referred to in subsection (1) shall include the following documents and information:

(a) a description of the installation to be certified, including the installation's systems and equipment;

(b) a list of the standards that will apply to the installation to be certified, including the installation's systems and equipment, and a list of the standards on which the measures to reduce risks that are described in the safety plan and the environmental protection plan are based or, where there are no applicable standards, the studies and analyses that demonstrate that the measures to be implemented are adequate to reduce the risks to safety and the environment to a level that is as low as reasonably practicable or to minimize the risk of hazards, as the case may be; and

(c) other than in the case of a diving installation, a list of the safety-critical elements, as well as a description of how the associated performance standards are to be developed.

Scope of work

32. (1) A certifying authority shall submit to the chief safety officer for approval a scope of work that takes into account the certification plan.

(2) The scope of work referred to in subsection (1) shall include

(a) a description of the following activities to be conducted by the certifying authority:

(i) activities to verify compliance with the requirements referred to in paragraph 29(1)(b),

(ii) activities to verify the validity of the certificate of fitness, and

(iii) any additional activities to be carried out before the renewal of the certificate; and

(b) a schedule of the activities referred to in paragraph (a).

(3) The chief safety officer shall approve the scope of work where the chief safety officer determines that

(a) in the case of any installation, the scope of work

(i) is sufficiently detailed to permit the certifying authority to determine whether the requirements referred to in paragraph 29(1)(b) are met,

(ii) describes the type and extent of reporting in respect of continual monitoring of the certification process being undertaken by the certifying authority, and

(iii) demonstrates how the certifying authority has complied with section 30;

(b) in the case of an installation other than a diving installation, the scope of work

(i) provides the means for determining whether

(A) the environmental criteria for the region or site and the loads estimated for the installation are correct,

(B) the list of safety-critical elements included in the certification plan is complete and the elements are in place and functioning as intended,

(C) in respect of an installation referred to in a development plan, the concept safety analysis submitted under section 25 meets the requirements set out in that section,

(D) in respect of a new installation, the installation has been constructed in accordance with the quality assurance program referred to in section 101,

(E) the operations manual meets the requirements set out in section 158, and

(F) the installation's construction and installation, including the materials used for those purposes, meet the design specifications,

(ii) includes the list of performance standards and methods that the certifying authority will use to verify compliance with those standards and to verify whether the installation, including the installation's systems and equipment, continues to be fit for the purposes for which the installation is to be used, and

(iii) provides the means for determining whether the provisions listed in Schedule B have been complied with and whether the structures, systems and equipment referred to in those provisions are in place and functioning as intended; and

(c) in the case of a diving installation, the scope of work provides the means for determining whether the processes referred to in subparagraph 5(2)(m)(iii) and paragraph 5(2)(v) that are included in the operator's management system have been implemented.

Period of validity

33. (1) A certificate of fitness is valid for 5 years from the day on which it is issued where the certifying authority determines that the requirements referred to in paragraph 29(1)(b) will be met for a period of at least 5 years from that day.

(2) Where the certifying authority determines that the requirements referred to in paragraph 29(1)(b) can be met only for a period that is less than 5 years, the certificate of fitness is valid for the corresponding lesser period.

(3) The certifying authority shall indicate on the certificate of fitness its expiry date.

(4) The certifying authority may, on request of the holder of a certificate of fitness, extend the period of validity of the certificate of fitness for a period of up to 3 months, subject to the approval of the chief safety officer.

(5) The chief safety officer shall approve the extension of the period of validity of the certificate of fitness where the extension does not compromise safety or the protection of the environment.

Applicable site or region

34. (1) A certifying authority shall indicate on a certificate of fitness the site or region where the installation is to be operated.

(2) A certificate of fitness is valid for the operation of the installation at the site or in the region that is indicated on the certificate of fitness.

Revalidation – scope of work

35. (1) The certifying authority shall revalidate the scope of work against the criteria referred to in subsection 32(3) and make any modifications that are necessary

(a) before renewing a certificate of fitness; and

(b) where new circumstances such as the following arise that have or could have a significant impact on the scope of work:

(i) these regulations or the *Offshore Area Occupational Health and Safety Regulations* are amended,

(ii) new information regarding a major accidental event that occurred in any place is disclosed,

(iii) amendments are made to the standards on which the certification was based, or

(iv) the installation has transitioned from one life cycle phase to another.

(2) The revalidated scope of work shall be submitted to the chief safety officer for approval under subsection 32(3).

Renewal of certificate

36. The certifying authority shall renew a certificate of fitness in relation to an installation before or on its expiry date where

(a) the certifying authority determines that the requirements referred to in paragraph 29(1)(b) have been met;

(b) the certifying authority has carried out the activities referred to in subparagraph 32(2)(a)(iii); and

(c) the certifying authority has revalidated the scope of work and the scope of work has been approved by the chief safety officer.

Invalidity

37. (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 that

(i) any of the information provided under subparagraph 29(1)(a)(i) on the basis of which the certificate of fitness was issued is incorrect,

(ii) any of the requirements referred to in paragraph 29(1)(b) are no longer being met, or

(iii) any limitation set out in the certificate of fitness under subsection 29(3) has not been respected; or

(b) the chief safety officer determines that the certifying authority has failed to carry out the scope of work relating to

the installation in respect of which the certificate of fitness was issued.

(2) At least 30 days before a determination referred to in subsection (1) is made, notice of the impending determination shall be given in writing

(a) in the case of a determination to be made by the certifying authority, by the certifying authority to the chief safety officer and to the holder of the certificate of fitness; and

(b) in the case of a determination to be made by the chief safety officer, by the chief safety officer to the certifying authority and to the holder of the certificate of fitness.

(3) Before making a determination referred to in 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 submitted by any person notified under subsection (2).

Change of certifying authority

38. (1) Where the person that applies for a certificate of fitness decides to change the certifying authority in relation to an installation before the initial certificate of fitness is issued, the new certifying authority shall undertake its own independent verification activities for the purpose of issuing the certificate of fitness.

(2) Where the holder of a certificate of fitness decides to change the certifying authority in relation to an installation, the holder shall

(a) notify the chief safety officer as soon as the circumstances permit;

(b) develop and submit to the chief safety officer a transition plan outlining the activities to be carried out before transitioning from the outgoing to the incoming certifying authority and demonstrating that there will not be any gaps or delays in the carrying out of verification activities or any negative effects on the extent and quality of those activities as a result of the transition from one certifying authority to another; and

(c) ensure that the incoming certifying authority has submitted for approval to the chief safety officer, in accordance with

section 32, a new scope of work before commencing transition activities.

(3) The holder of a certificate of fitness shall ensure that the transition plan referred to in paragraph (2)(b) is implemented.

(4) There shall be no more than one certificate of fitness and certifying authority in relation to an installation at any given time.

Organizational structure

39. A certifying authority shall, without delay, notify the board, the federal minister and the provincial minister of any changes to its organizational structure, including amalgamations and legal name changes.

Reports and information

40. (1) A certifying authority shall submit to the board, the federal minister and the provincial minister, not later than March 31 of each year, an annual report that contains

(a) a summary of the certification activities the certifying authority carried out during the previous calendar year as a certifying authority under the Act; and

(b) proof of the certifying authority's technical capabilities and experience as a certifying authority.

(2) The certifying authority shall submit a monthly report to the board that describes the certification activities the certifying authority carried out during the previous month as a certifying authority under the Act.

(3) When requested by the board, the certifying authority shall submit to the board any information the certifying authority obtained or documents generated in the course of carrying out certification and verification activities.

(4) The certifying authority shall retain records, including technical drawings, for any activity carried out during its certification or verification activities in respect of an installation until the day that is

7 years after the day on which the last certificate of fitness issued for that installation expires.

PART VI
GENERAL REQUIREMENTS FOR AUTHORIZED WORKS AND ACTIVITIES

Installation manager

41. For the purposes of section 189.2 of the Act, every installation is a prescribed installation.

Safety and protection of environment

42. An operator shall take the measures necessary to ensure safety and the protection of the environment during an authorized work or activity, including measures to ensure that

(a) the safety of persons at an operations site or on a support craft has priority, at all times, over a work or activity at the operations site or on the support craft;

(b) safe work methods are adopted;

(c) differences in language or other barriers to effective communication do not jeopardize safety or the protection of the environment;

(d) where there is a loss of well control, all other wells at the same installation are shut in until the well that is out of control is secured;

(e) the equipment that is necessary for safety and the protection of the environment is available and in a condition to perform as intended at all times;

(f) fires can be controlled and extinguished and the related hazard to safety or the environment is minimized;

(g) the administrative and logistical support that is provided for a work or activity includes accommodation and transportation and storage and repair facilities that are fit for the purposes for which they are to be used;

(h) every operations site is equipped with a communication system that meets the requirements set out in subsection 130(1);

(i) an operating procedure that creates a hazard to safety or the environment is corrected; and

(j) affected persons are informed of a correction made under paragraph (i).

Physical and environmental conditions

43. An operator shall ensure that

(a) physical and environmental conditions, including sea states and ice movements, are observed and forecasts of those conditions are obtained;

(b) the observations and forecasts are recorded each day, as well as each time there are substantial differences between the observations and the forecasts; and

(c) the records are maintained at the operations site.

Location of infrastructure or equipment

44. An operator shall keep data or information that accurately describes the location of infrastructure or equipment at an operations site that is on or attached to the seabed, including an abandoned installation or part of it.

Accessibility, storage and handling of consumables

45. An operator shall ensure that explosives, fuel, spill-treating agents, spill containment products, drilling, completion and well stimulation fluids and cement, as well as chemicals and other consumables that are necessary for safe operations, are

(a) readily accessible and stored in quantities that are sufficient for normal conditions and any emergency situation; and

(b) stored and handled in a manner that does not create a hazard to safety or the environment, including a hazard that could result from their deterioration.

Storage and handling of chemical substances

46. An operator shall ensure that chemical substances present at an operations site, including process fluids, fuel, lubricants, waste material, drilling fluids and drill cuttings, are stored and handled in a manner that does not create a hazard to safety or the environment.

Misuse of equipment

47. A person shall not tamper with, activate without cause or otherwise misuse equipment that is necessary for safety or the protection of the environment.

Cessation of work or activity

48. (1) An operator shall ensure that a work or activity ceases without delay where the work or activity

(a) endangers or is likely to endanger the safety of any other work or activity;

(b) endangers or is likely to endanger the safety or integrity of any operations site or well; or

(c) causes or is likely to cause pollution.

(2) An operator shall ensure that the work or activity does not resume until the work or activity can be done safely and without causing pollution.

Copy of authorization and approvals

49. (1) An operator shall ensure that a copy of the authorization and related approvals that are required under these regulations or Part III of the Act is displayed in a conspicuous location at every operations site.

(2) An operator shall keep an additional copy of the authorization and approvals, as well as the plans that are required under these regulations or Part III of the Act, at every operations site and shall ensure that they are readily accessible for consultation or examination.

Emergency response procedures and other documentation

50. An operator shall ensure that a copy of the most current version of the emergency response procedures and the documentation that is necessary to carry out an authorized work or activity and to operate and maintain an installation or pipeline is

(a) readily accessible at all times at every operations site and emergency response operations centre; and

(b) usable under all foreseeable circumstances at each location referred to in paragraph (a).

Implementation

51. (1) An operator shall ensure that the safety plan referred to in section 10, the environmental protection plan referred to in section 11

and the resource management plan referred to in section 26 are implemented at the commencement of a work or activity and that the contingency plan referred to in section 12 is implemented as soon as an accidental event occurs or appears imminent.

(2) An operator shall ensure that the safety plan, environmental protection plan, resource management plan and contingency plan are periodically updated; however, the descriptions of installations, vessels, systems and equipment that are included in the safety plan and the environmental protection plan as required by paragraphs 10(2)(c) and 11(2)(c), respectively, shall be updated as soon as the circumstances permit after the modification, replacement or addition of a major component.

PART VII
GEOSCIENTIFIC PROGRAMS, GEOTECHNICAL PROGRAMS AND ENVIRONMENTAL PROGRAMS

Measures

52. An operator shall ensure that

(a) the equipment and materials that are necessary to conduct a geoscientific program, geotechnical program or environmental program are handled, installed, inspected, tested, maintained and operated in a manner that takes into account the manufacturer's instructions and industry standards and best practices; and

(b) where the equipment, its components or the materials are defective, the equipment, components or materials are, without delay, repaired or replaced in accordance with the manufacturer's recommendations.

Certification

53. An operator shall ensure that a competent third party has certified that the equipment that is installed temporarily on a vessel to conduct a geoscientific program, geotechnical program or environmental program is fit for the purposes for which it is to be used.

Damage to property

54. An operator shall take the necessary measures to ensure that property is not damaged as a result of a geoscientific program, geotechnical program or environmental program.

General requirements

55. (1) An operator shall ensure that an energy source that is used in a geoscientific program, geotechnical program or environmental program is

(a) kept free from a substance that could create a hazard; and

(b) operated in a manner that prevents inadvertent activation of the energy source.

(2) An operator shall ensure that an electrical or electromagnetic energy source is equipped with circuit breakers on the charging and discharging circuits and with wiring that is adequately insulated and grounded to prevent current leakage and electrical shock.

(3) An operator shall ensure that the program is conducted in a manner that eliminates the safety risks to divers from the energy source used, including by determining the minimum distances that are required to be maintained between the divers and the energy source and ensuring compliance with those distances.

Testing of energy sources

56. (1) An operator shall minimize energy source testing on the deck of an operations site while a geoscientific program, geotechnical program or environmental program is being conducted.

(2) Before an energy source is activated for testing purposes, an operator shall ensure that measures are taken to protect persons at the operations site where the test will be conducted from exposure to a hazard associated with the energy source, including

(a) advising those persons that a test will be conducted;

(b) safely securing all equipment; and

(c) in the case of an electrical or electromagnetic energy source, fully immersing it in water.

Classification

57. An operator shall ensure that the primary vessel used in a geoscientific program, geotechnical program or environmental program holds a valid certificate of class issued by a classification society.

Prohibited without approval

58. (1) A person shall not destroy, discard or remove from Canada the following materials and information that are obtained in the context of a geoscientific program, geotechnical program or environmental

program unless the destruction, discard or removal is approved by the board under subsection (3):

(a) field data and final processed data that are in a digital format, together with a description of that data format;

(b) samples; and

(c) other data, observations, readings and supporting information obtained during the program.

(2) Notwithstanding subsection (1), the materials and information referred to in subsection (1) may be removed from Canada without the approval of the board for the purpose of being processed in a foreign country where the materials and information are returned to Canada as soon as the processing is complete.

(3) Within 60 days after the day on which the board receives an application for approval to destroy, discard or remove from Canada materials or information, the board shall approve the application where the board is satisfied that the materials or information are not of much use or value.

(4) The board may, after receiving an application referred to in subsection (3), require that the materials or information, or a copy of the information, be provided to the board within the period that it specifies.

PART VIII
DRILLING AND PRODUCTION

Allocation of areas

59. The board may make orders respecting the allocation of areas, including respecting the determination of the size of spacing units and the determination of well production rates, for the purpose of drilling for or producing petroleum.

Name, classification or status of well

60. The board may give a name, classification or status to a well and may change that name, classification or status.

Pool, zone or field

61. The board may

(a) designate a zone as such for the purposes of these regulations;

(b) give a name to a pool, zone or field and change that name; and

(c) define the boundaries of a pool, zone or field.

Data acquisition programs

62. (1) An operator shall ensure that the field data acquisition program referred to in section 14 and the well data acquisition program referred to in section 19 are implemented in accordance with good oilfield practices.

(2) Where part of the field or well data acquisition program cannot be implemented, the operator shall ensure that

(a) a conservation officer is notified as soon as the circumstances permit;

(b) measures to otherwise achieve the goals of the program are submitted to the board for approval; and

(c) the measures approved by the board are implemented.

(3) The board shall approve the measures submitted under paragraph (2)(b) where the operator demonstrates that the measures can achieve the goals of the field data acquisition program or the well data acquisition program, as the case may be, or are the only ones that can be taken in the circumstances.

(4) An operator shall ensure that the field data acquisition program is periodically updated.

Formation evaluation, testing and sampling

63. Where the board determines that data or samples from a formation in a well would contribute substantially to the geological and reservoir evaluation, the operator shall ensure that the formation is evaluated, tested and sampled as necessary to obtain the data or samples.

Formation flow test

64. (1) An operator shall ensure that a development well is not put into production unless a formation flow test that has been approved by the board under subsection (5) is conducted.

(2) Where a development well is subjected to a well operation that might change its deliverability, productivity or injectivity, the operator shall, for the purpose of determining the effects of the

operation on the well's deliverability, productivity or injectivity, ensure that a formation flow test that has been approved by the board under subsection (5) is conducted as soon as the circumstances permit after the well operation has ended and the flow or injection conditions have stabilized.

(3) Before conducting a formation flow test on a well drilled on a geological feature, the operator shall

(a) submit a formation flow test program to the board; and

(b) obtain the board's approval under subsection (5) to conduct the formation flow test.

(4) The board may require that an operator conduct a formation flow test on a well drilled on a geological feature, other than the first well, where the board determines that the test would contribute to the geological and reservoir evaluation.

(5) The board shall approve a formation flow test where an operator demonstrates that the test will be conducted in a manner that ensures safety and the protection of the environment 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 the productivity of the well;

(b) establish the characteristics of the reservoir; and

(c) obtain representative samples of the formation fluids.

Samples and cores

65. (1) An operator shall ensure that a drill cutting and fluid samples and cores collected as part of the field data acquisition program referred to in section 14 and the well data acquisition program referred to in section 19 are

(a) stored in durable containers that are correctly labelled for identification;

(b) transported and stored in a manner that prevents loss or deterioration; and

(c) delivered to the board within 60 days after the day on which the well is abandoned, suspended or completed, unless the analyses are ongoing, in which case the samples or cores, or remaining parts, are to be delivered to the board on completion of the analyses.

(2) An operator shall ensure that, after the 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 delivered to the board.

(3) An operator shall ensure that, after the samples necessary for analysis or for research or academic studies have been removed from a sidewall core, the remaining core is delivered to the board.

Notice before disposal

66. Before disposing of a drill cutting or fluid samples, cores or evaluation data, an operator shall ensure that the board is notified in writing and given an opportunity to request delivery of the drill cutting or fluid samples, cores or evaluation data.

Depth measurements

67. An operator shall ensure that a record of the depth in a well is measured from the rotary table of the drilling rig.

Directional and deviation surveys

68. An 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;

(b) the directional and deviation surveys are adequate to permit the management, in relation to the well-bore, of identified geohazards, the intersection of the geological targets for the well and the intersection of the well-bore in the event that a relief well is required; and

(c) except in the case of a relief well, a well is drilled in compliance with internationally recognized well-bore collision avoidance practices and procedures and in a manner that does not intersect an existing well.

Well control

69. (1) An operator shall ensure that adequate procedures, materials and equipment are in place and used throughout the life cycle of the well to prevent the loss of well control.

(2) The equipment referred to in subsection (1) shall include reliable well control equipment to detect and control kicks, prevent blowouts and safely conduct well operations.

(3) During well operations conducted without a riser, the operator shall ensure that measures are implemented to reduce the risk of shallow hazards while drilling.

(4) An operator shall ensure that the surface casing of the well is installed to a sufficient depth, and in a competent formation, to establish well control for the continuation of the drilling operations.

(5) After the surface casing has been installed and cemented, the operator shall ensure that

(a) a blowout preventer is installed before the casing shoe is drilled out; and

(b) there are at least 2 independent barrier envelopes, each of which is to be verified by the operator, in place throughout the life cycle of the well.

(6) Where there is a failure in a barrier envelope, the operator shall ensure that well operations, other than one that is intended to replace or restore the barrier envelope, do not take place until the barrier envelope is replaced or restored.

(7) An operator shall ensure that

(a) the barrier envelope is replaced or restored as soon as the circumstances permit;

(b) every effort is made for the replacement or restoration to conform to the original design specifications; and

(c) the barrier envelope is verified after its replacement or restoration.

(8) An operator shall ensure that, during well operations, one of the 2 barrier envelopes is the drilling fluid column, except when drilling is under-balanced or where, when a completion or test string is run, the other barrier envelope has already been installed downhole and tested.

(9) An operator shall ensure that the pressure control equipment associated with well operations is pressure-tested when the equipment is installed and as often as necessary to ensure its continued safe operation.

(10) Where well control is lost or where safety, the protection of the environment or resource conservation is at risk, the operator shall ensure that the necessary corrective measures are taken without delay.

Casing and wellhead system

70. (1) An operator shall ensure that a casing and wellhead system is designed, taking into account the wellhead's fatigue life, so that, throughout the life cycle of the well,

(a) the well can be drilled safely, targeted formations can be evaluated and developed and waste can be prevented;

(b) the maximum conditions, forces and stresses to which the casing and wellhead system may be subjected are withstood; and

(c) the integrity of gas hydrate and permafrost zones is protected.

(2) An operator shall ensure that, during the design of the casing and wellhead system, where the annulus is to be used for fluid production or injection, a barrier analysis is conducted to confirm that 2 barrier envelopes can be maintained in place throughout the life cycle of the well.

(3) An operator shall ensure that each casing is installed at a depth that provides for adequate kick tolerance and safe well control.

(4) An operator shall ensure that well operations do not continue beyond the wellhead's fatigue life.

(5) An operator shall ensure that the cement slurry is designed and installed so that, throughout the life cycle of the well,

(a) the movement of formation fluids is prevented and, when required for safety, resource evaluation or waste prevention, the isolation of the petroleum and water zones is ensured;

(b) support for the casing is provided;

(c) corrosion of the casing over the cemented interval is minimized; and

(d) the integrity of gas hydrate and permafrost zones is protected.

(6) An operator shall ensure that the cement integrity and placement are verified through pressure-testing and, where the cement is a common barrier element of the 2 barrier envelopes or where confirmation of zonal isolation is required, also through logging.

(7) Notwithstanding subsection (6), the cement integrity and placement may be verified using other methods where an operator demonstrates that those methods provide a level of verification that is equivalent to the methods referred to in subsection (6).

(8) An operator shall ensure that the cement design is subjected to comprehensive laboratory testing and pre-cementing quality control, under foreseeable conditions that could have an impact on cementing, so that the cement provides the expected isolation and can be efficiently installed.

(9) An operator shall ensure that, after cementing a casing or casing liner and before drilling out the casing shoe, the cement reaches the minimum compressive strength sufficient to support the casing and provide zonal isolation.

(10) An operator shall ensure that, after a casing is installed and cemented and before the casing shoe is drilled out, the casing is pressure-tested to the value required to confirm the casing's integrity

for maximum anticipated operating pressure throughout the life cycle of the well.

Formation leak-off or integrity test

71. (1) An operator shall ensure that a formation leak-off test or a formation integrity test is conducted

(a) before drilling more than 10 metres of new formation below the shoe of a casing other than the conductor casing; and

(b) before drilling more than 10 metres when sidetracking from the previous casing string.

(2) The formation leak-off test or formation integrity test shall be conducted at a pressure that allows for safe drilling to the next casing depth and for the adequacy of the cement at the level of the casing shoe to be verified before continuing drilling.

Completion, testing and operation of development wells

72. (1) An operator of a development well shall ensure that

(a) the well is completed, tested and operated in a safe manner that allows for maximum recovery of petroleum without waste or pollution throughout the life cycle of the well;

(b) except in the case of commingled production, each completion interval is isolated from other porous or permeable intervals penetrated by the well;

(c) where applicable, the production of sand, carbonate or other solids is controlled and does not create a safety hazard or cause waste;

(d) the setting depth of each packer is as deep as possible and will ensure that a leak through the production casing below the packer will be contained by the barrier envelope outside the casing;

(e) the formation and an annulus seal can withstand the pressures and temperatures expected throughout the life cycle of the well;

(f) where practicable, the mechanical well condition that may have an adverse effect on the production of petroleum from, or the injection of fluids into, the well is corrected;

(g) the injection or production profile of the well is improved or the completion interval of the well is modified where necessary to prevent waste;

(h) where different pressure and inflow characteristics of 2 or more pools might adversely affect the recovery of petroleum from those pools, the well is operated as a single pool well or as a segregated multi-pool well;

(i) during completion operations and before the removal of pressure control equipment and handover for operations, the barrier elements are tested to the maximum pressure to which the barrier elements are anticipated to be subjected and, where possible, pressure testing is in the direction of flow; and

(j) following a workover or intervention, the affected barrier elements are pressure-tested.

(2) In addition to the requirements referred to in subsection (1), where the development well is a segregated multi-pool well, the operator shall ensure that

(a) after the well is completed, segregation within and outside the well casing is verified; and

(b) where there is reason to doubt that segregation is being maintained, a segregation test is conducted as soon as the circumstances permit.

(3) In this section, "multi-pool well" means a well that is completed in more than one pool.

Production tubing

73. An operator shall ensure that the production tubing used in a well is designed and maintained to be compatible with the fluids to which production tubing will be exposed, to withstand the maximum conditions, forces and stresses to which production tubing may be subjected and to maximize recovery of petroleum from the pool.

Safe operations and production

74. An operator shall ensure that equipment and procedures are in place to recognize and control normal and abnormal operating conditions, to permit safe and controlled well operations and production and to prevent pollution.

Flow and volume

75. (1) An operator shall ensure that the following are measured:

(a) the rate of flow and the volume of the fluid that is produced from each well;

(b) the rate of flow and the volume of the fluid or waste material that is injected into each well; and

(c) the volume of the fluid that is produced from each well that is used, flared, vented, burned or otherwise disposed of.

(2) Notwithstanding subsection (1), alternate measurements may be conducted where approved by the board under section 15.

(3) An operator shall ensure that the measurements are conducted using the flow system, flow calculation procedure and flow allocation procedure approved under subsection 15(2).

Allocation of group production

76. An operator shall ensure that group production of oil, gas and water from wells and the volume of fluids injected into those wells are allocated on a pro rata basis using the flow system, flow calculation procedure and flow allocation procedure approved under subsection 15(2).

Allocation over multiple pools or zones

77. (1) Where a well is completed over multiple pools or zones, the operator shall ensure that the production of oil, gas and water from the well and the volume of fluids injected into the well are allocated on a pro rata basis to the pools or zones using the flow allocation procedure approved under subsection 15(2).

(2) An operator shall ensure that sufficient proration tests are conducted to measure the rates at which fluids are produced from the well to ensure that the allocation of oil, gas and water production to the pools and zones as a result of the flow allocation procedure is accurate.

Testing and maintenance

78. (1) An operator shall ensure that

(a) the meters and other associated components of the flow system are calibrated and maintained to ensure their accuracy;

(b) the equipment used to calibrate the flow system is calibrated in accordance with good measurement practices; and

(c) a 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, where 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 in progress.

(2) An operator shall ensure that a conservation officer is notified, as soon as the circumstances permit, of a modification to or malfunction or failure of a flow system component that may have an impact on the accuracy of the flow system and of the corrective measures taken.

Calibration

79. An operator shall ensure that

(a) a conservation officer is notified of the calibration of a transfer meter prover or master meter used in conjunction with a transfer meter at least 30 days before the day on which the transfer meter prover or master meter is calibrated or as agreed to in writing by the chief conservation officer; and

(b) following completion of the calibration, a copy of the calibration certificate is submitted to the chief conservation officer as soon as the circumstances permit.

Resource management

80. An operator shall, in respect of the recovery of petroleum, 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) where there is reason to believe that infill drilling or the implementation of an enhanced recovery plan might result in increased recovery from a pool or field, studies on those methods are conducted and submitted to the board.

Commingled production

81. (1) An operator shall not in engage in commingled production unless approved by the board.

(2) The board shall approve commingled production where the operator demonstrates that the commingled production will maximize the recovery of petroleum.

(3) Where an operator engages in commingled production, the operator 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 set out in sections 75 to 79.

Pilot scheme

82. (1) An operator may develop and implement a pilot scheme that applies technology in relation to the commercial production of petroleum from a pool, field or zone that is accessible from a production installation and in relation to which there is an approved development plan for the purpose of obtaining information on reservoir, production or technology performance in order to optimize production performance under the development plan or to determine whether the development plan requires an amendment for production performance to be optimized.

(2) The board shall establish

(a) the duration of the pilot scheme, based on the time required to achieve the stated objectives; and

(b) the intervals at which interim evaluations of the pilot scheme are to be conducted and reported to the board.

(3) On completion of the pilot scheme, the operator shall ensure that production activities undertaken for the purpose of the scheme are discontinued.

Prohibition against flaring or venting

83. An operator shall not flare or vent gas unless

(a) the board authorizes the flaring or venting as part of the authorization;

(b) the flaring or venting occurs during a formation flow test approved by the board under subsection 64(5); or

(c) the flaring or venting is necessary in order to remediate an emergency situation that may cause serious risk to human health or safety and the board is notified, as soon as the circumstances permit, of the flaring or venting and of the volume flared or vented.

Venting limit

84. (1) An operator shall ensure that the volume of gas vented under paragraph 83(a) per installation during a year is not greater than 15,000 standard m^3.

(2) For the purpose of subsection (1), "vented" means emitted in a controlled manner, other than as a result of combustion, from an installation due to

(a) the design of equipment or operational procedures at the installation; or

(b) the occurrence of an event that pressurizes the gas beyond the capacity of the equipment at the installation to retain the gas.

Gas emissions

85. (1) An operator shall ensure that emissions of gas from the seals of a centrifugal compressor or reciprocating compressor at an installation are

(a) captured and routed to gas conservation equipment or gas destruction equipment; or

(b) routed to vents that release those emissions into the atmosphere.

(2) An operator shall ensure that the flow rate of emissions of gas released from vents referred to in paragraph (1)(b) is measured by means of a continuous monitoring device that is

(a) calibrated in accordance with the manufacturer's recommendations such that the continuous monitoring

device's measurements have a maximum margin of error of plus or minus 10 percent;

(b) operated continuously, other than during periods when the continuous monitoring device is undergoing normal servicing or timely repairs; and

(c) equipped with an alarm that is triggered when the applicable flow rate limit referred to in subsections (3) and (4) for the vents of the compressor is reached.

(3) An operator shall ensure that the flow rate limit of emissions from the vents of a centrifugal compressor on an installation is

(a) in the case of a compressor that is installed before January 1, 2023,

(i) 0.68 standard m^3/min if the compressor has a rated brake power of greater than or equal to 5 MW, and

(ii) 0.34 standard m^3/min if the compressor has a rated brake power of less than 5 MW; and

(b) in the case of a compressor that is installed on or after January 1, 2023, 0.14 standard m^3/min.

(4) An operator shall ensure that the flow rate limit of emissions that are from the rod packings and distance pieces of a reciprocating compressor on an installation is

(a) where the compressor is installed before January 1, 2023, the product of 0.023 standard m^3/min and the number of pressurized cylinders that the compressor has; or

(b) where the compressor is installed on or after January 1, 2023, the product of 0.001 standard m^3/min and the number of pressurized cylinders that the compressor has.

(5) Where the alarm referred to in paragraph (2)(c) is triggered, the operator shall ensure that corrective measures are taken as soon as the circumstances permit to reduce the flow rate to below or equal to the applicable flow rate limit.

Prohibition against oil burning

86. An operator shall not burn oil unless

(a) the board authorizes burning as part of the authorization;

(b) the burning occurs during a formation flow test approved by the board under subsection 64(5); or

(c) the burning is necessary in order to remediate an emergency situation that may cause serious risk to human health or safety and the board is notified, as soon as the circumstances permit, of the burning and of the amount burned.

Determination of net environmental benefit

87. In determining for the purpose of subsection 156.1(3) of the Act whether the use of a spill-treating agent is likely to achieve a net environmental benefit, the chief conservation officer shall take into account

(a) the assessment of the spill-treating agent's efficacy referred to in paragraph 12(4)(a);

(b) the results of the analysis referred to in paragraph 12(4)(b);

(c) the circumstances referred to in paragraph 12(4)(c);

(d) the methods and protocols referred to in paragraph 12(4)(d);

(e) the monitoring plan referred to in paragraph 12(4)(f); and

(f) the results of any small-scale test conducted in respect of the spill-treating agent.

Small-scale test

88. (1) An operator shall, in respect of a small-scale test of a spill-treating agent referred to in section 156.1 of the Act, ensure that

(a) before the test is conducted, the chief conservation officer approves the carrying out of the test;

(b) during the test, the quantity of spill-treating agent applied is measured and recorded, the efficacy of the spill-treating agent is monitored and the factors that affect that efficacy are evaluated; and

(c) after the test, the following information is submitted in writing, without delay, to the chief conservation officer:

(i) the volume of oil released and the volume treated,

(ii) the quantity of spill-treating agent that was used to conduct the test,

(iii) the circumstances under which the test was conducted, and

(iv) the efficacy of the use of the spill-treating agent.

(2) The following conditions shall be met before a small-scale test is approved:

(a) the operator shall demonstrate that the quantity of spill-treating agent to be used in the test is the minimum required to evaluate the efficacy of its use; and

(b) in the case of a request to conduct an offshore subsurface test, the operator shall demonstrate that, due to physical and environmental conditions, a surface test cannot be done or its efficacy cannot be readily determined.

(3) A small-scale test shall not be approved where the chief conservation officer has made a determination for the purpose of section 156.1 of the Act regarding the net environmental benefit of the use of the spill-treating agent whose efficacy the test is intended to evaluate.

(4) Approval of a small-scale test may be provided orally or in writing but, where approval is provided orally, the chief conservation officer shall, as soon as the circumstances permit, provide to the operator written confirmation of the approval.

Variation of approval

89. (1) The chief conservation officer shall vary the approval to use a spill-treating agent where new information indicates that a modification to the requirements set out in the approval is necessary to ensure that the approved use is likely to achieve a net environmental benefit.

(2) The chief conservation officer shall revoke the approval where new information indicates that, notwithstanding a modification, use of the agent will not likely achieve a net environmental benefit.

Use of spill-treating agent

90. (1) An operator shall ensure that a spill-treating agent is used in accordance with industry standards and best practices for spill-treating agent use, taking into account the local environment.

(2) An operator shall ensure that the equipment and materials that are listed in the contingency plan as required by paragraph 12(4)(e) are available and maintained in accordance with the manufacturers' specifications and ready for use at all times.

(3) An operator shall implement the monitoring plan that is included in the contingency plan as required by paragraph 12(4)(f) at the commencement of the use of a spill-treating agent in the case of a spill.

(4) An operator shall inform the chief conservation officer of the spill-treating agent's efficacy, the effects of the spill-treating agent's use on the environment and any changes that may require a modification to the spill-treating agent's use.

Conditions for suspension or abandonment

91. (1) An operator that suspends or abandons a well shall ensure that the well

(a) can be readily located; and

(b) is left in a condition such that

(i) the petroleum-bearing pools and zones and discrete pressure zones are isolated, and

(ii) formation fluid is prevented from flowing through or escaping from the well-bore.

(2) Before suspending or abandoning the well, the operator shall verify the effectiveness of the isolations referred to in subparagraph (1)(b)(i) in accordance with the methods set out in the operator's well approval application under paragraph 18(4)(e).

Additional condition for suspension

92. An operator that suspends a well shall ensure that the well is inspected and monitored to maintain the well's integrity and prevent pollution.

Additional condition for abandonment

93. An operator of a well shall ensure that, on the abandonment of the well, the seabed is cleared of material or equipment that might have an adverse effect on the marine environment or interfere with fishing activities or other uses of the sea.

Conditions for drilling installation removal

94. An operator of a drilling installation shall not remove the drilling installation from a well or cause it to be removed unless

(a) the well has been abandoned, suspended or completed in accordance with these regulations; or

(b) the removal of the drilling installation is for emergency purposes.

PART IX
DIVING PROJECTS

Vessel used in diving project

95. An operator that conducts a diving project shall, in respect of a vessel used in the diving project, ensure that

(a) the vessel is capable of providing the necessary dive support functions and operating safely;

(b) the vessel is designed to withstand or avoid, without loss of its overall structural integrity or failure of its main safety functions, all foreseeable site-specific physical and environmental conditions or any foreseeable combination of those conditions;

(c) the vessel is a Safety Convention vessel, as defined in section 2 of the *Canada Shipping Act, 2001*, and holds a valid certificate of class issued by a classification society;

(d) where a permanent diving system is installed on the vessel, the certificate of class referred to in paragraph (c) includes a valid class notation for diving issued by the classification society referred to in that paragraph; and

(e) a competent third party has assessed and certified the sea fastening of equipment that is temporarily installed on the vessel for the diving project.

Dynamic positioning system

96. (1) An operator shall ensure that the dynamic positioning system on a vessel that is used in a diving project

(a) includes safety-critical systems and components with sufficient segregation and redundancy to maintain the vessel's position in the event that credible scenarios of equipment failure, fire or flooding are realized;

(b) includes systems to monitor the parameters of critical system operability and the integrity of the dynamic positioning system and to provide alerts for critical system faults;

(c) has sufficient redundancy to protect divers while diving;

(d) is designed based on numerical analysis and model testing to ensure that the vessel's position reference and directional control can be maintained within specified tolerances that satisfy design operational requirements in relation to the functional loads and environmental loads to which the system may be subjected; and

(e) is designed to ensure that, where the diving project involves saturation diving, the dynamic positioning system can withstand the loss from fire or flooding of its components situated in a single watertight compartment or fire subdivision of the vessel.

(2) After the design of the dynamic positioning system is completed, the operator shall ensure that a failure modes and effects analysis is conducted to verify that the dynamic positioning system meets the requirements set out in subsection (1).

(3) An operator shall ensure that the dynamic positioning system is maintained so that the dynamic positioning system continues to perform in accordance with its design specifications.

Light dive craft

97. (1) An operator shall ensure that a light dive craft that is used for a diving project is

(a) fit for the purposes for which it is to be used; and

(b) designed to withstand or avoid, without loss of its overall structural integrity or failure of its main safety functions, all foreseeable site-specific physical and environmental conditions or any foreseeable combination of those conditions.

(2) An operator shall ensure, during all dives from a light dive craft, the availability of a dive support vessel that

(a) is fitted with emergency equipment, including a fast rescue boat, that can provide assistance to the light dive craft in any foreseeable emergency situation; and

(b) has a launch and recovery system for the light dive craft that has been verified and certified by the certifying authority as being fit for the purposes for which it is to be used.

(3) In this section, “light dive craft” means a small vessel or secondary craft that is equipped to deploy divers from a primary vessel.

PART X
INSTALLATIONS, WELLS AND PIPELINES

Definitions

98. In this Part

(a) "air gap" means the clearance between the highest water or ice surface that occurs during extreme environmental conditions and the lowest exposed part of an installation not designed to withstand wave or ice impingement;

(b) "control station" means a work area that is not continuously staffed that provides an alternative location to a control centre and the minimum necessary control equipment to enable essential management of the installation or of specific key systems;

(c) "damaged condition" means, with respect to a floating platform, the condition of the platform after it has suffered damage up to the extent determined in accordance with the applicable provisions of the MODU Code or, in the case of a

platform that is not a mobile offshore drilling unit, the applicable rules of a classification society;

(d) "design service life" means the anticipated period during which an installation, including the installation's systems or equipment, is to be used for its intended purpose, with anticipated maintenance but without substantial repair;

(e) "hazardous area" means an area on an installation where flammable, explosive or combustible mixtures are or are likely to be present in sufficient quantities and for sufficient periods of time to require special precautions to be taken in the selection, installation or use of machinery and electrical equipment to prevent a fire or explosion;

(f) "IS Code" means the annex to International Maritime Organization Resolution MSC.267(85), "International Code on Intact Stability, 2008";

(g) "MODU Code" means the annex to International Maritime Organization Resolution A.1023(26), "Code for the Construction and Equipment of Mobile Offshore Drilling Units, 2009";

(h) "process vessel" means a heater, dehydrator, separator, treater or other pressurized vessel used in the processing or treatment of produced petroleum; and

(i) "unattended installation" means an installation on which persons are not normally present and in respect of which, when persons are present, it is for the purpose of performing operational duties, maintenance or inspections that will not require an overnight stay.

Safety and environmental protection

99. An operator shall ensure that an installation, including the installation's systems and equipment, is designed, constructed, installed, arranged and commissioned so that the installation is fit for the purposes for which it is to be used and can be operated safely without posing a threat to persons or the environment.

Design of installation

100. For the purpose of meeting the requirement under section 99 in respect of design, an operator shall ensure that an installation, including the installation's systems and equipment, is designed in accordance with the measures referred to in clauses 10(2)(b)(v)(A) and 11(2)(b)(v)(A) that are described in the operator's safety plan and environmental protection plan, respectively.

Quality assurance program

101. (1) An operator shall, for the purpose of ensuring that an installation, including the installation's systems and equipment, is fit for the purposes for which it is to be used, develop a quality assurance program that shall

(a) be set out in writing;

(b) be comprehensive;

(c) include a process to achieve quality objectives and to comply with the requirements of these regulations;

(d) include the policies on which the quality assurance program is based and a process to communicate the policies to personnel and all other affected persons;

(e) set out the roles, responsibilities and authorities of persons exercising functions under the quality assurance program, as well as the processes for making those persons aware of their roles, responsibilities and authorities and ensuring that they comply with them;

(f) include processes for establishing and maintaining measurable goals and performance indicators that are applicable to the quality assurance program;

(g) include processes for the quality assurance program's periodic internal audit and review to identify areas for improvement and the corrective measures to be implemented if deficiencies are identified;

(h) include processes for ensuring that the quality assurance program's integrity is preserved when changes to the quality assurance program are planned or implemented;

(i) include processes for internal and external reporting on the quality assurance program's performance; and

(j) identify the resources that are necessary to ensure that the requirements under this section are being met.

(2) An operator shall ensure that each phase of the life cycle of the installation, from the installation's design up to and including the installation's decommissioning and abandonment, is carried out in accordance with the quality assurance program and that an activity relating to the installation that is carried out under the control of a third party is also carried out in accordance with a quality assurance program.

(3) An operator shall ensure that the processes and policies that are included in the quality assurance program referred to in subsection (1) are readily accessible for consultation and examination.

(4) An operator shall ensure that the documentation relating to the quality assurance program referred to in subsection (1) is organized and set out in a logical fashion to allow for ease of understanding and efficient implementation.

(5) In this section, a reference to a process includes a procedure that is necessary to implement the process.

Requirements – work permit

102. (1) An operator shall ensure that a work permit that is required under this Part is issued in either paper or electronic form, is approved by a person other than the one who issued the work permit and sets out the following information:

(a) the name of the person who issued the work permit and the person who approved the work permit;

(b) the name of each person to whom the work permit is issued;

(c) the periods during which the work permit is valid;

(d) the work or activity to which the work permit relates, the location at which the work or activity is to be carried out and any conditions to which the work or activity is subject; and

(e) the circumstances under which the work or activity is to be carried out that may have an effect on the safety and environmental risks associated with the work or activity, including

(i) physical and environmental conditions,

(ii) impediments to the proper use of a system or equipment, and

(iii) other activities being carried out in the area, with reference to the permit or certificate associated with those activities, if applicable.

(2) A work permit shall bear the signatures of the person who issued the work permit, the person who approved the work permit and every person involved in the work or activity to which the work permit relates, certifying that they have read and understood the work permit's contents.

Operator obligations

103. (1) An operator shall ensure that

(a) a work or activity that requires a work permit is done in accordance with the work permit; and

(b) a work permit that is issued is made readily accessible for the duration of the work or activity to which it relates.

(2) An operator shall retain a copy of each work permit for at least 3 years after the day on which the work or activity to which the work permit relates is completed.

Innovations

104. (1) An operator shall ensure that technology, including technology that is used in relation to materials, design methods, joining techniques or construction techniques, that has not been previously used in comparable situations is not used in relation to an installation unless

(a) engineering studies, prototypes or model tests demonstrate that the technology is safe and fit for the purposes for which it is to be used; and

(b) the technology is verified by a competent third party, in accordance with industry standards and best practices for technology qualification.

(2) An operator shall develop a technology qualification program that sets out the performance monitoring and inspection measures that are necessary to determine the effectiveness of technology referred to in subsection (1) that the operator intends to use.

(3) An operator shall ensure that the program is implemented and periodically updated.

Physical and environmental conditions

105. (1) An operator shall ensure that an installation is designed to withstand or avoid foreseeable site-specific physical and environmental conditions, or the foreseeable combination of those conditions, without compromising the installation's structural integrity or the installation's systems or equipment that are critical to safety or to the protection of the environment.

(2) An operator shall ensure that the design of an installation is based on criteria that are determined using evidence-based regional and site-specific data, statistical analysis and modelling of physical and environmental conditions, including

(a) oceanographic conditions, including completely or partially submerged potential navigational hazards;

(b) meteorological conditions, including the number of daylight hours;

(c) geotechnical conditions and geohazards;

(d) ice conditions and other conditions associated with cold regions; and

(e) other physical and environmental conditions or naturally occurring phenomena that may adversely affect the installation.

(3) An operator shall ensure that an installation that is to be operated where ice conditions may exist is designed and operated to

(a) minimize or avoid environmental loads associated with ice or ice and snow accumulation on the installation, including on the installation's structural components;

(b) ensure that the ice conditions will not adversely affect the functionality of a system or equipment that is critical to safety or to the protection of the environment;

(c) protect risers, offloading systems and other subsea systems from the ice conditions; and

(d) in the case of a mobile offshore platform or vessel,

(i) prevent damage to propulsion or positioning systems from the ice conditions, and

(ii) ensure safe transit through ice-infested waters.

(4) An operator shall ensure that there is redundancy included in the measures implemented for the purpose of paragraph (3)(a) in relation to ice and snow accumulation and removal.

(5) An operator shall ensure that an installation that is to be operated in a cold climate is designed, winterized and operated in accordance with the measures referred to in clauses 10(2)(b)(v)(B) and 11(2)(b)(v)(B) that are described in the operator's safety plan and environmental protection plan, respectively.

(6) An installation that is to be operated in a cold climate shall be designed to

(a) ensure the functionality of the installation and the installation's systems and equipment in that climate that are critical to safety or to the protection of the environment, including in the case of property changes in fluids; and

(b) prevent the impact or damage to electrical cabling in open or unheated spaces and ensure that the cabling maintains its properties under cold-climate conditions.

Design for intended use and location

106. (1) An operator shall ensure that the structural components of an installation and the installation's ancillary structures, including skids and modules, are designed for their intended use and location, taking into account

(a) the nature of the works and activities to be undertaken on and around the installation and the hazards associated with those works and activities;

(b) material properties and dimensions of the installation that may vary over time;

(c) failure modes; and

(d) applicable safety factors.

(2) The design of the structural components of an installation and the installation's ancillary structures, including skids and modules, shall be based on the analyses, model tests, numerical modelling and site investigations that are necessary to determine the behaviour of the installation and of the soils that support the installation or the installation's mooring systems under foreseeable operating, construction, transportation and installation conditions, including those involving geohazards, and under foreseeable loads during the design service life of the installation.

(3) The structural components of an installation and the installation's ancillary structures, including skids and modules, shall be designed to

(a) withstand extreme loads that may occur during their construction and anticipated use;

(b) perform as intended during their operation under anticipated normal loads;

(c) not fail under repeated loads;

(d) prevent damage that is disproportionate to the cause;

(e) prevent localized damage from leading to progressive or complete loss of integrity of the structure;

(f) maintain structural integrity for the time necessary to safely evacuate all persons from the installation in the event of major damage caused by foreseeable hazards;

(g) in the case of a floating platform,

(i) have sufficient stability and buoyancy reserve in the case of damage to ensure that credible scenarios of unintended flooding, if realized, do not result in the loss of the structure, and

(ii) incorporate sufficient redundancy in station-keeping systems to ensure that the structure can withstand the loss of a station-keeping component; and

(h) in the case of a self-elevating mobile offshore platform, withstand the loads to which the platform may be subjected in each mode of operation, including in the elevated position and during its removal.

(4) For the purposes of paragraphs (3)(d) to (f) and (h), the design shall take into account credible accidental load scenarios, including collisions between the installation and a vessel or aircraft.

Conditions for safe operation and survival

107. Based on the results of the analyses, tests, modelling or investigations undertaken under subsection 106(2), the operator shall ensure that

(a) the physical and environmental conditions that could pose a hazard to the installation are documented and communicated to all affected personnel;

(b) the environmental limits for the safe operation of the installation are defined, included in operating procedures and communicated to all affected personnel; and

(c) measures to detect, avoid, prevent, manage and reduce the effects of the hazards posed by the physical and environmental conditions are developed and implemented in operations and incorporated into the design of the installation, where required.

Risk assessment – fire, explosion and hazardous gas

108. (1) An operator shall ensure that an assessment of fire and explosion risks and of risks associated with hazardous gas and its containment is conducted in respect of an installation and that the assessment identifies

(a) the types of fires, explosions and hazardous gas releases that could occur, their potential sources and unmitigated consequences, the likelihood of their occurrence and, if applicable, their potential fire or blast loads;

(b) measures to be incorporated into the design of the installation, where practicable, to eliminate the hazards identified under paragraph (a); and

(c) where it is not practicable to eliminate the hazards identified under paragraph (a) through design measures, the necessary control measures to reduce the risks associated with the hazards to a level that is as low as reasonably practicable.

(2) For the purposes of paragraphs (1)(b) and (c), the assessment shall take into account the following elements:

(a) the general layout of the installation;

(b) the production and process activities to be carried out, including well operations;

(c) the operating limits of the installation;

(d) the types of fires, explosions and hazardous gas releases identified under paragraph (1)(a) and their duration;

(e) the need for a means of detecting, from the potential sources identified under paragraph (1)(a),

(i) hazardous gas releases, and

(ii) outbreaks of fire;

(f) the need for a means of isolating and safely storing hazardous substances, including fuel, explosives and chemicals;

(g) the need for a safe means of escape, evacuation and rescue in the event of a fire, explosion or hazardous gas release; and

(h) the need for a means to ensure levels of emergency shutdown of the installation, systems and equipment in the event of the detection of a hazardous gas release or an outbreak of fire.

Reliability and availability

109. (1) An operator shall demonstrate, through a risk and reliability analysis conducted using internationally recognized techniques, the reliability and availability of a system in an installation whose failure could cause or contribute to a major accidental event or whose purpose is to prevent or mitigate the effects of a major accidental event.

(2) The risk and reliability analysis shall determine the redundancies and measures that are required to protect a system referred to in subsection (1) from failure, including the redundancies and measures required under this Part for that system.

(3) An operator shall ensure that the results of the risk and reliability analysis are reflected in the design of the installation, in the installation's systems and equipment and in the associated operating and maintenance manuals, including the operations manual referred to in section 158.

Monitoring program for physical and environmental conditions

110. (1) An operator shall develop a monitoring program that involves the collection of data on physical and environmental conditions in sufficient quantities and at sufficient frequencies, and the retention of that data for sufficient periods, to

(a) support, during a work and activity, the identification of hazards and the assessment of the safety and environmental risks related to those hazards; and

(b) allow for the timely implementation of control measures to address the identified risks and, where necessary, of the contingency plan referred to in section 12.

(2) For the purposes of subsection (1), an operator shall ensure that the installation is equipped to observe, measure and forecast physical and environmental conditions, to record data on those conditions and to obtain from external sources additional data on those conditions.

(3) An operator shall ensure that the monitoring program is implemented and periodically updated.

(4) An operator shall ensure that the data referred to in subsection (1) that may have an impact on safety and the protection of the environment is documented and provided to a person that requests the data.

Inspection, monitoring, testing and maintenance

111. An operator shall, for the purpose of facilitating the inspection, monitoring, testing and maintenance of an installation, ensure that

(a) relevant areas are clearly marked and identified;

(b) there is safe access to those areas;

(c) in the case of an installation that is not intended to be periodically drydocked, there are means for carrying out an on-location inspection of the hull and underwater components;

(d) there is safe access to subsea equipment; and

(e) the installation is otherwise designed and equipped to permit those activities to be carried out.

Materials for installations

112. (1) An operator shall ensure that the materials used in an installation are

(a) fit for the purposes for which they are to be used and suitable for the conditions to which they may be subjected, including a foreseeable emergency situation;

(b) non-combustible, unless essential properties are available only in materials that are combustible or the use of combustible material will not increase the risk to safety; and

(c) selected to ensure that, in the case of fire or explosion, their use will not increase the risk to safety in the area of the fire or explosion or in adjacent areas, including by exposing persons to toxic fumes or smoke.

(2) In this section, "non-combustible" means, in respect of material, material that does not burn or give off flammable gases or vapours in sufficient quantity for self-ignition when heated to 750°C.

Passive fire and blast protection

113. (1) An operator shall ensure that an installation is designed and constructed with passive fire and blast protection.

(2) The design of the passive fire protection shall

(a) not take into account the cooling effect from active firefighting equipment; and

(b) take into account the need to inspect and maintain the passive fire protection components and the structures, divisions and equipment the components are intended to protect.

(3) An operator shall ensure that an installation is divided such that spacing and barriers protect against accidental events and loads identified in the risk assessment conducted under subsection 108(1) or mitigate their effects.

(4) An operator shall ensure that barriers are designed, arranged, installed and maintained in accordance with the measures referred to in clauses 10(2)(b)(v)(C) and 11(2)(b)(v)(C) that are described in the operator's safety plan and environmental protection plan, respectively.

(5) Barriers shall be designed, arranged, installed and maintained to

(a) contain fire, smoke, explosions and hazardous gas and prevent their effects from spreading into adjacent areas;

(b) protect a person from fire, smoke and explosions for the time necessary to enable the person to escape to a temporary safe refuge;

(c) maintain for the necessary time, as determined on the basis of the safety studies referred to in section 117, the integrity of temporary safe refuges and of associated facilities that allow for communication, command, monitoring, control and evacuation against the effects of fire or explosion;

(d) protect safety-critical elements and equipment that are to remain operational in the event of an emergency from failure or malfunction caused by the effects of fire or explosion; and

(e) maintain the installation's structural integrity against the effects of fire or explosion for the time necessary to safely evacuate all persons.

(6) The level of fire and blast protection that each barrier shall provide is to be based on the results of the risk assessment conducted under subsection 108(1).

(7) A barrier shall not have a penetration or opening unless

(a) the penetration or opening is necessary for the functionality of the installation;

(b) the barrier is equipped to maintain the barrier's overall fire and blast integrity despite the penetration or opening; and

(c) where there is a means of closing the penetration or opening, that means can be activated automatically or from outside the space being protected.

(8) An operator shall ensure that barrier components are certified by a competent third party.

(9) Unless the other combined features of a production installation can be demonstrated to provide at least the same level of protection, the operator shall ensure that the following bulkheads are capable of preventing the passage of smoke and flame and of limiting the temperature rise on the unexposed face of the bulkhead to an average increase of 139°C and a maximum increase of 180°C above the initial temperature following 120 minutes of exposure to a hydrocarbon fire:

(a) those external bulkheads of the temporary safe refuges, main control centre, control stations, accommodations areas, embarkation stations and evacuation points, other than aircraft landing areas, that face production areas or wellheads; and

(b) the bulkheads that segregate the wellhead and processing areas from other areas of the installation.

(10) An operator shall ensure that the passive fire and blast protection for an installation that does not hold a valid certificate of class issued by a classification society is at least equivalent to the protection required under the rules of a classification society for a mobile offshore drilling unit.

Hazardous and non-hazardous areas

114. (1) An operator shall ensure that the boundaries between hazardous areas and non-hazardous areas on an installation are delineated.

(2) An operator shall ensure that, following the conduct of the risk assessment under subsection 108(1), each hazardous area is classified according to an internationally recognized, comprehensive and documented classification system.

(3) An operator shall ensure that hazardous areas of different classifications are separated from one another and from non-hazardous areas.

(4) An operator shall ensure, where practicable, that there is no direct access or other opening between a hazardous area and non-hazardous area and between hazardous areas of different classifications or, where that is not practicable, that direct access or opening between those areas is minimized and is designed to prevent uncontrolled air flow between the areas.

(5) An operator shall ensure that piping systems are designed to ensure that there is no direct conduit between a hazardous and non-hazardous area and between hazardous areas of different classifications.

Ventilation of enclosed hazardous areas

115. (1) An operator shall ensure that an enclosed hazardous area on an installation is ventilated such that

(a) the air is replaced at a rate sufficient to prevent hazardous gas accumulations in the enclosed hazardous area;

(b) the air entering the enclosed hazardous area is from a non-hazardous area;

(c) the air exhausted from the enclosed hazardous area does not increase the hazard level in another enclosed hazardous area or create a hazard in an enclosed non-hazardous area; and

(d) the ventilation system for the enclosed hazardous area is separate from the ventilation system for a non-hazardous area.

(2) Where a mechanical ventilation system is used for the purposes of subsection (1), the operator shall ensure that the air in the enclosed hazardous area is maintained at a pressure that is lower than the pressure of an adjacent non-hazardous area or an adjacent hazardous area that is classified as less hazardous.

(3) An operator shall ensure that the air exhausted from an enclosed hazardous area is vented to an outdoor area that, were it not for the vented air, would be a non-hazardous area or a hazardous area that would be classified as no more hazardous than the enclosed hazardous area.

(4) The operator shall ensure that measuring devices are installed that will monitor the loss of ventilation pressure differential and the loss of functionality of each ventilation system for a hazardous area and that will, no more than 30 seconds after such a loss occurs, activate audible and visual alarms at the control points from which the system is monitored.

(5) An operator shall, in respect of the main control centre and accommodations areas on an installation, ensure that

(a) the main control centre and accommodations areas are maintained at a positive overpressure relative to atmospheric pressure;

(b) the external doors that provide a primary means of access to the main control centre and accommodations areas are equipped with airlocks; and

(c) other external doors are equipped with airlocks or other means of maintaining and monitoring positive overpressure relative to atmospheric pressure.

(6) An operator shall ensure that the power source for a mechanical ventilation system that serves a hazardous area, a work area in a non-hazardous area or an accommodations area is capable of being shut off from the control station and from a position that is outside the area being ventilated and that will remain accessible during a fire that may occur within that area.

(7) An operator shall ensure that the main inlets and outlets of a ventilation system are capable of being closed from a position that is outside the area being ventilated and that will remain accessible during a fire that may occur within that area.

(8) An operator shall ensure that a ventilation system that serves a non-hazardous area is equipped with emergency devices in the event of a mechanical ventilation failure or the detection of hazardous gas, including

(a) measuring devices to monitor the loss of ventilation pressure differential;

(b) audible and visual alarms;

(c) an automated isolation device to prevent hazardous gas from entering the non-hazardous area; and

(d) a device to remotely seal the non-hazardous area, including the inlets and outlets of a ventilation system, from the control station and from a position outside the non-hazardous ventilated area that will remain accessible during a fire that may occur within the area.

Ignition prevention

116. (1) In order to prevent the ignition of flammable, combustible or explosive substances on an installation, an operator shall ensure that measures are implemented to prevent the uncontrolled release or accumulation of those substances, including by ensuring that materials and equipment are properly arranged.

(2) An operator shall ensure that a system or equipment that is to be used in a hazardous area is designed to control ignition sources and to prevent fire and explosions in that area, taking into account the area's classification under subsection 114(2).

(3) For the purposes of meeting the requirements under subsections (1) and (2), the operator shall ensure that the control measures identified in the risk assessment conducted under subsection 108(1) are implemented.

(4) An operator shall ensure that equipment located in a hazardous area is rated for use in that area and is installed, ventilated and maintained to ensure safe operation.

(5) An operator shall ensure that equipment that is operated in a non-hazardous area is operated at a safe distance from flammable, combustible or explosive substances and is, unless the equipment is rated for use in a hazardous area, equipped with an automatic and manual means of deactivation in the event of fire or hazardous gas detection.

(6) An operator shall ensure that equipment that is located in a non-hazardous area and that is to remain in service in the event of an emergency associated with a gas release is rated for use in a hazardous area and is installed, ventilated and maintained to ensure safe operation.

(7) An operator shall ensure that

(a) the gas mixture inside a cargo tank is maintained outside the explosive limits; and

(b) the systems associated with the cargo tank are designed to

(i) prevent fire, gas or explosion hazards during an operating mode through the use of sufficient control measures, including alarms, and through redundancies in those measures, and

(ii) ensure that affected persons are made aware when the systems become impaired.

(8) A work permit is required for all hot work carried out on an installation.

(9) A work permit for hot work shall set out safe distances to be maintained between the hot work and a well or flammable, combustible or explosive substance.

Means of escape, evacuation and rescue

117. An operator shall ensure that an installation is equipped with a safe means of escape, evacuation and rescue, taking into account the results of the risk assessment conducted under subsection 108(1) and comprehensive and documented safety studies.

Temporary safe refuge

118. (1) An operator shall ensure that the installation is equipped with a temporary safe refuge that will, in the case of an emergency, including an accidental event,

(a) provide sufficient space to accommodate persons who may need to use the refuge until they have been evacuated, the accidental event has been brought under control or the emergency otherwise ends;

(b) protect the persons referred to in paragraph (a) from fire, gas release and explosion hazards for as long as they are in the refuge;

(c) provide the means for communication and command and, where applicable, for the monitoring and control of the accidental event for as long as persons are in the refuge; and

(d) provide signage and lighting to enable safe evacuation from the refuge.

(2) An operator shall ensure that the accommodations area, main control centre and other areas of an installation that are required to remain safe for persons to occupy during an emergency, including the temporary safe refuge, are

(a) designed to prevent ingress of hazardous substances; and

(b) designed and located to enable occupation for the time required to implement emergency and evacuation procedures.

(3) An operator shall

(a) verify on a periodic basis that the temporary safe refuge meets the requirements set out in subsections (1) and (2); and

(b) record the findings resulting from the verification.

Exits, access and escape routes

119. (1) An operator shall ensure that

(a) in an area where persons are normally present on an installation, there are at least 2 exits, each connected to an escape route that provides safe, direct and unobstructed access to temporary safe refuges, muster areas, embarkation stations and evacuation points; and

(b) there are means for persons to descend to the water.

(2) Notwithstanding paragraph (1)(a), where an area referred to in paragraph (1)(a) has an area less than 20 m^2 or is a passage less than 5 metres in length, the operator shall ensure that there is at least one exit as described in that paragraph in that area.

(3) An operator shall ensure that the exits referred to in paragraph (1)(a) are separated as far apart from each other as possible to increase the likelihood that at least one exit and its connected escape route will be passable during an accidental event.

(4) An operator shall ensure that the installation has escape routes on 2 of the installation's sides.

(5) An operator shall ensure that the escape routes from an accommodations area or a temporary safe refuge to a muster area, embarkation station or evacuation point are clearly marked and illuminated and provided with fire protection to allow for the safe evacuation of persons in a time frame determined in the safety studies referred to in section 117.

(6) An operator shall ensure that each escape route is of sufficient size to enable the efficient movement of the maximum number of persons who may need to use it, as well as unrestricted manoeuvring of firefighting equipment and stretchers, taking into account the maximum number of persons who can be accommodated on the installation.

Life-saving appliances for installation

120. (1) An operator shall ensure that an installation is equipped with life-saving appliances that

(a) are sufficient in number and have the necessary redundancy to ensure their availability in an emergency situation; and

(b) meet the requirements of the LSA Code and the annex to International Maritime Organization Resolution MSC.81(70), "Revised Recommendation on Testing of Life-Saving Appliances," as if the installation were a vessel to which the LSA Code and the Maritime Organization Resolution apply.

(2) An operator shall ensure that life-saving appliances can withstand the loads to which the life-saving appliances may be subjected when in use.

(3) An operator shall ensure that, in determining the number of persons that a lifeboat, life raft or marine evacuation system can accommodate, the space requirements and weight of the persons while wearing immersion suits are taken into account.

(4) An operator shall ensure that the arrangement and selection of life-saving appliances are based on

(a) the safety studies referred to in section 117, in particular the escape and evacuation analysis that takes into account major accidental events; and

(b) the results of the risk assessment conducted under subsection 108(1).

(5) An operator shall ensure that copies of a plan showing the position of life-saving appliances are posted at the installation, including in the main control centre and in every accommodations area and work area.

(6) For the purpose of subsections (1) and (2), the operator shall ensure, with respect to the lifeboats on an installation, that

(a) the life boats are kept in at least 2 separate locations, one of which is adjacent to a temporary safe refuge;

(b) the lifeboats have a combined capacity to accommodate the total number of persons on board the installation, and the life boats kept in each location have a combined capacity to

accommodate the total number of persons assigned to that location, even in the event that any one lifeboat is lost or rendered unusable; and

(c) where the installation is a floating platform, those lifeboats that are able to be launched under a credible scenario of angle of heel have a combined capacity to accommodate the total number of persons on board the installation.

(7) An operator shall ensure that the lifeboats are totally enclosed and are fire-protected.

(8) An operator shall ensure that each lifeboat is capable of being in continuous communication with each other lifeboat and with other vessels in the area.

(9) An operator shall ensure that each lifeboat is equipped with towing devices.

(10) For the purpose of subsections (1) and (2), the operator shall ensure that the life rafts on an installation have a combined capacity to accommodate the total number of persons on board the installation.

(11) An operator shall verify on a continual basis that the lifeboats, life rafts and other life-saving appliances are available and in a condition to perform as intended and shall record the findings resulting from each verification.

Installation designed for removal

121. (1) An operator shall ensure that an installation is designed to facilitate its removal from the offshore area at the end of the installation's design service life and to reduce risks to safety, adverse effects on the marine environment and interference with navigation and other uses of the sea that may occur during and after the installation's removal.

(2) Subsection (1) does not apply where the board has approved, in the development plan, the abandonment or an alternative use of the installation.

Transportation and positioning

122. (1) An operator shall ensure that an installation, or a part of it, is transported and positioned

(a) in a manner that does not compromise safety or the protection of the environment;

(b) in a manner that minimizes interference with any hazards to other activities in proximity to that installation;

(c) under the supervision of a competent third party;

(d) in the case of a self-elevating mobile offshore platform, with the legs of the platform secured in accordance with the rules of the classification society that issued the certificate of class required under section 141; and

(e) with the support of vessels that are classified in accordance with section 178.

(2) Before an installation, or a part of it, is transported and positioned, the operator shall ensure that the following requirements are met:

(a) a risk assessment shall be conducted that takes into account

(i) personnel requirements,

(ii) the towing vessels that will be used, the towing plan, including towing arrangements, and the operating limits of the towing equipment's components,

(iii) the processes and control measures to be implemented to ensure safety and the protection of the environment,

(iv) physical and environmental conditions and the ability to reliably forecast those conditions, and

(v) the contingency measures to be taken in the event of adverse physical and environmental conditions or the occurrence of other foreseeable adverse events during transportation and positioning; and

(b) a transportation and positioning plan is that takes into account the requirements of the competent third party referred to in paragraph (1)(c) and, where the installation is a floating platform, the transportation and positioning plan

shall be prepared in accordance with the rules of the classification society that issued the certificate of class required under section 141.

Electrical system

123. (1) An operator shall ensure that an electrical system on an installation is designed to avoid abnormal conditions and faults that may endanger the installation or, where it is not possible to avoid abnormal conditions, to provide alerts of those conditions and faults and mitigate their effects.

(2) An operator shall ensure that electric motors, lighting fixtures, electrical wiring and other electrical equipment on an installation are safe and reliable under foreseeable operating conditions.

(3) Where a primary or secondary distribution system for electrical power, heating or lighting with no connection to earth is used on an installation, the operator shall ensure that the system is equipped with a device that continuously monitors the insulation level to earth and produces an audible or visual alarm to indicate abnormally low insulation values.

(4) An operator shall ensure that the main electrical power supply on, or to, an installation

(a) ensures continuous availability of power generation and distribution;

(b) includes at least 2 power plants or other power supply sources, not including emergency power plants;

(c) is capable of supporting all normal operations without recourse to the emergency electrical power supply required under subsection 127(1); and

(d) is capable of supporting operations, other than drilling and production, where one of the power plants is out of operation.

(5) An operator shall ensure that the primary circuits from a power plant serving an installation are capable of being shut down from at least 2 separate locations, one of which shall be the site of the power plant.

Control system

124. (1) An operator shall ensure that a control system is designed in accordance with the measures referred to in clauses 10(2)(b)(v)(D) and 11(2)(b)(v)(D) that are described in the operator's safety plan and environmental protection plan, respectively.

(2) An operator shall ensure that the control system is designed to meet the following requirements, taking into account human factors:

(a) controlled equipment shall not be capable of being inadvertently activated;

(b) controlled equipment shall not create a safety or environmental hazard in the event of system failure or shutdown;

(c) the control system shall have basic diagnostic capability; and

(d) the control system shall be capable of being operated simultaneously from multiple control stations without compromising safety.

(3) An operator shall ensure that control system hardware is protected from circumstances, including excessive vibration, high electromagnetic field levels, electrical power disturbances and extreme temperatures or humidity levels or other physical and environmental conditions, that could cause mechanical damage to or degradation of the hardware or that could otherwise adversely affect the performance of the system.

(4) An operator shall ensure that a wireless remote control system includes

(a) a means for error checking to prevent the controlled equipment from responding to corrupt data; and

(b) a means for identification coding to prevent a transmitter other than the designated transmitter from operating the controlled equipment.

(5) An operator shall ensure that all control system functions that are required to ensure safety and are dependent on wireless communication links have an alternative means of control that can be activated without delay and without modification to the control system.

(6) Equipment that is to be operated by a new, repaired or modified control system shall not be put into operation until the operator ensures that the control system has been inspected and tested to confirm that the control system functions as intended.

(7) An operator shall ensure that documentation containing an up-to-date description of the design, installation, operation and maintenance of the control system is readily accessible for consultation and examination.

Integrated software-dependent control system

125. (1) An operator shall ensure that an integrated software-dependent control system whose failure or malfunction would cause a hazard to safety or the environment is maintained to ensure its reliability, availability and security.

(2) An operator shall ensure that control measures are implemented to protect the integrated software-dependent system from a threat, including unauthorized access.

Safety-critical software

126. (1) An operator shall ensure that software that is a safety-critical element is

(a) secure, reliable and capable of being updated;

(b) designed, commissioned and updated by competent persons; and

(c) demonstrated to be fit for the purposes for which the software is to be used through a testing and validation process that takes into account

(i) foreseeable operating conditions and emergency situations, and

(ii) system complexity, dependencies and interactions between systems, software failure modes and the level of risk associated with system failure or malfunction.

(2) An operator shall ensure that a modification to the features of the software is not implemented unless

(a) the modified software has undergone the testing and validation process referred to in paragraph (1)(c); and

(b) the necessary internal approvals for the modification have been obtained, including the approval of the installation manager.

Emergency electrical power supply

127. (1) An operator shall ensure that an installation has an emergency electrical power supply that is independent of the main electrical power supply such that the following systems and equipment continue to function in the event of a failure of the main electrical power supply:

(a) lights at

(i) embarkation and debarkation stations and evacuation points,

(ii) all escape routes, temporary safe refuges, service corridors, accommodations area corridors, stairways, exits and personnel lift cars,

(iii) control centres, control stations and areas from which the communication system referred to in section 130 is controlled,

(iv) spaces from which drilling or production equipment, including equipment that is critical to that equipment's operation, is controlled,

(v) spaces where equipment that is related to the emergency shutdown system referred to in section 134 and to the power plants referred to in paragraph 123(4)(b) is located,

(vi) areas where emergency response equipment is stored, and

(vii) aircraft landing areas and the location of an obstacle to take-off and landing;

(b) hazard detection systems, including the central monitoring system referred to in section 170 and the fire and gas detection system referred to in section 133;

(c) emergency response and life-saving systems, including life-saving appliances that require electrical power;

(d) the communication system referred to in section 130;

(e) the emergency shutdown system referred to in section 134;

(f) the lights and sound-signalling appliances referred to in section 128;

(g) in the case of a floating platform, the pumps and powered watertight doors and hatches that are necessary to stabilize the installation, having regard to the failure modes and effects analysis referred to in subsection 145(5);

(h) in the case of a column-stabilized mobile offshore platform, the ballast systems referred to in section 145;

(i) the systems and equipment that are necessary to safely suspend at any time drilling or production that is in progress, including

(i) blowout prevention systems, including the blowout preventer referred to in subsection 69(5),

(ii) a disconnectable mooring system referred to in section 149,

(iii) a disconnect system referred to in section 151, and

(iv) pumping systems; and

(j) another system or equipment that requires electrical power and that is referred to in the operator's safety plan referred to in section 10 or its contingency plan referred to in section 12.

(2) Where the emergency electrical power supply is a mechanically driven generator, an operator shall ensure that

(a) the installation is equipped with a transitional source of electrical power, unless the generator will automatically start

and supply the necessary power in less than 45 seconds from the time the main electrical power supply fails;

(b) the installation is equipped with a self-contained battery system that is designed, on failure or shutdown of both the main electrical power supply and the emergency electrical power supply, to automatically supply sufficient power to operate

(i) for a period of at least one hour, the lights that are located in an emergency exit route, an escape route, a space where equipment incorporating an internal combustion engine, gas turbine, electric motor, generator, pump or compressor is found, a control centre and an emergency assembly room and at a launching station of life-saving appliances,

(ii) for a period of at least one hour, the communication system referred to in section 130 and the general alarm system referred to in section 131, and

(iii) for a period of at least 4 days, the lights and sound-signalling appliances referred to in section 128; and

(c) the mechanically driven generator has redundancy in its starting capabilities and a dedicated fuel source.

(3) An operator shall ensure that the emergency electrical power supply together with a transitional source of electrical power and self-contained battery system with which the installation may be equipped are designed and maintained such that

(a) they are able to provide the systems and equipment referred to in subsection (1) with an emergency power supply of sufficient capacity, taking into account starting currents and the transitory nature of electrical loads, and sufficient duration to ensure that the systems and equipment can function as intended and to allow for effective management of the installation during an emergency, including

(i) to allow for the complete shutdown and evacuation of the installation,

(ii) to facilitate emergency response and the safe escape, refuge and evacuation of persons or to maintain the integrity of the installation,

(iii) to ensure sufficient power so that systems that are required to operate simultaneously can do so,

(iv) in the case of a floating platform, to maintain the flotation and stability of the platform, and

(v) to bring a well to a safe state and to maintain the well in that state;

(b) their capacity to provide power to essential systems is not compromised during maintenance;

(c) they have sufficient redundancy to ensure reliability and, as far as is practicable, to ensure functional and physical independence from other essential systems or, where that is not practicable, the emergency electrical power supply, transitional source of electrical power and self-contained battery system are arranged so as not to adversely affect or be adversely affected by the operation of those systems; and

(d) they are readily accessible.

(4) An operator shall ensure that the emergency electrical power supply, transitional source of electrical power and self-contained battery system referred to in subsection (3) are arranged, or are otherwise protected from mechanical damage and damage caused by fire, explosion and physical and environmental conditions to which they may be exposed, so that they remain capable of fulfilling their intended functions under foreseeable operating conditions, including, in the case of a floating platform, under the static and dynamic angles of inclination referred to in subsection 137(7).

(5) An operator shall ensure that, in the event of a failure of the main electrical power supply, the control centres are alerted by means of an audible and visual signal that the installation is being powered by the emergency electrical power supply.

Lights and sound-signalling appliances

128. An operator shall ensure that an installation is equipped with the lights and sound-signalling appliances that are required by the *Collision*

Regulations (Canada) as if that installation were a Canadian vessel to which those regulations apply, unless compliance with the height and distance requirements of those regulations is not possible, in which case the lights and appliances shall be installed to maximize their audible and visual alerting capabilities for collision avoidance.

Radar

129. An operator shall ensure that an installation other than an unattended installation is equipped with radar for identifying hazards in proximity to the installation and that the radar is continuously monitored.

Communication system

130. (1) An operator shall ensure that an installation is equipped with a communication system that has built-in redundancy and is capable of communicating continuously, including in an emergency, with

(a) external emergency response teams;

(b) persons, individually or collectively, at an operations site;

(c) persons who are in transit to or from an operations site;

(d) support craft;

(e) onshore support centres;

(f) nearby vessels and aircraft; and

(g) nearby installations.

(2) An operator shall ensure that an installation other than an unattended installation is equipped with a radiocommunication system that meets the following requirement:

(a) the radiocommunication system complies with Part 2 of the *Navigation Safety Regulations, 2020* (Canada) as if the installation were a Canadian vessel to which those regulations apply;

(b) a technical acceptance certificate has been issued in respect of the system under the *Radiocommunication Act* (Canada); and

(c) a continuous listening watch and radio log is maintained.

(3) An operator shall ensure that a radiocommunication system on an unattended installation meets the requirements referred to in paragraphs (2)(a) and (b).

General alarm system

131. (1) An operator shall ensure that an installation is equipped with a general alarm system that is capable of alerting persons on the installation of hazards to safety or the environment other than fire or gas.

(2) An operator shall ensure that the general alarm system is

(a) operational at all times other than when the system is being inspected, maintained or repaired;

(b) flagged as being subject to inspection, maintenance or repair, as required; and

(c) designed to prevent tampering.

(3) Where a general alarm system is being inspected, maintained or repaired, the operator shall ensure that there is an alternative means of alerting persons of the hazards referred to in subsection (1).

Gas release system

132. (1) An operator shall ensure that an installation that includes process tanks, process vessels and piping is equipped with a gas release system that has a flaring system, a pressure relief system, a depressurizing system or a cold vent system.

(2) An operator shall ensure that the design of the gas release system is based on the results of the risk assessment conducted under subsection 108(1).

(3) An operator shall ensure that the gas release system is designed to

(a) release gas and combustible liquid from an installation in a controlled manner without creating a hazard to safety;

(b) reduce pressure in the entire process system as quickly as possible while ensuring a safe and controlled release of pressure;

(c) minimize the effect on the environment;

(d) be activated from the main control centre and from control stations that meet the requirements set out in subsection (5); and

(e) ensure that oxygen cannot enter the gas release system during normal operations.

(4) An operator shall ensure that the gas release system is designed and located taking into account factors, including physical and environmental conditions, that affect the safe and normal flaring or emergency release of combustible liquid, gases or vapours so that when the gas release system is in operation it does not damage the installation, or another installation, vessel or support craft in proximity to it, or injure a person.

(5) An operator shall ensure that the control stations from which the gas release system is activated are located and spaced so that the control stations remain protected and accessible for safe operation of the gas release system.

(6) The operator shall, in respect of a flaring system, ensure that

(a) where an unlit release of gas could produce toxic gas concentrations or gas concentrations of more than 50 percent of the lower explosive limit of the released gas,

(i) the flaring system has an automatic igniter system that has redundancy in its ignition capabilities, and

(ii) in the case of an open flare system, the system and associated equipment are designed to ensure a continuous flame; and

(b) the flaring system and any associated equipment are designed to

(i) withstand the radiated heat at the maximum flaring rate,

(ii) prevent flashback, and

(iii) withstand all loads to which the flaring system and equipment may be subjected.

(7) An operator shall ensure that a vent that is used to release gas into the atmosphere without combustion is designed and located in accordance with the measures referred to in clause 10(2)(b)(vi)(A) and subparagraph 11(2)(b)(vi) that are described in the operator's safety plan and environmental protection plan, respectively.

(8) An operator shall ensure that a liquid, other than water, that cannot be safely and reliably burned at the flare tip of a gas release system is removed from the gas before it enters the flare.

Fire and gas detection system

133. (1) An operator shall ensure that an installation is equipped with a fire and gas detection system.

(2) An operator shall ensure that the fire and gas detection system

(a) provides continuous, reliable and automatic monitoring functions to allow persons to be alerted to the presence and location of fire and hazardous gas, as well as the concentration and composition of that gas;

(b) as far as is practicable, is functionally and physically independent of other essential systems or, where that is not practicable, is arranged so as not to adversely affect or be adversely affected by the operation of those systems;

(c) includes an alarm system with audible and visual alarms that are distinct from other types of alarms, that can be heard or seen at the main control centre and in other areas where persons are normally present, that are, on detection of fire or gas hazards, automatically activated and that can also be manually activated; and

(d) allows control measures, including those that are designed to be initiated automatically, to be initiated manually to prevent abnormal conditions from escalating and causing major accidental events.

(3) An operator shall ensure that the design of the fire and gas detection system is based on the results of the risk assessment conducted under subsection 108(1).

(4) An operator shall ensure that the fire and gas detection system is designed

(a) to detect the types of fire and hazardous gas releases identified in the risk assessment conducted under subsection 108(1);

(b) to detect hazardous gas and smoke in the air intakes of a mechanically ventilated non-hazardous area; and

(c) such that the means to manually initiate fire and gas alarms are available at or near the office of the installation manager, at the main control centre, at every control station and at other locations identified in the risk assessment conducted under subsection 108(1).

(5) An operator shall ensure that the fire and gas detection system meets the following requirements:

(a) the detection components shall

(i) be capable of detecting the types of fire and hazardous gas releases identified in the risk assessment conducted under subsection 108(1) in the areas in which the detection components are located,

(ii) ensure reliable and early detection, taking into account the detection components response characteristics, redundancy and performance under foreseeable conditions in which detection may be required,

(iii) be rated and maintained for use in the areas in which the detection components are located, as those areas are classified in accordance with the classification system referred to in subsection 114(2), and

(iv) include failure and malfunction indicators;

(b) the fire and gas system and its components shall be protected from mechanical damage and damage caused by fire, explosion and physical and environmental conditions to which the fire and gas system and its components may be exposed so that the fire and gas system and its components remain capable of fulfilling their intended functions under foreseeable operating conditions;

(c) the fire and gas system shall allow for all necessary information to be continuously provided to the main control centre and other strategic locations to permit the management of emergency situations; and

(d) the fire and gas system shall be capable of being reset only where the cause of its activation has been resolved.

(6) An operator shall ensure, in relation to the testing and maintenance of the fire and gas detection system, that the following requirements are met:

(a) the fire and gas detection system is capable of being overridden for the purposes of testing and maintenance activities;

(b) override commands and functions are applied for the shortest amount of time possible and with as few as possible being applied simultaneously; and

(c) the testing and maintenance activities do not impair the system beyond what is necessary to undertake those activities and does not impede the fire and gas detection system's functioning.

(7) A work permit is required for the testing and maintenance of a fire and gas detection system.

(8) A work permit shall set out measures to be taken to manage the effects of overriding the fire and gas detection system.

(9) An operator shall ensure that a gas leak that is detected by the fire and gas detection system or by means of an auditory, olfactory or visual method, including the observation of the dripping of hydrocarbon liquids from an equipment component, is repaired

(a) immediately, where the repair is necessary for the purposes of safety or the conservation of petroleum resources; or

(b) as soon as the circumstances permit, in any other case.

Emergency shutdown system

134. (1) An operator shall ensure that an installation has an emergency shutdown system that is capable of

(a) shutting down potential ignition sources and potential sources of flammable liquids or gases, including by isolating those sources;

(b) depressurizing potential sources of flammable liquids or gases other than reservoirs;

(c) preventing abnormal conditions from escalating and causing major accidental events; and

(d) limiting the extent and duration of a major accidental event.

(2) An operator shall

(a) ensure that the design of the emergency shutdown system is based on studies, analyses and assessments that identify potential hazards; and

(b) assess the risks associated with those hazards, including the risk assessment conducted under subsection 108(1) and the risk and reliability analysis referred to in section 109.

(3) An operator shall ensure that the emergency shutdown system is designed to

(a) allow for automated and manual activation to ensure effective shutdown;

(b) allow for the shutdown of a system or equipment to bring it to a safe state, unless the system or equipment has been rated to remain operational in the area in which it is located, as that area is classified in accordance with the classification system referred to in subsection 114(2);

(c) allow for the selective shutdown of ventilation systems, other than fans that are necessary for supplying combustion air to engines that are required to operate during emergency situations unless gas has been detected in the intake to those engines;

(d) allow for the isolation of petroleum and flammable fluid inventories, including reservoirs, wells, production systems and pipelines, from ignition sources;

(e) take into account the size and segregation of petroleum and flammable fluid inventories to limit the quantity of substances released on loss of containment;

(f) allow for the depressurization and the disposal of hydrocarbon inventories in a safe manner and to a safe location without cold venting;

(g) allow for the closure of the installation's subsea and subsurface safety valves and of pipeline safety valves;

(h) take into account, in relation to essential systems, the necessary timelines to support the safe escape, refuge and evacuation of persons and to maintain the integrity of the installation; and

(i) take into account the activation of the fixed fire suppression systems required under paragraph 135(4)(a).

(4) An operator shall ensure that the logic for the emergency shutdown system includes a hierarchy of shutdown levels, action sequences and timelines that are appropriate for the degree of risk posed by the hazards identified in the studies, analyses and assessments referred to in subsection (2).

(5) An operator shall ensure, in relation to the emergency shutdown system, that

(a) the emergency shutdown system is reliable and, as far as is practicable, it is functionally and physically independent of other essential systems or, where that is not practicable, it is arranged so as not to adversely affect or be adversely affected by the operation of those systems;

(b) the emergency shutdown system includes an alarm system, with audible and visual alarms that are distinct from other types of alarms, that will automatically activate in the main control centre and at other strategic locations so that affected persons, having regard to the hierarchy of shutdown levels referred to in subsection (4), are alerted to the emergency shutdown;

(c) there is continuous monitoring from the main control centre of the emergency shutdown system's status, including, where the emergency shutdown system or part of the emergency shutdown system is overridden, the extent and duration of the override;

(d) the emergency shutdown system and its components are protected from mechanical damage and damage caused by fire, explosion and physical and environmental conditions to which the emergency shutdown system and its components may be exposed so that the emergency shutdown system and its components remain capable of fulfilling their intended functions under foreseeable operating conditions;

(e) the emergency shutdown system allows for the information that is necessary to permit the management of emergency situations to be continuously provided to the main control centre and other strategic locations, including information regarding

(i) the shutdown level and the source of activation of the emergency shutdown system,

(ii) the shutdown effects that failed to execute on activation of the emergency shutdown system, and

(iii) the status, including failure, of the emergency shutdown system's components;

(f) the emergency shutdown system is capable of being activated from multiple manual activation points that are

(i) clearly marked,

(ii) protected against unintentional activation, and

(iii) located at

(A) in the case of manual activation points for the highest level of shutdown, the main control centre and other strategic locations, including aircraft landing areas and other embarkation stations, and

(B) in the case of other manual activation points, strategic positions, at least one of which shall not be in a hazardous area;

(g) the activation of the emergency shutdown system from a manual activation point triggers the general alarm system referred to in section 131;

(h) where a part of the emergency shutdown system is operated using a hydraulic or pneumatic accumulator,

(i) the accumulator

(A) is located as close as is practicable to the part that the accumulator is intended to operate, except where that part is part of a subsea production system, and

(B) has the capacity for a sufficient number of activations to ensure that shutdown can be achieved, and

(ii) the shutdown valves revert to a fail-safe mode in the event of a failure of the accumulator;

(i) the emergency shutdown system is capable of testing both its input and output signal devices and its internal functions to ensure the emergency shutdown system's functioning;

(j) in the event of a failure of the main electrical power supply referred to in subsection 123(4), the emergency shutdown system has the capacity to function continuously until the main electrical power supply is restored or shutdown operations have been concluded;

(k) in the event that an impairment of the emergency shutdown system or its components increases the risk to safety or the environment, the other systems that support the emergency shutdown system reverts to a fail-safe mode;

(l) where 2 or more installations are connected or where there is temporary equipment that has an emergency shutdown system on an installation,

(i) the emergency shutdown systems of the connected installations are linked so that emergency shutdown signals are transmitted between those systems,

(ii) the emergency shutdown systems of the temporary equipment are linked to the installation's emergency shutdown system so that emergency shutdown signals are transmitted between those systems, and

(iii) the logic for the emergency shutdown system of each of the connected installations and of the temporary equipment is re-evaluated and modified, where necessary, to take into account the fact that the emergency shutdown systems are linked, with the logic of the installation's emergency shutdown system being given priority over that of any temporary equipment;

(m) the emergency shutdown system is capable of being overridden or reset only where the cause of the emergency shutdown system's activation has been resolved and there has been local confirmation that the equipment that gave rise to the system shutdown can be safely used; and

(n) override commands and functions are not capable of being unintentionally activated.

(6) Where the emergency shutdown system is capable of being overridden for the purposes of testing and maintenance activities, the operator shall ensure that the following requirements are met:

(a) override commands and functions are applied for the shortest amount of time possible and with as few as possible being applied simultaneously; and

(b) the testing and maintenance activities do not impair the emergency shutdown system beyond what is necessary to undertake those activities and shall not impede the emergency shutdown system's functioning.

(7) A work permit is required for the testing and maintenance of the emergency shutdown system.

(8) A work permit shall set out the measures to be taken to manage the effects of overriding the emergency shutdown system.

(9) In the case of a production installation, an operator shall ensure that, where the emergency shutdown system is activated, a subsurface safety valve closes not later than 2 minutes after the tree safety valve has closed unless a longer delay is justified by the mechanical or production characteristics of the well.

Fire protection systems and equipment

135. (1) An operator shall ensure that an installation is equipped with fire protection systems and equipment to control and extinguish fires.

(2) An operator shall ensure that the fire protection systems and equipment are designed, selected, operated, inspected, tested and maintained in accordance with the measures referred to in clause 10(2)(b)(vi)(B) that are described in the operator's safety plan.

(3) The design and selection of fire protection systems and equipment, including suppression agents, shall take into account their intended use and the results of the risk assessment conducted under subsection 108(1).

(4) An operator shall ensure that the fire protection systems and equipment include

(a) automated fixed fire suppression systems that are capable of being manually activated from outside the space that is being protected;

(b) fixed monitors, deluge systems and foam systems;

(c) manual firefighting systems and equipment; and

(d) the redundancies that are necessary to ensure that the systems function in the case of a failure of one of their components.

(5) An operator shall ensure that the fire protection systems and equipment are protected from mechanical damage and damage caused by fire, explosion and physical and environmental conditions to which the fire protection systems and equipment may be exposed so that the fire protection systems and equipment remain capable of fulfilling their intended functions under foreseeable operating conditions.

(6) The operator shall ensure that an automated fixed fire suppression system is installed in every accommodations area and hazardous area and in other areas that require such a system based on the results of the risk assessment conducted under subsection 108(1).

(7) An operator shall ensure that at least 2 dedicated, segregated and independently driven fire pumps supply a dedicated firewater ring main and that each of those fire pumps is

(a) equipped with at least 2 independent starting devices; and

(b) designed to allow for both local and remote control.

(8) An operator shall ensure that the fire pumps are located as far as possible from equipment used for storing and processing petroleum, taking into account the results of the risk assessment conducted under subsection 108(1).

(9) An operator shall ensure that the fire pumps and piping and their valves are capable of providing a sufficient supply of firewater to any area on the installation, including where a segment of the firewater ring main is damaged.

(10) An operator shall ensure that the firewater system is capable of operating continuously for a minimum of 18 hours.

(11) An operator shall ensure that the number and location of fire hydrants and fire hose reels are such that at least 2 jets of water, not emanating from the same location, can reach any part of the installation where a fire may occur.

(12) In areas where it is not practical to use fire hydrants and fire hose reels, an operator shall ensure that portable fire-extinguishing equipment is readily available and accessible.

(13) An operator shall ensure that audible and visual alarms will activate at the main control centre on the initiation of an automated fixed fire suppression system or on the loss of firewater pressure.

(14) Where the automated fixed fire suppression system creates a hazard to persons, the operator shall ensure that audible and visual alarms automatically activate inside and outside the space that is being protected.

(15) Paragraphs (4)(a) and (b) and subsections (6) to (11) do not apply in respect of unattended installations.

Boilers and pressure systems

136. (1) An operator shall ensure that boilers and pressure systems are designed in accordance with the measures referred to in clause 10(2)(b)(vi)(C) that are described in the operator's safety plan.

(2) The boilers and pressure systems shall be designed to

(a) prevent the occurrence of an abnormal condition that could cause an undesirable event;

(b) prevent an undesirable event from causing a release of liquids, gases or vapours;

(c) prevent the ignition of flammable liquids, gases or vapours that are released;

(d) safely disperse or dispose of liquids, gases or vapours that are released;

(e) prevent the formation of explosive mixtures;

(f) limit persons' exposure to fire hazards;

(g) monitor safe limits of pressure, temperature and fluid levels and reliably protect against exceeding those limits;

(h) permit the examination of components critical to the pressure system to ensure their continued integrity;

(i) allow for draining and venting at all stages of operation to

(i) permit cleaning, inspection and maintenance activities to be carried out safely, and

(ii) avoid harmful effects, including water hammer, vacuum collapse, corrosion and uncontrolled chemical reactions;

(j) prevent the escalation in relation to the boilers and pressure systems of accidental events occurring outside of the boilers and pressure systems; and

(k) limit and mitigate the effects of any loss of containment of the contents of the boilers and pressure systems.

(3) The design of boilers and pressure systems shall

(a) be based on standards that incorporate safety margins, that conform to good engineering practice and that involve the carrying out of analyses and numerical modelling as necessary to determine the behaviour and failure modes of the boilers and pressure systems under foreseeable operating conditions, taking into account

(i) the internal and external pressures to which the boilers and pressure systems are subjected,

(ii) ambient and operating temperatures,

(iii) static pressure and the mass of the contents of the boilers and pressure systems when tested or operated,

(iv) foreseeable dynamic loads and reaction forces and moments resulting from, among other things, piping and its supports and other accessories,

(v) structural and mechanical integrity threats, and

(vi) reactions caused by changes in fluids and other substances contained in the boilers and pressure systems over time, including reactions caused by the products of the decomposition of unstable fluids or substances;

(b) where hazards cannot be eliminated, incorporate safety measures that take into account

(i) the need for closing and opening devices and devices to indicate their status and to prevent their opening or physical access to them while pressure differential exists,

(ii) the need to contain hazardous substances and to mitigate the effects of a hazard related to their release,

(iii) the surface temperature of the boilers and pressure systems, and

(iv) the decomposition of unstable fluids; and

(c) be approved by an authorized inspector.

(4) An operator shall ensure that boilers and pressure systems can withstand all combinations of loads, pressures, temperatures, fluids and substances to which the boilers and pressure systems may be subjected during their design service life.

(5) An operator shall ensure that the materials used for the manufacture of boilers and pressure systems are compatible with their operating environment and are chemically resistant to the fluids the boilers and pressure systems contain during their design service life.

(6) An operator shall ensure that the following documents and records are obtained from the manufacturer of the boilers and pressure systems:

(a) documents demonstrating that manufacturing, testing and installation have been carried out in accordance with the design specifications provided for in a quality assurance program that is approved by an authorized inspector;

(b) records of the procedures that were followed in the welding, brazing and non-destructive examination of the boilers and pressure systems, including the results of the welder qualification tests specific to the welding and brazing procedures;

(c) documents evidencing the qualifications of persons involved in manufacturing, inspection and testing, including welders; and

(d) traceability records for the components of the boilers and pressure systems.

(7) An operator shall ensure, before a boiler or pressure system is put into operation, that the boiler or pressure system has been

(a) constructed, installed and commissioned by persons with the necessary experience, training, qualifications and competence to do so safely and in a manner that protects the environment; and

(b) inspected and tested by or under the direction of an authorized inspector, including non-destructive examination and proof tests that are necessary to ensure its integrity and compliance with design specifications.

(8) An operator shall ensure that a boiler or pressure system is inspected by an authorized inspector and tested by or under the direction of an authorized inspector

(a) before the boiler or pressure system is put into operation following its installation;

(b) before the boiler or pressure system is put into operation following any modification or repair to it, including welding; and

(c) at another interval as required by the standards on which the design of the boiler or pressure system is based.

(9) An operator shall ensure that operating procedures are developed for the boilers and pressure systems that inform users of operating hazards and indicate the special measures to be taken to

reduce risks when the boilers and pressure systems are being used, maintained or repaired.

(10) An operator shall ensure that a boiler or pressure system is used, maintained and repaired in accordance with the operating procedures referred to in subsection (9).

(11) A person shall not alter, interfere with or render inoperative a boiler or pressure system fitting, except for the purpose of adjusting or testing the fitting.

(12) An operator shall keep a register of the boilers and pressure systems that includes the following documents and information in respect of each:

(a) accurate design calculations, technical drawings and design specifications, including evidence of the design approval by an authorized inspector;

(b) a list of the standards on which the design of the boiler or pressure system is based;

(c) the boiler or pressure system's operating limits, including its pressure and temperature ratings;

(d) the documents and records required from the manufacturer under subsection (6);

(e) in respect of each inspection and test referred to in subsection (7) or (8), a record created and signed by the authorized inspector who conducted the inspection that includes

(i) the date of the inspection or test,

(ii) information that identifies the boiler or pressure system that was inspected or tested, as well as its location,

(iii) the range of safe pressure and temperature at which the boiler or pressure system may be operated,

(iv) a declaration by the authorized inspector who conducted the inspection or who conducted or directed the test as

to whether the boiler or pressure system meets the standards that were applied in its design and manufacture,

(v) a declaration by the authorized inspector who conducted the inspection or who conducted or directed the test stating that the boiler or pressure system is fit for the purposes for which it is to be used,

(vi) the recommendations regarding the need for modifications to the maintenance program established under section 160, and

(vii) other observations relevant to safety; and

(f) a description of each repair or modification made to the boiler or pressure system.

(13) An operator shall ensure that a boiler or pressure system is marked with the information that is necessary for its safe installation and operation, including an identifier that permits reference to the documents and records referred to in subsection (6) and the information referred to in paragraphs (12)(e) and (f).

(14) An operator shall ensure that the operating procedures developed in accordance with subsection (9) and the register referred to in subsection (12) are periodically verified by the certifying authority.

(15) This section does not apply to any of the following:

(a) a heating boiler that has a heating surface of 3 m^2 or less;

(b) a pressure system that is installed for use at a pressure of one atmosphere of pressure or less;

(c) a pressure vessel that

(i) has a capacity of 40 litres or less, or

(ii) has an internal diameter of

(A) 152 millimetres or less, or

(B) more than 152 millimetres but not more than 610 millimetres where the pressure vessel is used for the storage of hot water or is connected to a water pumping system containing compressed air that serves as a cushion;

(d) a refrigeration plant that has a refrigeration capacity of 18 kW or less; or

(e) a domestic water and plumbing system.

Mechanical equipment

137. (1) An operator shall ensure that mechanical equipment on an installation

(a) is designed, selected, located, installed, commissioned, protected, operated, inspected and maintained in accordance with the measures referred to in clauses 10(2)(b)(v)(E) and 11(2)(b)(v)(E) that are described in the operator's safety plan and environmental protection plan, respectively; and

(b) can operate safely and reliably under foreseeable operating conditions, taking into account the manufacturer's instructions.

(2) Mechanical equipment shall be designed to eliminate hazards to safety or the environment in the following circumstances or, where that is not possible, to mitigate the risks posed by those hazards:

(a) loss of containment of hazardous substances;

(b) overspeeding and loss of restraint of machinery components with high kinetic energy;

(c) extreme surface temperatures of the mechanical equipment;

(d) movement of mobile components of the mechanical equipment;

(e) loss of control and integrity of the mechanical equipment;

(f) ignition of potentially explosive atmospheres in hazardous areas from sparks, flames or excessive heat; and

(g) escalation of accidental events.

(3) An operator shall ensure that controls and manual shut-off devices for mechanical equipment are in a protected and readily accessible location that permits safe operation when an accidental event occurs that renders the equipment inaccessible.

(4) An operator shall ensure that the basic operating instructions for an internal combustion engine provide details of stop, start and emergency procedures and are permanently attached to the engine.

(5) An operator shall ensure that turbines and internal combustion engines are

(a) equipped to prevent unintended ignition;

(b) installed so that

(i) their supply of combustion air is from a non-hazardous area, and

(ii) their exhaust is discharged to a non-hazardous area; and

(c) equipped with safety devices, including manual fuel shut-off devices and, unless it would increase safety or environmental risks, automatic fuel shut-off devices, to prevent major damage from overspeeding, high exhaust temperature, high cooling water temperature, low lubricating oil pressure or other foreseeable hazards that could impair the safety of operations.

(6) Notwithstanding paragraph (5)(c), turbines and internal combustion engines that are critical to emergency response, including emergency generators and fire pumps, need only be equipped with safety devices to prevent major damage from overspeeding.

(7) An operator shall ensure that mechanical equipment that is critical to the safety or propulsion of a floating platform will continue to operate safely and reliably at its full rated power under the static and dynamic angles of inclination that are specified in the rules of the classification society that issued the certificate of class required under section 141.

Materials handling equipment

138. (1) An operator shall ensure that all materials handling equipment is

(a) to the extent feasible, designed and constructed to prevent the failure of its parts, taking into account the conditions under which it is to be operated;

(b) to the extent feasible, equipped with safety devices that will ensure that a failure of its parts does not result in a loss of control of the equipment or of its load or result in another hazardous situation; and

(c) operated taking into account the manufacturer's instructions and industry standards and best practices.

(2) An operator shall ensure that materials handling equipment is marked with the equipment's rated capacity and in a manner that identifies the equipment's manufacturer and model and that permits reference to information that is necessary to the equipment's safe operation, including information regarding the equipment's design, construction, inspection, testing, maintenance and repair.

(3) An operator shall ensure that materials handling equipment that is to be used on an installation is inspected and proof-tested by a competent third party in the following situations to determine the materials handling equipment's rated capacity:

(a) the materials handling equipment is to be used on the installation for the first time;

(b) repairs or modifications have been made to the materials handling equipment's load-bearing components;

(c) the materials handling equipment has been in contact with an electric arc or current; and

(d) there is another reason to doubt that the rated capacity of the materials handling equipment that was most recently certified under subsection (5) or the limitations that were most recently indicated under that subsection continue to be accurate, including as a result of damage sustained by the materials handling equipment or modifications made to it.

(4) An operator shall ensure that the inspection and proof-testing is done in accordance with criteria established by the manufacturer or applicable industry design and safety standards, including with respect to the frequency at which the materials handling equipment shall be inspected and proof-tested to ensure its continued safe operation.

(5) Following the inspection and proof test, the competent third party shall certify in writing the rated capacity of the materials handling equipment and shall indicate in writing the limitations that are required to be imposed on its use having regard to physical and environmental conditions.

(6) An operator shall ensure that a crane with slewing capability is capable of retaining its slewing and lowering capability in emergency situations.

(7) An operator shall ensure that a pedestal crane meets the following requirements:

(a) the pedestal crane shall be equipped with

(i) appropriate travel-limiting devices for the crane's boom, hoist, blocks and slewing mechanism,

(ii) a load-measuring device that has been calibrated in accordance with the manufacturer's specifications or a calibration standard that is at least as rigorous as those specifications,

(iii) a device to indicate the crane's boom extension or load radius, where the crane's rated capacity is affected by the extension or radius,

(iv) a device to indicate the crane's boom angle, where the crane's rated capacity is affected by that angle,

(v) a device for accessing anemometer readings, where the load that the crane is able to safely handle or support is susceptible to being reduced by wind,

(vi) a gross overload protection system, where the crane is used to move persons or things to or from a floating platform or vessel, and

(vii) a safe load indicator system that is programmed for different operating modes and includes load and moment measuring devices; and

(b) a load chart that specifies the boom angle and the safe working load for each block and for each operating mode, as well as the limitations indicated under subsection (5), is posted inside the crane's control cab.

(8) An operator shall ensure that a crane hook is equipped with spring-loaded latches or other equally effective means of preventing the load from falling off the hook under any operating conditions.

(9) A crane shall not be operated in the vicinity of a landing area when an aircraft is landing on or taking off from the landing area, and, where feasible, the person operating the crane shall ensure that the crane's boom is stowed.

(10) An operator shall ensure that materials handling equipment that lifts over 10 tonnes is certified by the certifying authority.

Subsea production system

139. (1) An operator shall ensure that a subsea production system is designed, constructed, installed, commissioned, operated, inspected, monitored, tested and maintained in accordance with the measures referred to in clauses 10(2)(b)(v)(F) and 11(2)(b)(v)(F) that are described in the operator's safety plan and environmental protection plan, respectively.

(2) A subsea production system shall be designed so that

(a) the subsea production system can avoid foreseeable hazards or revert to a safe state when hazards are imminent;

(b) the subsea production system supports and seals connections to the well, pipelines, other subsea production systems or other installations;

(c) in the event of a loss of control or communication, the subsea production system will revert to a safe state;

(d) the failure of a single component of the subsea production system cannot cause or contribute to a major accidental event;

(e) barrier elements in each conduit that carries fluids are reliable, have the necessary redundancy and are arranged to

(i) prevent uncontrolled flow of well fluids,

(ii) minimize the quantity of fluids released from the conduit in the event of unintended release, and

(iii) permit testing of the integrity of the barrier elements without increasing safety or environmental risks;

(f) subsea equipment can withstand or is protected from a load to which the subsea equipment may be subjected that would result in mechanical damage;

(g) a production riser can withstand or is protected from hazards and environmental loads to which the production riser may be subjected, other than icebergs; and

(h) the blowout preventer is supported by the subsea production system during drilling and the tree and workover or intervention pressure control equipment are supported by the subsea production system after completion.

(3) An operator shall ensure that a riser that is connected to a floating platform that has a disconnectable mooring system or dynamic positioning system is designed to be capable of safely detaching in foreseeable physical and environmental conditions.

(4) An operator shall ensure that, where a riser is designed to disconnect in order to avoid foreseeable hazards, the riser fluid may be safely displaced by water or isolated.

(5) An operator shall ensure that, where a riser is disconnected, the riser's integrity is demonstrated through testing once the riser is reconnected and before the riser is brought back into service.

(6) An operator shall ensure that a subsea production system is controlled from only one location at any given time.

(7) An operator shall ensure that a subsea production system is assessed through a failure modes and effects analysis.

Temporary or portable equipment

140. (1) An operator shall ensure that temporary or portable equipment used on an installation is fit for the purposes for which the equipment is to be used.

(2) Before temporary or portable equipment is installed or brought into service on an installation, the operator shall ensure that the equipment and its integration with other equipment and systems are assessed to determine their impact on safety-critical elements and on the risk assessment referred to in subsection 25(3).

(3) An operator shall ensure that temporary or portable equipment is managed in accordance with the measures referred to in clauses 10(2)(b)(v)(G) and 11(2)(b)(v)(G) that are described in the operator's safety plan and environmental protection plan, respectively, and in a manner that does not compromise the target levels of safety set out in those plans.

(4) An operator shall ensure that temporary or portable equipment that is a safety-critical element is, before being put into operation, verified by the certifying authority to confirm the equipment's suitability and safe placement and hook-up.

Classification

141. An operator shall ensure that a floating platform holds a valid certificate of class issued by a classification society that corresponds to the authorized work or activity to be carried out from the floating platform.

Air gap

142. An operator shall ensure that a platform that is either founded on the seabed or column-stabilized has a sufficient air gap to operate safely under the maximum environmental load conditions to which the platform may be subjected.

Stability

143. (1) An operator shall ensure that a floating platform, whether intact or in a damaged condition, is stable and can be operated safely, having regard to all motions and loads to which the floating platform may be subjected, including by

(a) determining the stability and motion response characteristics of the platform using analysis or model testing;

(b) determining the critical maximum loads and motions that the platform can withstand;

(c) ensuring that equipment is fastened to prevent unintended movement; and

(d) monitoring and recording loads that could affect the motions, stability or inclination of the platform.

(2) An operator shall ensure that a floating platform has sufficient freeboard to operate safely under the maximum environmental load conditions to which the floating platform may be subjected.

(3) An operator shall comply with the applicable provisions of the MODU Code and Part B of the IS Code concerning the stability and motion response of a floating platform, which are to be read as mandatory.

(4) Where the weight of a floating platform or a self-elevating mobile offshore platform changes by more than 1 percent of the lightship weight, the operator shall ensure that a deadweight survey is carried out at the earliest opportunity and an up-to-date value of the lightship centre of gravity is calculated.

Self-elevating mobile offshore platform

144. (1) An operator shall, in relation to a self-elevating mobile offshore platform, ensure that a site-specific assessment is conducted of the condition of the seabed, including seabed restraint, to ensure that the platform is stable and can be operated safely.

(2) An operator shall ensure that a self-elevating mobile offshore platform meets the following requirements:

(a) the self-elevating mobile offshore platform is equipped with systems to actively monitor

(i) hull inclination,

(ii) leg penetration into the seabed,

(iii) loads on each of the platform's legs, and

(iv) rack phase differential, if applicable; and

(b) the self-elevating mobile offshore platform's jacking mechanisms is designed so that the failure of a single component does not cause an uncontrolled descent of the platform.

(3) An operator shall ensure that a work and activity on a self-elevating mobile offshore platform is suspended and that a well associated with the platform is brought to a safe shut-in condition where

(a) hull inclination or the rack phase differential exceeds the allowable limits set out in the operations manual in accordance with paragraph 158(3)(b);

(b) an unexplained change occurs in the load on any one of the platform's legs;

(c) leg penetration into the seabed increases; or

(d) any other event threatens the stability of the platform.

(4) In the case of any of the situations referred to in subsection (3), the operator shall ensure that a work and activity on the self-elevating mobile offshore platform remains suspended and that a well associated with the platform remains in a safe shut-in condition until the cause of the situation has been investigated and corrective measures have been taken.

Ballast and bilge systems

145. (1) An operator shall ensure that a floating platform is equipped with reliable ballast and bilge systems with the necessary redundancy in their components to

(a) maintain necessary draught, stability and hull strength under foreseeable operating conditions;

(b) return the floating platform to a safe condition from an unintended draught, trim or heel;

(c) prevent unintended transfer of fluid within the ballast and bilge system;

(d) empty and fill all tanks that are a part of the ballast and bilge system; and

(e) completely and rapidly empty watertight spaces.

(2) An operator shall comply with the applicable provisions of the MODU Code concerning ballast and bilge systems, which are to be read as mandatory.

(3) In the case of a column-stabilized mobile offshore platform, an operator shall ensure that the platform is equipped with a secondary ballast control station that is 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) a permanently mounted ballast schematic diagram;

(f) heel and trim indicators;

(g) a draught-indicating system;

(h) a system to indicate the available power from the main and emergency electrical power supplies; and

(i) a ballast system hydraulic or pneumatic pressure-indicating system.

(4) An operator shall ensure that a secondary ballast control station is located above the waterline in the final condition of equilibrium after flooding if the floating platform is in a damaged condition.

(5) An operator shall ensure that the ballast and bilge systems are assessed through a failure modes and effects analysis before an authorized work or activity is carried out from the floating platform.

Watertight and weathertight integrity and freeboard

146. (1) An operator shall comply with the applicable provisions of the MODU Code and Part B of the IS Code concerning watertight and weathertight integrity and freeboard, which are to be read as mandatory.

(2) An operator shall ensure that a floating platform is designed with sufficient watertight subdivision to ensure the preservation of reserve buoyancy and damage stability under foreseeable conditions.

(3) An operator shall ensure that a floating platform

(a) holds an International Load Line Certificate or an International Load Line Exemption Certificate issued by the government of the state whose flag the platform is entitled to fly, as required under Article 16 of the International Convention on Load Lines, 1966; and

(b) is marked in accordance with the certificate.

(4) An operator shall ensure that the arrangement and specification of watertight and weathertight appliances complies with the measures referred to in clause 10(2)(b)(v)(H) that are described in the operator's safety plan.

(5) An operator shall ensure that a floating platform is designed with systems and equipment that provide for the operation, monitoring and indication, both locally and at the ballast control stations, of the opening and closing of watertight doors and hatches and for the detection and provision of alerts of water ingress into watertight spaces that are not designed to accumulate liquid.

(6) An operator shall ensure that the columns of a column-stabilized mobile offshore platform do not have port lights or similar openings.

Station-keeping

147. An operator shall ensure that a floating platform is equipped with a mooring system or a dynamic positioning system to ensure station-keeping of the platform within its operating limits.

Mooring system

148. (1) An operator shall ensure that a mooring system with which a floating platform is equipped is designed, on the basis of analysis and model testing, to ensure

(a) safety and the protection of the environment;

(b) the stability and serviceability of the floating platform;

(c) the integrity and serviceability of the mooring system components, including any related topside equipment;

(d) the integrity and serviceability of drilling risers, production risers, export risers or any other type of riser;

(e) the necessary redundancy of the mooring system components to enable the floating platform to maintain its position with the loss of a single component or, for a thruster-assisted mooring system, the loss of the most effective thruster or a single failure in the power or control system;

(f) for a thruster-assisted mooring system, the ability of the floating platform to withstand extreme meteorological conditions in the event of a power failure;

(g) the ability of the floating platform to move from its position to avoid accidental events that it is not designed to withstand; and

(h) safe access and safe clearances with respect to subsea and surface components of the installation, nearby installations, support vessels and evacuation systems.

(2) An operator shall ensure that the excursion limits of a floating platform that is equipped with a mooring system are established on the basis of the analysis and model testing referred to in subsection (1).

(3) An operator shall ensure that a floating platform has systems and processes to continuously detect loss of station-keeping or the failure of any mooring system component.

(4) An operator shall ensure that mooring line tensions or other indicators of the integrity of the mooring system are monitored and kept within the mooring system's operating limits.

(5) An operator shall ensure that measures to ensure that the mooring system continues to perform in accordance with its design specifications are implemented, including

(a) the assessment of the mooring system's condition, periodically and if the mooring system is damaged or if damage to the mooring system is suspected; and

(b) the making of arrangements for timely repair or replacement in the event of damage or deterioration.

Disconnectable mooring system

149. (1) Where a mooring system with which a floating platform is equipped is disconnectable, the operator shall ensure that the system is designed to ensure that disconnection can be accomplished in a controlled manner without creating a risk of drift-off.

(2) An operator shall ensure that the disconnectable mooring system is designed and maintained in accordance with the measures referred to in clause 10(2)(b)(vi)(D) that are described in the operator's safety plan.

(3) An operator shall ensure that the disconnectable mooring system includes a primary system and a backup system for disconnection, both of which can be operated locally or from a remote location.

(4) An operator shall ensure that a floating platform that is equipped with a disconnectable mooring system is capable of

(a) safely manoeuvering away under its own power; and

(b) maintaining a safe position and heading while disconnected.

(5) An operator shall ensure that criteria and procedures for disconnection are developed for credible disconnection circumstances, including procedures for monitoring environmental conditions and providing alerts for worsening conditions that may require disconnection.

(6) An operator shall ensure that the disconnectable mooring system

(a) is capable of carrying out a planned disconnection after allowing time for the depressurization and flushing of subsea flowlines;

(b) is capable of carrying out an emergency disconnection after allowing time to safely shut in wells and subsea equipment;

(c) allows for the reconnection to the floating platform of the system and flowlines in an orderly sequence, in the physical and environmental conditions described in the operations manual under paragraph 158(2)(c); and

(d) allows for the resumption of production after the system and flowlines have been reconnected to the floating platform following a planned disconnection.

(7) An operator shall periodically verify the disconnect capability of a disconnectable mooring system and shall record the findings resulting from the verification.

(8) An operator shall ensure that the emergency disconnection referred to in paragraph (6)(b) is initiated where the floating platform exceeds the excursion limits established under subsection 148(2).

Dynamic positioning system

150. (1) An operator shall ensure that the design of a dynamic positioning system with which a floating platform is equipped

(a) is based on numerical analysis and model testing to ensure that the floating platform's position reference and directional control can be maintained within specified tolerances that satisfy design operational requirements in relation to functional and environmental loads to which the dynamic positioning system may be subjected at the floating platform's intended location;

(b) is based on a failure modes and effects analysis to ensure the segregation and redundancy of safety-critical systems and their components as necessary to maintain the platform's position in the event that credible circumstances of equipment failure are realized;

(c) allows the dynamic positioning system to withstand the loss from fire or flooding of all of its components situated in any one watertight compartment or fire subdivision of the floating platform; and

(d) includes systems to monitor the parameters of operability and integrity of the critical systems of the dynamic positioning system and to provide alerts for critical system faults.

(2) An operator shall ensure that the excursion limits of a floating platform that is equipped with a dynamic positioning system are established based on the numerical analysis and model testing referred to in paragraph (1)(a).

Disconnect system

151. (1) An operator shall ensure that a floating platform that is equipped with a dynamic positioning system has a disconnect system that

(a) is capable of carrying out a planned disconnection of the floating platform from the seabed after allowing time to prepare the risers and subsea flowlines for the disconnection;

(b) is capable of carrying out an emergency disconnection after allowing time to safely shut in wells and subsea equipment; and

(c) allows for reconnection in an orderly sequence, in the physical and environmental conditions described in the operations manual under paragraph 158(2)(c).

(2) An operator shall periodically demonstrate by means of a trial or performance test that a disconnect system meets the requirements under subsection (1).

(3) An operator shall ensure that the emergency disconnection referred to in paragraph (1)(b) is initiated where the floating platform exceeds the excursion limits established under subsection 150(2).

Decisions and exemptions

152. For a floating platform that is registered outside Canada, an operator shall

(a) establish a list of all flag state administration decisions and exemptions that apply to the floating platform in relation to standards adopted by the International Maritime Organization;

(b) conduct a risk assessment to identify measures to reduce the safety and environmental risks in relation to those decisions and exemptions to a level that is as low as reasonably practicable; and

(c) establish an action plan to implement the measures referred to in paragraph (b).

Gap analysis

153. An operator shall, every time the MODU Code is updated,

(a) undertake a gap analysis between the criteria in the updated version and the version that applies to the floating platform based on its date of construction;

(b) conduct a risk assessment in relation to any gaps identified; and

(c) ensure that mitigation measures are implemented, as necessary.

Requirements – asset integrity

154. An operator shall ensure that all installations, including their systems and equipment, are inspected, monitored, tested, maintained and operated to ensure

(a) safety, the protection of the environment and the prevention of waste; and

(b) that the installation continues to perform in accordance with its design specifications under the operating conditions and maximum loads to which it may be subjected.

Non-destructive examination

155. An operator shall ensure that a non-destructive examination of the critical joints and structural parts of an installation is conducted at least once every 5 years or more often as required to ensure the continued safe operation of the installation.

Corrosion management

156. (1) An operator shall ensure that where a safety or environmental hazard would result from the failure due to corrosion,

including corrosion from exposure to a sour environment, of equipment, including process vessels, or of piping, valves, fittings and structural elements that are part of an installation, that corrosion is prevented and managed throughout the life cycle of the installation.

(2) An operator shall develop a corrosion management program that sets out the measures that are necessary to prevent critical failures resulting from corrosion-related degradation and to ensure the continued integrity of safety-critical elements.

(3) A corrosion management program shall

(a) identify safety-critical elements that are susceptible to degradation by corrosion;

(b) provide for the analysis that is necessary to determine corrosion degradation mechanisms and the limits and failure modes of the safety-critical elements referred to in paragraph (a), taking into account the physical and environmental conditions and chemicals to which it is foreseeable that the safety-critical elements may be exposed;

(c) include measures to prevent corrosion, as far as is practicable, and to mitigate or protect against the effects of corrosion;

(d) provide for the inspection and monitoring of corrosion and a corrosion protection and prevention system;

(e) provide for the collection and analysis of baseline and continuous data to monitor corrosion;

(f) provide for the continuous assessment, based on the data and analysis referred to in paragraph (e), of the maintenance activities and schedules referred to in paragraph 160(2)(f) to determine whether those activities and schedules are adequate to ensure corrosion management of safety-critical elements and provide for the modification of those activities and schedules, where necessary;

(g) provide for timely preventive maintenance of a corrosion protection and prevention system; and

(h) provide for the timely inspection, monitoring and maintenance of safety-critical elements in accordance with the requirements of the maintenance program referred to in paragraphs 160(2)(e) and (f) and for any necessary repair before the limits established in paragraph (b) are reached.

(4) An operator shall ensure that a corrosion management program is implemented and periodically updated, taking into account the data and analysis referred to in paragraph (3)(e).

Limits and requirements

157. An operator shall operate an installation, including its systems and equipment, in accordance with the limitations that are set out in the certificate of fitness under subsection 29(3), with the requirements under this Part and with the operations manual referred to in section 158.

Operations manual

158. (1) An operator shall develop an operations manual in respect of each installation that sets out or incorporates by reference the following documents and information:

(a) a general description of the installation, including its particular characteristics;

(b) the chain of command and the roles, responsibilities and authorities of persons during normal operations of the installation and in emergency situations;

(c) a brief description of the systems and equipment on the installation, including flow sheets and instructions for the assembly, use and maintenance of the systems and equipment;

(d) the operating limits of the installation, including the installation's systems and equipment;

(e) the physical and environmental conditions under which the installation and a pipeline can operate without compromising safety or the protection of the environment and the physical and environmental conditions that the installation and pipeline can withstand, taking into account the results of analyses, tests, numerical modelling or investigations undertaken under subsection 106(2);

(f) the results of the risk and reliability analysis conducted for the purpose of subsection 109(1);

(g) a list of the procedures necessary to ensure the safe operation of the installation, including the installation's systems and equipment, within the operating limits described in paragraph (d);

(h) a list of the accidental events that would require implementing the contingency plan referred to in section 12, possible triggers for such events and the measures to be implemented to avoid their occurrence;

(i) a list of the procedures, practices, resources and monitoring measures set out in the contingency plan referred to in section 12;

(j) the criteria for each platform's minimum penetration into the seabed or for the maximum scour of the platform's foundation and an indication of the arrangement of the platform's anchoring system;

(k) a description of the characteristics of each platform's foundation and the platform's penetration into the seabed or an indication of the arrangement of the platform's anchoring system, as well as a description of the measures to be implemented to monitor the integrity of the foundation or that of the mooring and anchoring systems;

(l) the criteria to identify meteorological and oceanographic conditions and phenomena that require subsea components and pipelines to be inspected;

(m) plans that show the arrangement of watertight and weathertight subdivisions;

(n) details of openings in watertight and weathertight subdivisions, including the location of vents, air pipes and other means of water penetration, and the means of closure of the compartments, as well as the location of downflooding points;

(o) a plan that contains information concerning permissible deck loads, variable loading limits and preloading;

(p) details of audible and visual signals and alarms used in the communication system referred to in section 130, the general alarm system referred to in section 131, the fire and gas detection system referred to in section 133 and the emergency shutdown system referred to in section 134, as well as details of any colour-coding systems used for the safety of persons on the installation;

(q) information on the corrosion protection and prevention systems, including type and location, and the requirements for the safety and maintenance of those systems;

(r) technical drawings that show

(i) the arrangement of a deck structure and of the equipment located on it, accommodations areas and temporary safe refuges and aircraft landing area, including its obstacle-free approach zone,

(ii) sufficient details to permit verification and management, if applicable, of the integrity of hulls, mooring components, primary and critical structures, foundation elements, jacking mechanisms, risers and conductors,

(iii) the arrangement of hazardous areas and equipment located in those areas, and

(iv) a fire control and evacuation plan, including

(A) the location of escape routes, fixed fire suppression systems and life-saving appliances, and

(B) the arrangement of barriers that provide passive fire and blast protection and associated equipment, along with a description of those barriers and equipment;

(s) the operating and maintenance requirements for the life-saving appliances referred to in section 120;

(t) information identifying the aircraft that were used for the design of the aircraft landing area on the installation and the maximum weight, size and wheel centres of those aircraft;

(u) special arrangements in place to facilitate the inspection and maintenance of the installation, including the installation's systems and equipment, and the storage of crude oil on the installation;

(v) special precautions to be taken or instructions to be followed when repairs or alterations to the installation, including the installation's systems or equipment, are to be carried out;

(w) special operational or emergency requirements and procedures with respect to systems and equipment that are critical to safety, including the emergency shutdown system referred to in section 134;

(x) a description of the air gap or freeboard and of the means of ensuring that the requirements under section 142 and subsections 143(2) and 146(1) and (3), as the case may be, are met;

(y) the number of persons who can be accommodated on the installation during normal operations;

(z) a description of the main electrical power supply referred to in subsection 123(4) and the emergency electrical power supply referred to in section 127 and the limitations on their operation;

(aa) the procedure for periodically documenting the results of inspections, monitoring, testing and maintenance of the installation's integrity, including the format and presentation of that documentation; and

(bb) the procedure for notifying the chief safety officer and the certifying authority under subsections 163(1) and 171(1) and (2).

(2) In the case of a floating platform, the operations manual shall also contain

(a) a description of the platform's station-keeping system and its capabilities, taking into account the platform's operating limits;

(b) all procedures for addressing the failure of a component of the station-keeping system that is critical to safety;

(c) where the station-keeping system is a mooring system, descriptions of the environmental loads that the moorings can sustain to keep the platform moored in place, the estimated holding power and capacity of the anchors in relation to the soil at the drill site or production site and the physical and environmental conditions in which reconnection of the platform is permitted;

(d) the procedures for addressing an excursion outside of the limits established in the context of the analysis and model testing under subsections 148(2) and 150(2);

(e) a description and the limitations of onboard computer or computer-based control systems used in operations such as ballasting and dynamic positioning and in the platform's trim and stability calculations;

(f) instructions on how to assess the loading and ballast conditions of the platform to determine its stability and how to manage those conditions to maintain the platform's stability in accordance with the provisions referred to in subsection 143(3);

(g) data on the location, type and weights of permanent ballast installed on the platform;

(h) hydrostatic curves or equivalent data;

(i) a plan that shows the capacities and the centres of gravity of tanks and bulk material stowage compartments;

(j) tank-sounding tables or curves that show the capacities and the centres of gravity in graduated intervals and the free surface data for each tank;

(k) stability data that take into account the maximum height of the centre of gravity above the keel in relation to the draught curve and other parameters relevant to the stability of the platform;

(l) the results of an inclining test, or of a lightweight survey together with the inclining test results, and the updated location of the platform centre of gravity following a deadweight survey;

(m) examples of loading conditions for each mode of operation, together with the means to evaluate other loading conditions;

(n) technical drawings that

(i) show the arrangement and location of openings that could affect the stability of the platform and their means of closure,

(ii) show the arrangement and operation of the ballast and bilge systems,

(iii) are accompanied by the operating instructions for the ballast and bilge systems, and

(iv) are sufficient in scope and detail to ensure, in combination with the instructions referred to in subparagraph (iii), that

(A) the necessary draught, stability and hull strength can be maintained under foreseeable operating conditions, and

(B) the floating platform can be returned to a safe condition from an unintended draught, trim or heel; and

(o) a towing arrangement plan, where necessary, and the operating limits of the towing equipment's components.

(3) In the case of a self-elevating mobile offshore platform, the operations manual shall also contain

(a) a description of equipment for elevating and lowering the installation and details of special types of joints and the equipment's purpose, including any operating or maintenance instructions for the equipment and joints; and

(b) the allowable limits for hull inclination and rack phase differential.

(4) An operator shall ensure that the operations manual is kept up-to-date.

Programs

159. (1) An operator shall develop the following programs to ensure the continued integrity of an installation, including the installation's systems and equipment, from the time the installation is commissioned until the installation is abandoned or removed from the offshore area:

(a) the maintenance program referred to in section 160;

(b) the preservation program referred to in section 161; and

(c) the weight control program referred to in section 162.

(2) An operator shall ensure that the programs referred to in subsection (1) are implemented and periodically updated.

Maintenance program

160. (1) A maintenance program shall set out the inspection, monitoring, testing and maintenance policies and procedures for the installation, including the installation's systems and equipment, that are necessary to ensure safety, the protection of the environment and the prevention of waste.

(2) A maintenance program shall

(a) include the measures to ensure that the installation, including the installation's systems and equipment, continues to perform in accordance with the installation's design specifications;

(b) include the measures to ensure compliance with the inspection, monitoring, testing or maintenance requirements under this Part;

(c) include the performance standards developed by the operator for the installation, including for the installation's systems and equipment;

(d) take into account the failure modes and mechanisms of safety-critical elements and the causes of their failure;

(e) include inspection and monitoring activities that occur at a frequency and in a manner to prevent, where practicable, the failures referred to in paragraph (d), or to mitigate the effects of those failures, and to ensure that safety-critical elements are repaired, replaced or modified without delay and in accordance with section 163; and

(f) include predictive and preventive maintenance activities and schedules for each safety-critical element that

(i) are based on the performance standards referred to in paragraph (c),

(ii) take into account the manufacturer's recommendations and industry standards and best practices,

(iii) specify a minimum frequency for the comprehensive inspection of each safety-critical element, taking into account the safety-critical element's condition and the conditions under which it is used,

(iv) for rotating equipment, provide for partial or complete dismantling and inspection at a frequency necessary to maintain the equipment in good condition and to ensure that the equipment's functionality, availability, reliability and performance are in accordance with its design specifications,

(v) provide for a periodic maintenance regime for low running-hour equipment, such as emergency generators, essential generators and fire pumps, and

(vi) provide for the management of spare parts so that critical spare parts are available on the installation to ensure the continued functionality, availability,

reliability and performance of each safety-critical element in accordance with its design specifications.

Preservation program

161. (1) A preservation program shall set out the measures that are necessary to ensure the integrity of equipment that is taken out of service and stored for future use.

(2) A preservation program shall provide for the periodic inspection of the stored equipment to verify the equipment's integrity and ensure that the equipment is fit for the purposes for which it is to be used if the equipment is brought into service.

Weight control program

162. A weight control program shall set out the measures that are necessary to ensure that the weight and centre of gravity of each installation are kept safely within the installation's operating limits.

Safety-critical element - repair, replacement or modification

163. (1) A holder of a certificate of fitness shall ensure that the certifying authority and the chief safety officer are notified before a safety-critical element is repaired, replaced or modified and before any equipment that would change the design, performance or integrity of a safety-critical element is brought on board the installation.

(2) A holder of a certificate of fitness shall ensure that the approval of the certifying authority is obtained before a safety-critical element is repaired or modified.

(3) A holder of a certificate of fitness shall ensure that a safety-critical element that has been repaired or modified is not put into operation until the certifying authority has verified the safety-critical element and

(a) confirmed that the critical-safety element is

(i) fit for the purposes for which it is to be used,

(ii) can be operated safely without posing a threat to persons or the environment, and

(iii) meets the requirements of these regulations; and

(b) imposed any limitation on the operation of the installation that is necessary to ensure that the installation meets the requirements referred to in paragraph 29(1)(b).

(4) In an emergency, subsections (2) and (3) do not apply where the installation manager considers that the delay required to comply with the requirements under those subsections endangers persons on the installation or the environment.

(5) A safety-critical element that is repaired or modified in an emergency shall be verified by the certifying authority in accordance with subsection (3) as soon as the circumstances permit.

(6) This section does not apply to an adjustment made to or the testing of a boiler or pressure system fitting.

Drilling fluid systems

164. An operator shall ensure that

(a) a drilling fluid system and associated monitoring equipment provide an effective barrier against formation pressure, ensure safe well operations, prevent pollution and allow for well evaluation;

(b) the indicators and alarms associated with the monitoring equipment are strategically located on the drilling rig to alert persons on the drilling rig; and

(c) dedicated personnel provide continuous monitoring, using independent monitoring systems, of parameters that are critical to safe well operations or to the detection of a gain or loss of drilling fluid while the installation is connected to the well and is taking fluid returns.

Drilling riser

165. (1) An operator shall ensure that every drilling riser is, throughout the duration of a well operation, capable of

(a) providing 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 loads to which the drilling riser may be subjected; and

(e) permitting the drilling fluid to be returned to the installation.

(2) An operator shall ensure that every drilling riser is supported in a manner that effectively compensates for loads caused by the motion of the installation, the drilling fluid or the water column.

(3) An operator shall ensure that a drilling riser analysis and, in the case of a floating platform that uses a dynamic positioning system, a weak-point analysis of the drilling riser are conducted and that the certifying authority in relation to the installation approves those analyses.

Fail-safe subsurface safety valves

166. (1) An operator shall ensure that a completed development well is equipped with a fail-safe subsurface safety valve that

(a) can be operated from the surface; and

(b) if the well is located where permafrost is present in unconsolidated sediments, is installed in the production tubing below the base of the permafrost.

(2) An operator shall ensure that a completed development well on a fixed platform that has gas-lift, injection or production capabilities in the A-annulus is equipped with an additional fail-safe safety valve on the A-annulus.

(3) An operator shall ensure that fail-safe safety valves are designed, installed, tested, maintained and operated to prevent uncontrolled well flow when the fail-safety valves are activated.

Well tubulars, trees and wellheads

167. (1) An operator shall ensure that well tubulars, trees and wellheads are operated in accordance with good engineering practices.

(2) An operator shall ensure that well tubulars, trees or wellheads that may be exposed to a sour environment are capable of operating safely in that environment.

(3) An operator shall ensure that wellhead and tree equipment, including valves, are designed and maintained to operate safely and efficiently throughout the life cycle of the well under all loads to which the well may be subjected.

Formation flow test equipment

168. (1) An operator shall ensure that the equipment used in a formation flow test is designed to safely control well pressure, evaluate the formation and prevent pollution.

(2) An operator shall ensure that the rated working pressure of formation flow test equipment at and upstream of the well testing manifold exceeds the maximum anticipated shut-in pressure.

(3) An operator shall ensure that equipment downstream of the well testing manifold is protected against overpressure.

(4) An operator shall ensure, in the case of a development well, that the formation flow test equipment includes a downhole safety valve that permits closure of the test string above the packer.

(5) An operator shall ensure, in the case of an exploratory well or a delineation well drilled on a geological feature, that a downhole safety valve is installed before a formation flow test is conducted unless

(a) it has been demonstrated as part of the formation flow test program referred to in paragraph 64(3)(a) that the level of risk of the proposed alternative arrangement in that program is equivalent to or lower than that of using a downhole safety valve; and

(b) the board has approved the test under subsection 64(5).

(6) An operator shall ensure that the formation flow test equipment used in testing a well that is drilled with a floating drilling unit has a subsea test tree that is equipped with

(a) a valve that can 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 blowout preventers.

Pipeline integrity - standard

169. (1) An operator shall ensure that a pipeline is designed, constructed, installed, operated and maintained in accordance with CSA Group standard Z662, "Oil and gas pipeline systems", as it relates to offshore pipelines.

(2) An operator shall ensure that the pipeline system integrity management program required by CSA Group standard Z662, "Oil and gas pipeline systems", is implemented and periodically updated.

Monitoring of systems

170. (1) An operator shall ensure that an installation is equipped with a central monitoring system in the main control centre to monitor all systems whose failure could cause or contribute to an accidental event or waste.

(2) An operator shall ensure that the alarm, safety, monitoring, warning and control functions associated with the systems that are monitored under subsection (1) are managed to prevent reportable incidents and waste.

(3) When a function referred to in subsection (2) is suspended or found to be impaired, the operator shall ensure that the use of a related system is also suspended until

(a) in the case of a function that is suspended, that function is returned to service; and

(b) in the case of a function that was found to be impaired, measures are implemented to offset the risk of a reportable incident or waste.

(4) An operator shall ensure that all affected persons are informed when a function referred to in subsection (2) is suspended and when it is returned to service.

Deterioration

171. (1) An operator shall, without delay, notify the chief safety officer of the deterioration of an installation, including the installation's systems or equipment, or of a pipeline, well, vessel or support craft where that deterioration could adversely affect safety or the environment.

(2) Where an installation, system, equipment, pipeline or part of a well referred to in subsection (1) is within the scope of work referred to in section 32, the operator shall also, without delay, notify the certifying authority of the deterioration.

(3) An operator shall ensure that an impairment of an installation, including the installation's systems or equipment, or of a

pipeline, well, vessel or support craft is rectified without delay where the impairment could adversely affect safety or the environment.

(4) Where it is not possible to rectify the impairment without delay, an operator shall

(a) conduct a risk assessment to identify risk mitigation measures;

(b) implement those mitigation measures; and

(c) ensure that the impairment is rectified as soon as the circumstances permit.

(5) Subsections (3) and (4) do not apply in respect of safety-critical elements.

PART XI
SUPPORT OPERATIONS

Support craft

172. (1) An operator shall, in respect of an installation on which persons are normally present, ensure that

(a) a support craft that is at a distance from the installation not greater than that required for a return time of 20 minutes is available at all times for emergency response; and

(b) whenever an aircraft is landing or taking off, or personnel are working over the side or otherwise exposed to the risk of falling in the water, a support craft is available in the immediate vicinity of the installation and ready to undertake rescue and recovery operations.

(2) The support craft referred to in subsection (1) shall be

(a) capable of safely providing necessary support functions in the foreseeable physical and environmental conditions prevailing in the area in which the support craft operates;

(b) equipped to supply emergency services, including rescue and first aid treatment, for all personnel on the installation in the event of an emergency; and

(c) equipped with a self-righting fast rescue boat that

(i) meets the requirements under chapter V of the LSA Code,

(ii) is capable of being launched and retrieved when the rescue boat is loaded with a full complement of persons and equipment, and

(iii) is ready for deployment in the event of an emergency.

(3) Where the support craft is located at a distance that exceeds the distance referred to in paragraph (1)(a), both the installation manager and the person in charge of the support craft shall log that fact and the reason why the distance or time was exceeded.

(4) During an activity or situation referred to in paragraph (1)(b), or any other activity or situation that presents an increased level of risk to the safety of the installation, the vessel master shall, under the direction of the installation manager, keep the craft in close proximity to the installation, maintain open communication channels with the installation and be prepared to conduct rescue operations.

Rescue boat - vessel

173. An operator shall, in respect of a vessel that is used in a geoscientific program, geotechnical program, environmental program, diving project or construction activity, ensure that a rescue boat is available and ready for use in the event of an emergency.

Safety zone

174. (1) A support craft shall not enter the safety zone around an installation or around a vessel that is engaged in a geoscientific program, geotechnical program, environmental program or diving project without the consent of the installation manager or the person in charge of the operations site.

(2) An operator shall ensure that persons who are in charge of an aircraft or vessel that is approaching the safety zone are notified of the safety zone boundaries and of any hazards within that zone that relate to the operator's installation or vessel.

(3) The safety zone around an installation consists of the area within a line that encloses the installation and is drawn at a distance of 500 metres from the outer edge of the installation or, where any

component of the installation extends beyond that edge, from the outer limit of the component that extends furthest from that edge.

(4) The safety zone around a vessel referred to in subsection (1) consists of the area within a line that encloses the vessel and any of its attached equipment and is drawn at a distance that minimizes risks to safety, the environment and property located nearby, including fishing gear or fishing vessels.

Landing area

175. (1) An operator shall ensure that the aircraft landing area on an installation or vessel and the equipment that is used in that area or that otherwise supports the take-off or landing of aircraft are designed to ensure safety and the protection of the environment and to prevent incidents or damage resulting from the use of aircraft.

(2) An operator shall ensure that the landing area

(a) has an obstacle-free take-off and approach area and is oriented relative to prevailing winds;

(b) can withstand all functional loads imposed by aircraft;

(c) can accommodate aircraft of expected sizes;

(d) has emergency response and firefighting equipment;

(e) has conspicuous markings and signage;

(f) has adequate lighting, including in reduced visibility conditions;

(g) has monitoring and status light systems and communication and meteorological equipment;

(h) is readily and safely accessible, including from the accommodations areas and from any temporary safe refuge; and

(i) in the case of a landing area on an installation, is equipped with fuel storage tanks.

(3) An operator shall ensure that fuel storage tanks that are in proximity to a landing area are stored safely and protected from damage, impact and fire.

Procedures

176. An operator shall ensure the establishment of procedures associated with the support of aircraft operations, including procedures for emergency response, and of a training program for personnel for those purposes.

Airport service provider

177. An operator shall ensure that, before the start of operations that require the use of an aircraft, the aircraft service provider has accepted in writing

(a) all conditions with respect to the use of the equipment in a landing area:

(b) the procedures associated with the support of aircraft operations, including the procedures for emergency response; and

(c) the training program for personnel in respect of those matters.

Classification

178. An operator shall ensure that a support craft or construction vessel to be used in conjunction with an installation holds a valid certificate of class issued by a classification society according to the work or activity to be carried out by the support craft or construction vessel.

PART XII
NOTICE, RECORDS, REPORTS AND OTHER INFORMATION FOR AUTHORIZED WORKS AND ACTIVITIES

Definition of shotpoint

179. In this Part, "shotpoint" means the surface location of a seismic energy source.

Reportable incidents

180. (1) An operator shall notify the board of a reportable incident as soon as the circumstances permit, but not later than 24 hours after becoming aware of the reportable incident.

(2) An operator shall ensure that

(a) a reportable incident is investigated;

(b) the person who conducts the investigation includes in the investigation report the root causes of the reportable incident, the contributing factors, measures to be implemented to prevent its recurrence and any other relevant information; and

(c) the investigation report is submitted to the board not later than 14 days after the day on which the reportable incident occurred.

Accessibility of records

181. An operator shall ensure that the records that are necessary to support operational requirements and the requirements of these regulations are readily accessible to the board for examination.

Critical information

182. (1) An operator shall ensure that records are kept of all information that is critical to safety, the protection of the environment or the prevention of waste, including the following:

(a) information on the location and movement of support craft;

(b) information on reportable incidents;

(c) information on emergency drills and exercises;

(d) information on the quantities of consumable substances at an operations site;

(e) data resulting from any required observation of wildlife;

(f) information on verification, inspection, monitoring, testing, maintenance and operating activities;

(g) information on the status of the systems and equipment identified in the safety plan as being critical to safety or in the environmental protection plan as being critical to the

protection of the environment, including any test result indicating that the systems or equipment are not functioning as intended and information on any equipment failure that has led to an impairment of any of those systems; and

(h) information on the physical and environmental conditions observed and forecasted under section 43.

(2) An operator shall retain the records referred to in subsection (1) for the following periods:

(a) in the case of the records referred to in paragraphs (1)(a) and (e) to (g) and those referred to in paragraph (1)(h) regarding forecasted conditions, 5 years after the day on which the record is created;

(b) in the case of the records referred to in paragraphs (1)(b) and (c),

(i) 5 years after the day on which the drill or exercise is carried out, and

(ii) 10 years after the day on which the reportable incident is reported;

(c) in the case of the records referred to in paragraph (1)(d), for as long as the consumable substance is at the operations site; and

(d) in the case of the records referred to in paragraph (1)(h) regarding conditions observed, for the duration of the authorized work or activity.

Safety report

183. (1) An operator shall ensure that a safety report that relates to an authorized work or activity conducted in a given calendar year is submitted to the board within 90 days after the day on which the work or activity is concluded or suspended or, in the case of a work or activity that will continue into the following calendar year, that a safety report that relates to the work or activity conducted in the preceding calendar year is submitted to the board not later than March 31 of that following calendar year.

(2) A safety report shall contain

(a) a description and analysis of the efforts undertaken to improve safety;

(b) a summary of the operator's safety performance during the applicable calendar year, including with respect to the objective of reducing safety risks;

(c) a summary of the safety measures and actions taken to mitigate the effects of a reportable incident, as well as of their effectiveness and any adjustments made for their continued improvement; and

(d) a summary of any emergency response drills and exercises relating to safety that were completed.

Annual reports

184. An operator shall ensure that

(a) the board is made aware, at least once a year, of any report containing relevant information regarding applied research work or studies that the operator has participated in, funded or commissioned concerning the operator's authorized works and activities in relation to safety, the protection of the environment or resource management; and

(b) a copy of the report is submitted to the board on request.

Notice – key dates

185. When a geoscientific program, geotechnical program or environmental program is commenced, concluded, suspended or cancelled by an operator, the operator shall, without delay, notify the board in writing of the date of the commencement, conclusion, suspension or cancellation of the program.

Weekly status reports

186. (1) An operator shall ensure that weekly reports are submitted to the board on the status of field work carried out in relation to a geoscientific program, geotechnical program or environmental program from the commencement of the program until its conclusion, suspension or cancellation.

(2) Weekly status reports shall contain the following documents and information:

(a) the program number assigned by the board;

(b) information identifying, and indicating the current location and status of, all operations sites and support craft used in the program;

(c) key dates of the works and activities under the program, in particular, their commencement, suspension and completion dates;

(d) a description of the works and activities carried out during the preceding week, including

(i) the quantity of data collected, broken down by data acquisition technique,

(ii) information identifying and indicating the location of data collection points, lines or areas,

(iii) a schedule indicating each type of work or activity carried out under the program, as well as any period in which data acquisition was delayed or interrupted, along with a summary of the causes of that delay or interruption, and

(iv) a description of any failure to comply with a condition of the authorization;

(e) maps illustrating, in relation to the proposed data acquisition plan referred to in subparagraph 9(i)(iii), the portion of the data acquisition that has been completed, the portion that was completed in the preceding week and the portion that remains to be carried out;

(f) an indication of the total number of persons involved in the program who, during the preceding week, were at, or transferred to or from, the operations sites and, where applicable, the means by which the persons were transferred;

(g) a summary of communications or interactions that occurred during the preceding week concerning program activities between persons associated with the program and persons associated with fishing activities;

(h) a summary of emergency drills and exercises that were completed and reportable incidents that occurred during the preceding week;

(i) an indication of the quantities of consumable substances that are critical to safety that are currently at each operations site;

(j) all wildlife observation data from the preceding week that were required to be recorded under paragraph 182(1)(e);

(k) a summary of the verification, inspection, monitoring, testing, maintenance and operating activities that are critical to safety that were carried out during the preceding week; and

(l) a description of measures taken during the preceding week to avoid disturbing wildlife or interfering with fishing activities or any other uses of the sea.

Environmental report - programs

187. An operator shall ensure that an environmental report that contains the following documents and information is submitted to the board within 90 days after the day on which a geoscientific program, geotechnical program or environmental program is concluded or suspended:

(a) a description of the general physical and environmental conditions under which the program was conducted and, where applicable, a description of ice management activities and non-productive time caused by meteorological or ice conditions;

(b) a summary of program performance in relation to the environment, including with respect to the objective of reducing environmental risks;

(c) a summary of environmental protection measures and actions that were taken to mitigate the effects of a reportable incident, as well as of their effectiveness and any adjustments made for their continued improvement;

(d) a summary of emergency response drills and exercises for the protection of the environment that were completed; and

(e) all wildlife observation data that were required to be recorded under paragraph 182(1)(e).

Final reports

188. (1) An operator shall ensure that a final operations report, final data processing report and final interpretation report are submitted to the board with the acquired data referred to in subsection (5), as applicable, within 12 months after the day on which a geoscientific program, geotechnical program or environmental program is concluded, unless a longer period has been agreed to in writing by the board.

(2) A final operations report shall contain the following documents and information:

(a) the program number assigned by the board;

(b) the title, author and date of the report;

(c) an executive summary and table of contents;

(d) the names of the operator, contractors and any interest owner, as defined in paragraph 47(1)(k) of the Act;

(e) a description of all operation sites and support craft used for the program;

(f) a description of the program, including

(i) key dates, in particular the program's commencement, suspension and completion dates,

(ii) the equipment used,

(iii) the operational methods employed,

(iv) the number of persons who were involved in the program, and

(v) the quantity of data collected, broken down by data acquisition technique;

(g) location maps illustrating details of the data acquisition activities carried out under the program, including the

identification and location of data collection points, lines or areas and the type of data acquired;

(h) location maps illustrating the boundaries of each area covered by the program and any portion of those areas that is subject to an interest, as defined in paragraph 47(1)(j) of the Act, as well as the identification number of each such interest;

(i) a schedule that specifies the type and duration of all program activities and includes the period in which data acquisition was delayed or interrupted;

(j) an indication as to the accuracy of the navigation system and of the positioning and survey systems, as well as the parameters and configuration of both the energy source and recording system; and

(k) shotpoint maps, track plots, flight lines with numbered fiducial points, gravity station maps, location maps for samples or core holes, copies of photographs and a list of videos.

(3) A final data processing report shall contain the following documents and information:

(a) the documents and information referred to in paragraphs (2)(a) to (d), (g) and (k);

(b) a description of the program, including the quantity of data collected, broken down by data acquisition technique; and

(c) a description of the geoscientific data acquired, including the data processing sequence and parameters.

(4) A final interpretation report shall contain the following documents and information, as applicable:

(a) the documents and information referred to in paragraphs (2)(a) to (e);

(b) bathymetric or topographic maps compiled from the data collected;

(c) a description and interpretive maps of the acquired data, 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 pipeline route survey, and

(vi) any geological maps;

(d) a description and analysis of the interpretation of the data with respect to

(i) geological and geophysical correlations,

(ii) correlations between gravity, magnetic, seismic and controlled-source electromagnetic data, including correlations to any data acquired during previous surveys,

(iii) in the case of seabed surveys, the geophysical correlation between shallow seismic data and data from cores and geotechnical boreholes,

(iv) corrections or adjustments that were applied to the data during processing or compilation,

(v) the velocity information that the operator used in a time-to-depth conversion,

(vi) cores and samples,

(vii) other geoscientific and geotechnical analyses, and

(viii) geohazards; and

(e) 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 data,

(iv) amplitude versus offset studies,

(v) seismic inversion studies, if any, and

(vi) any other seismic studies related to the program.

(5) The following acquired data shall accompany the final reports, as applicable:

(a) time-stamped track plot, shotpoint and sample location data;

(b) bathymetric data;

(c) the final processed seismic data for each 2-D seismic line in time and depth;

(d) the final processed 3-D volumes and each line generated from that volume in time and depth;

(e) vertical seismic profiles, synthetic seismograms, amplitude versus offset data and seismic inversion data;

(f) in the case of a seabed, geohazard or pipeline route survey,

(i) processed high-resolution data for each line,

(ii) digital location maps for any samples,

(iii) photographs and videos, and

(iv) sub-bottom profiler and side-scan sonar data;

(g) in the case of an environmental program, any photograph, video or other graphic information that is relevant and contributes to the interpretation of the final data and the drafting of the final report;

(h) in the case of a gravity or magnetic survey, a series of gravity and magnetic profiles across all gravity and magnetic surveys; and

(i) in the case of controlled-source electromagnetic data, final processed cross-sections on all receiver lines, curves from all receivers and all 2-D and 3-D final models generated.

(6) An operator shall incorporate into any map referred to in paragraph (4)(b) that is included in a final interpretation report any data previously 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.

Exception – data made available to public

189. (1) An operator that has conducted a geoscientific program, a geotechnical program or an environmental program is not required to submit a final interpretation report where the data acquired from the program is made available to the public for purchase or for use under licence.

(2) Where an operator ceases to make data available for purchase or use under licence, the operator shall ensure that, within 12 months after the day on which the operator ceased to make the data available, the final interpretation report is submitted to the board.

Data purchases

190. (1) A purchaser of data referred to in subsection 189(1) that was acquired in an area that is subject to an interest, as defined in paragraph 47(1)(j) of the Act, shall submit to the board a final interpretation report that contains the documents and information referred to in subsection 188(4), as applicable, where the costs of the purchase of the data are to be credited against a deposit or other costs in relation to the interest.

(2) Where a purchaser has reprocessed or reinterpreted the data, and where the costs of the reprocessing or reinterpretation are to be credited against a deposit or other costs of the interest, the purchaser shall submit to the board, with the acquired data referred to in subsection 188(5), as applicable, a final data processing report that contains the documents and information referred to in subsection

188(3) and a final interpretation report that contains the documents and information referred to in subsection 188(4), as applicable.

(3) The reports and data required under subsections (1) and (2) shall be submitted by the purchaser to the board before the costs referred to in those subsections are credited.

(4) A person who has submitted a report referred to in this section shall, in respect of data that pertain to shotpoints or the location of stations, notify the chief conservation officer, without delay, of any errors or omissions identified in or corrections made to the data after the report is submitted.

Reference

191. When submitting any information to the board about a well, pool, zone or field under these regulations, an operator shall refer to each by the name given to it under section 60 or paragraph 61(b), as the case may be.

Results, data, analyses and schematics

192. (1) An operator shall ensure that a copy of the final results, data, analyses and schematics obtained from a well operation, including those obtained as a result of the following activities, is submitted to the board:

(a) the testing, sampling and pressure measurements that are conducted as part of the field data acquisition program referred to in section 14 and the well data acquisition program referred to in section 19, as well as any evaluation, testing and sampling of formations that is conducted under section 63; and

(b) any verification conducted under paragraph 72(2)(a) and any segregation test conducted under paragraph 72(2)(b).

(2) Unless otherwise agreed to in writing by the board, an operator shall ensure that the copy of the final results, data, analyses and schematics referred to in subsection (1) is submitted to the board within 60 days after the day on which the activity that gave rise to the results, data, analyses or schematics is concluded.

Survey

193. (1) An operator shall ensure that a survey, certified by a person licensed under the *Canada Lands Surveyors Act*, is conducted to confirm the location of any well and production installation.

(2) An operator shall ensure that a copy of the survey plan is

(a) filed with the Canada Lands Survey Records; and

(b) submitted to the board.

Critical information

194. (1) The records that are required to be kept under section 182 include, in the case of an operation involving drilling or production, records containing the following information and documents:

(a) in respect of an assessment of the efficacy of a spill-treating agent under paragraph 12(4)(a),

(i) a description of the assessment, including any oil samples used, and

(ii) a description of the tests conducted for the assessment and their results;

(b) information concerning the inspection of an installation and the installation's equipment or a pipeline for corrosion and erosion and any resulting maintenance activities carried out;

(c) the pressure, temperature and flow rate data obtained from compressors and from systems and equipment used for treatment and processing;

(d) information concerning the calibration of meters and other instruments on an installation;

(e) information concerning the testing of subsea, surface and subsurface safety valves;

(f) information concerning the status of each well and the status of well operations;

(g) in the case of a floating platform, information concerning all loads that could affect the motions, stability or inclination of the platform, including

(i) data, observations, measurements and calculations related to the platform's stability and station-keeping capability, including records of all of its movements,

(ii) the results of all tests and analyses conducted to assess the platform's stability and station-keeping capability,

(iii) a description of every change in relation to the platform's weight, centre of gravity or the weight or distribution of temporary or portable equipment on the platform that may affect the platform's stability, and

(iv) a description of the verification of the disconnect capability of a disconnectable mooring system;

(h) in respect of boilers and pressure systems, the documents and information referred to in paragraphs 136(12)(d) to (f);

(i) information concerning each formation leak-off test and formation integrity test conducted under section 71;

(j) the findings resulting from the verifications of temporary safe refuges required under subsection 118(3); and

(k) the findings resulting from the verifications of the availability and condition of life-saving appliances required under subsection 120(11).

(2) An operator shall retain the records referred to in subsection (1) for the following periods:

(a) in the case of the records referred to in paragraph (1)(a), for as long as the spill-treating agent is approved for use;

(b) in the case of the records referred to in paragraphs (1)(b) to (f), subparagraph (1)(g)(iv) and paragraphs (1)(i) to (k), 5 years after the day on which the record is created;

(c) in the case of the records referred to in subparagraphs (1)(g)(i) to (iii), for the life of the floating platform; and

(d) in the case of the records referred to in paragraph (1)(h), 5 years after the day on which the boiler or pressure system is taken out of service.

Daily production record

195. (1) An operator shall ensure that a daily production record is kept in respect of a field in which a pool or well is located until the field is abandoned and, at that time, shall offer to submit the record to the board before destroying it.

(2) A daily production record shall contain, with respect to each day, the following information and documents:

(a) information concerning the calibration of meters and other instruments referred to in paragraph 194(1)(d);

(b) any measurements obtained under section 75;

(c) a description of the manner in which any fluids were disposed of, including through venting, burning or flaring, or transported for processing, whether through offloading or a pipeline; and

(d) any other information relating to the production of petroleum and other fluids from each pool or well.

Formation flow test records and report

196. An operator shall ensure that

(a) in respect of exploratory wells and delineation wells, a record of formation flow test results is submitted to the board on a daily basis; and

(b) in respect of all wells, a formation flow test report is submitted to the board as soon as the circumstances permit after each formation flow test.

Pilot scheme

197. (1) An operator shall ensure that interim evaluations of a pilot scheme referred to in section 82 are reported to the board in writing at the intervals referred to in paragraph 82(2)(b).

(2) On completion of a pilot scheme, the operator shall ensure that a report is submitted to the board that contains

(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.

Daily reports

198. An operator shall ensure that the following reports are submitted to the board on a daily basis:

(a) a daily operations report that contains

(i) a description of the works and activities that were carried out on the installation on the previous day and the current status of those works and activities,

(ii) a description of the works and activities that are expected to be carried out on the installation on the day on which the report is submitted,

(iii) a summary of the verification, inspection, monitoring, testing, maintenance and operating activities critical to safety that were carried out on the previous day,

(iv) a summary of the physical and environmental conditions that were observed under section 43 on the previous day,

(v) a summary of the information referred to in paragraph 194(1)(g) that was obtained on the previous day, and

(vi) any other information that is necessary to indicate the status of operations on the installation;

(b) a daily drilling report that contains

(i) the daily and cumulative costs of operating the installation,

(ii) the well and casing data obtained on the previous day,

(iii) a description of the properties of the drilling fluid and drilling fluid gas readings from the previous day,

(iv) a summary of any directional and deviation surveys carried out the previous day,

(v) a description of the formations encountered on the previous day,

(vi) the results of any blowout preventer test carried out on the previous day and the date of the most recent test, and

(vii) the results of any formation leak-off tests or formation integrity tests referred to in section 71 that were carried out the previous day;

(c) a daily geological report, consisting of field data and well data acquired the previous day through the programs referred to in sections 14 and 19 , geological assessments made the previous day and any other information that is relevant to those assessments; and

(d) in the case of a production installation, a daily production report that contains a summary of the information referred to in paragraphs 194(1)(a) to (c) in relation to the previous day and a summary of the daily production record referred to in section 195.

Monthly production report

199. An operator shall ensure that a report summarizing the production data collected during a given month is submitted to the board not later than the 15th day of the subsequent month.

Well records and reports

200. (1) An operator shall ensure that

(a) a well termination record is submitted to the board in respect of a well within 21 days after

(i) the day on which the well is abandoned,

(ii) the day on which the well is suspended if the suspension is planned to be for a period that is longer than 21 days, or

(iii) the day on which the well is completed or recompleted;

(b) a well operation report is submitted to the board in respect of a well that requires a workover or intervention within 30 days after the day on which the workover or intervention is completed;

(c) a well history report is submitted to the board in respect of a development well within 45 days after the day referred to in subparagraph (a)(i), (ii) or (iii), as the case may be;

(d) a well history report is submitted to the board in respect of an exploration or delineation well within 90 days after the day referred to in subparagraph (a)(i), (ii) or (iii), as the case may be; and

(e) the actual cost breakdown of all well operations is submitted to the board within 90 days after the day on which a well is abandoned, suspended or completed.

(2) The record required under paragraph (1)(a) shall

(a) describe the manner in which the well has been abandoned, suspended, completed or recompleted; and

(b) 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 or recomplete the well.

(3) The reports required under paragraphs (1)(b) to (d) shall

(a) contain a record of all operational, engineering, petrophysical, geophysical and geological information that is relevant to the well operation, including any problems encountered during the well operation; and

(b) the results of any formation leak-off test or formation integrity test conducted under section 71.

(4) The report required under paragraph (1)(b) shall describe any impact of the workover or intervention on the performance of the well, including any effect on productivity, injectivity and the recovery of petroleum.

Environmental report - drilling

201. An operator shall ensure, in relation to a drilling program that involves an exploratory well or a delineation well, that an environmental report that contains the following documents and information is submitted to the board within 90 days after the day referred to in subparagraph 200(1)(a)(i), (ii) or (iii), as the case may be:

(a) a summary of the physical and environmental conditions under which the drilling program was conducted and, where applicable, a description of ice management activities and non-productive time caused by meteorological or ice conditions;

(b) a summary of the environmental protection measures in place during the drilling program, the measures taken to mitigate the effects of any reportable incident, the effectiveness of those measures and any adjustments made for their continued improvement;

(c) a summary of the performance of the drilling program in relation to the environment, including in relation to the objective of reducing environmental risks;

(d) a summary of any emergency response drills and exercises for the protection of the environment that were completed; and

(e) all wildlife observation data that was required to be recorded under paragraph 182(1)(e).

Annual environmental report – production and pipeline

202. An operator shall ensure, in relation to a production project or pipeline project, that an environmental report that contains the following documents and information with respect to a given calendar year is submitted to the board not later than March 31 of the subsequent year:

(a) a summary of the general physical and environmental conditions to which each operations site was subjected;

(b) a description of any ice management activities carried out;

(c) a summary of the environmental protection measures in place, the measures taken to mitigate the effects of any

reportable incident, the effectiveness of those measures and any adjustments made for their continued improvement;

(d) a summary of the performance of the project in relation to the environment, including in relation to the objective of reducing environmental risks;

(e) a summary of any emergency response drills and exercises for the protection of the environment that were completed; and

(f) all wildlife observation data that was required to be recorded under paragraph 182(1)(e).

Annual production report

203. An 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 that contains information on how the operator manages and intends to manage the resource being produced without waste, including

(a) for the preceding calendar year, details on performance, production forecasts, reserve revision, the reasons for deviations in well performance from forecasts in previous annual production reports, gas conservation resources, efforts to maximize the recovery of petroleum and operating and capital expenditures, including the cost of each well operation; and

(b) for the preceding calendar year, the current calendar year and the next 2 calendar years, capital costs and fixed operating costs for each well and field in a production project, variable costs, commodity prices and financial commitments in relation to the transportation of the resource, including by pipeline.

Gas venting records

204. An operator shall ensure that a record is kept of the following information in respect of each gas venting referred to in paragraph 83(c):

(a) a description of the emergency situation that justified the venting;

(b) a description of the venting, the date it occurred and its duration; and

(c) the volume of gas vented.

Compressor records

205. An operator shall ensure that a record containing the following documents and information is kept in respect of the compressors referred to in subsection 85(1):

(a) information demonstrating, with supporting documents, that the continuous monitoring device referred to in subsection 85(2) has been calibrated in accordance with the manufacturer's recommendations such that its measurements have a maximum margin of error of plus or minus 10 percent; and

(b) for each compressor, where its maximum flow rate limit under subsection 85(3) or (4) has been exceeded,

(i) the compressor's serial number, make and model,

(ii) the date on which the maximum flow rate limit was exceeded,

(iii) the flow rate indicated by the continuous monitoring device when the maximum flow rate limit was exceeded, and

(iv) a description of the corrective measures that were taken and the dates on which measures was taken.

Fugitive emission records

206. An operator shall ensure that a record containing the following information is kept in respect of fugitive emission from an installation that is detected:

(a) the date on which the emission was detected;

(b) the type of equipment from which the emission was released and the equipment's location within the installation or identifier;

(c) the means by which the emission was identified; and

(d) a description of the corrective measures that were taken and the dates on which the measures were taken.

Record retention period

207. An operator shall ensure that a record referred to in any of sections 204 to 206 is retained for 5 years after the day on which the record is created.

Weekly status reports

208. (1) An operator shall ensure that weekly reports are submitted to the board on the status of a diving project or construction activities.

(2) Weekly status reports shall contain the following documents and information:

(a) the project number assigned by the board;

(b) information identifying, and indicating the current location and status of, all operations sites and support craft used in the diving project or construction activities;

(c) a description of the works and activities carried out during the preceding week;

(d) an indication of the total number of persons involved in the works and activities who, during the week, were at, or transferred to or from, the operations sites and, where applicable, the means by which the persons were transferred;

(e) a summary of emergency drills and exercises that were completed and reportable incidents that occurred during the week;

(f) an indication of the quantities of consumable substances that are critical to safety that are currently at each operations site; and

(g) a summary of the verification, inspection, monitoring, testing, maintenance and operating activities that are critical to safety that were carried out during the preceding week.

PART XIII
REPEAL AND COMMENCEMENT

CNLR 1/96 Rep.

209. The *Offshore Area Oil and Gas Operations Regulations* are repealed.

NLR 16/97 Rep.

210. The *Offshore Area Petroleum Geophysical Operations Newfoundland and Labrador Regulations* are repealed.

NLR 18/97 Rep.

211. The *Offshore Certificate of Fitness Newfoundland and Labrador Regulations* are repealed.

NLR 120/09 Rep.

212. The *Offshore Petroleum Drilling and Production Newfoundland and Labrador Regulations, 2009* are repealed.

NLR 20/97 Rep.

213. The *Offshore Petroleum Installations Newfoundland and Labrador Regulations* are repealed.

Commencement

214. These regulations come into force on October 28, 2024.

SCHEDULE A

(Clauses 29(1)(b)(ii)(A) and (B) and (iii)(B))

Certificate of Fitness

PART I

PROVISIONS OF THESE REGULATIONS

1. Section 25
2. Subsections 85(1) to (4)
3. Section 99
4. Section 101
5. Subsections 104(1) and (2)
6. Sections 105 to 109

7. Subsection 110(2)

8. Sections 111 to 115

9. Subsections 116(1) to (7)

10. Section 117

11. Subsections 118(1) and (2)

12. Section 119

13. Subsections 120(1) to (10)

14. Section 121

15. Subsection 122(2)

16. Sections 123 and 124

17. Subsection 125(2)

18. Subsection 126(1)

19. Paragraph 126(2)(a)

20. Sections 127 to 132

21. Subsections 133(1) to (6)

22. Subsections 134(1) to (6) and (9)

23. Section 135

24. Subsections 136(1) to (7) and (11) to (13)

25. Section 137

26. Paragraph 138(1)(a)

27. Subsections 138(2) to (8) and (10)

28. Subsections 139(1) to (4), (6) and (7)

29. Section 140

30. Section 142

31. Paragraphs 143(1)(a) to (c)

32. Subsections 143(2) to (4)

33. Subsections 144(1) and (2)

34. Sections 145 to 147

35. Subsections 148(1) to (3)

36. Subsections 149(1) to (6). However, subsection (5) applies only with respect to the criteria for disconnection.

37. Section 150

38. Subsection 151(1)

39. Sections 152 and 153

40. Section 155

41. Subsections 156(1) to (3)

42. Section 175

PART II
PROVISIONS OF THE OFFSHORE AREA OCCUPATIONAL HEALTH AND SAFETY REGULATIONS

1. Section 19

2. Paragraphs 21(b) and (c)

3. Sections 22 to 25

4. Subsections 26(1) and (3)

5. Sections 27 and 28

6. Paragraph 29(a)

7. Subparagraph 30(2)(d)(ii)

8. Subsection 30(3)

9. Paragraphs 32(2)(a), (b) and (d)

10. Subsection 32(3)

11. Paragraphs 32(4)(a), (c) to (g) and (i). However, paragraph (e) applies only with respect to the requirement that a medical room have surfaces that are easily cleaned and disinfected.

12. Paragraphs 46(a) and (b)

13. Subparagraph 46(m)(i)

14. Clauses 46(m)(ii)(A), (C) and (D)

15. Paragraph 47(2)(b)

16. Subsection 57(1). However, paragraph (e) applies only with respect to the requirement that the accommodations area be maintained in good repair.

17. Subsections 58(1) and (2)

18. Paragraphs 58(3)(a) to (e). However, paragraph (a) applies only with respect to the requirement under paragraph 60(2)(a) concerning handwashing facilities and paragraph (e) applies only with respect to the requirement that washrooms be maintained in good repair.

19. Subsection 60(1)

20. Paragraphs 60(2)(a) and (d). However, paragraph (d) applies only with respect to the requirement that handwashing facilities be maintained in good repair.

21. Subsection 61(1)

22. Paragraphs 61(2)(a) to (c) and (e). However, paragraph (e) applies only with respect to the requirement that showers be maintained in good repair.

23. Section 62

24. Subparagraphs 63(1)(a)(i) to (v)

25. Paragraphs 63(1)(b) and (c)

26. Section 64. However, paragraph (d) applies only with respect to the requirement that the dining area be maintained in good repair.

27. Subsections 65(2), (4) and (5)

28. Paragraphs 66(b) and (c). However, subparagraph (c)(iv) applies only with respect to the requirement that waste receptacles be maintained in good working order.

29. Subsection 67(1)

30. Paragraph 73(b)

31. Subsection 74(1)

32. Paragraph 77(1)(a)

33. Subparagraph 77(1)(c)(i)

34. Subsection 78(2)

35. Section 79

36. Sections 81 to 85

37. Paragraphs 91(1)(a) to (e), (h), (j) and (n) to (p). However, paragraph (j) applies only with respect to the requirement that the equipment, machines and devices in question be rated by their manufacturer as appropriate for use.

38. Subsection 93(1)

39. Paragraph 93(2)(a)

40. Sections 97 and 98

41. Section 100

42. Subsection 101(1)

43. Paragraphs 107(a) to (d)

44. Subsection 113(2)

45. Paragraphs 113(3)(a) and (b)

46. Section 120

47. Paragraphs 121(1)(a) to (d), (g) to (v) and (bb)

48. Subsection 122(5)

49. Paragraph 122(6)(a)

50. Subparagraph 122(6)(b)(i)

51. Section 123

52. Subsections 124(2) and (3)

53. Paragraphs 125(1)(a) and (b)

54. Paragraphs 126(1)(f) and (g)

55. Subsection 126(2)

56. Paragraph 127(3)(a)

57. Subsection 130(3)

58. Paragraphs 144(1)(b), (l), (n), (o), (r) to (u), (w) and (x)

59. Subsection 147(1)

60. Paragraph 153(1)(e)

61. Paragraphs 157(1)(b), (d), (g), (l) and (q). However, subparagraph (q)(iv) applies only with respect to the inspection of a piping system that contains a hazardous substance before it is placed in service.

62. Subparagraphs 157(1)(c)(i) and (k)(i)

63. Subsection 171(3)

64. Paragraphs 172(1)(a), (g), (j) to (m), (o) and (p), (2)(e) and (3)(c) and (f)

SCHEDULE B

(Subparagraph 32(3)(b)(iii))

Verification of Certificate of Fitness Requirements

1. Subparagraph 5(2)(m)(iii)

2. Paragraphs 5(2)(p) and (v)

3. Paragraph 45(b)

4. Section 46

5. Subsections 69(2) and (9)

6. Section 74

7. Subsection 78(1)

8. Subsection 104(3)

9. Subsection 122(1)

10. Subsection 125(1)

11. Subsection 136(8)

12. Subsection 139(5)

13. Paragraph 143(1)(d)

14. Subsections 144(3) and (4)

15. Subsections 148(4) and (5)

16. Subsection 149(7)

17. Subsection 151(2)

18. Section 154

19. Subsection 156(4)

20. Sections 164 to 166

21. Subsections 167(2) and (3)

22. Sections 168 and 169

23. Subsections 170(1) to (3)

NEWFOUNDLAND AND LABRADOR
REGULATION 72/24

Offshore Petroleum Administrative Monetary Penalties Regulations (Amendment)
under the
Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act
(O.C. 2024-169)

(Filed October 28, 2024)

Under the authority of subsection 198.2(1) of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act*, the Lieutenant-Governor in Council makes the following regulations.

Dated at St. John's, October 28, 2024.

Krista Quinlan
Clerk of the Executive Council

REGULATIONS

Analysis

NLR 5/16

1. Subsection 4(2) of the *Offshore Petroleum Administrative Monetary Penalties Regulations* is repealed and the following substituted:

(2) The contravention of a direction, requirement, decision or order referred to in subsection 3(2) or of a term or condition referred to in subsection 3(3) is a Type B violation.

2. Parts 2 to 5 of Schedule A to the regulations are repealed and the following substituted:

PART 2

OFFSHORE AREA PETROLEUM OPERATIONS FRAMEWORK REGULATIONS

Item	**Column 1 Provision**	**Column 2 Classification**
1.	4(1)	Type B
2.	4(2)	Type B
3.	6(1)	Type B
4.	7(2)	Type B
5.	18(1)	Type B
6.	20(1)	Type B
7.	23	Type B
8.	25(5)	Type B
9.	38(2)(a)	Type A
10.	38(2)(b)	Type A
11.	38(2)(c)	Type A
12.	42	Type B
13.	43	Type B
14.	44	Type B
15.	45(a)	Type B
16.	45(b)	Type B
17.	46	Type B
18.	47	Type B
19.	48(1)	Type B
20.	48(2)	Type B
21.	49(1)	Type B
22.	49(2)	Type A

23.	50(a)	Type B
24.	50(b)	Type B
25.	51(1)	Type B
26.	51(2)	Type B
27.	52(a)	Type B
28.	52(b)	Type B
29.	53	Type B
30.	54	Type B
31.	55(1)(a)	Type B
32.	55(1)(b)	Type B
33.	55(2)	Type B
34.	55(3)	Type B
35.	56(1)	Type B
36.	56(2)	Type B
37.	57	Type B
38.	58(1)	Type B
39.	62(1)	Type B
40.	62(2)(a)	Type B
41.	62(2)(b)	Type B
42.	62(2)(c)	Type B
43.	62(4)	Type B
44.	63	Type B
45.	64(1)	Type B
46.	64(2)	Type B
47.	64(3)(a)	Type B
48.	64(3)(b)	Type B
49.	65(1)(a)	Type B
50.	65(1)(b)	Type B
51.	65(1)(c)	Type B
52.	65(2)	Type B
53.	65(3)	Type B
54.	66	Type B
55.	67	Type B
56.	68(a)	Type B
57.	68(b)	Type B
58.	68(c)	Type B
59.	69(1)	Type B
60.	69(2)	Type B
61.	69(3)	Type B
62.	69(4)	Type B
63.	69(5)(a)	Type B
64.	69(5)(b)	Type B
65.	69(6)	Type B

66.	69(7)(a)	Type B
67.	69(7)(b)	Type B
68.	69(7)(c)	Type B
69.	69(8)	Type B
70.	69(9)	Type B
71.	69(10)	Type B
72.	70(1)(a)	Type B
73.	70(1)(b)	Type B
74.	70(1)(c)	Type B
75.	70(2)	Type B
76.	70(3)	Type B
77.	70(4)	Type B
78.	70(5)(a)	Type B
79.	70(5)(b)	Type B
80.	70(5)(c)	Type B
81.	70(5)(d)	Type B
82.	70(6)	Type B
83.	70(8)	Type B
84.	70(9)	Type B
85.	70(10)	Type B
86.	71(1)(a)	Type B
87.	71(1)(b)	Type B
88.	71(2)	Type B
89.	72(1)(a)	Type B
90.	72(1)(b)	Type B
91.	72(1)(c)	Type B
92.	72(1)(d)	Type B
93.	72(1)(e)	Type B
94.	72(1)(f)	Type B
95.	72(1)(g)	Type B
96.	72(1)(h)	Type B
97.	72(1)(i)	Type B
98.	72(1)(j)	Type B
99.	72(2)(a)	Type B
100.	72(2)(b)	Type B
101.	73	Type B
102.	74	Type B
103.	75(1)(a)	Type B
104.	75(1)(b)	Type B
105.	75(1)(c)	Type B
106.	75(3)	Type B
107.	76	Type B
108.	77(1)	Type B

109.	77(2)	Type B
110.	78(1)(a)	Type B
111.	78(1)(b)	Type B
112.	78(1)(c)	Type B
113.	78(2)	Type B
114.	79(a)	Type B
115.	79(b)	Type A
116.	80(a)	Type B
117.	80(b)	Type B
118.	80(c)	Type B
119.	81(1)	Type B
120.	81(3)	Type B
121.	82(3)	Type B
122.	83	Type B
123.	84(1)	Type B
124.	85(1)	Type B
125.	85(2)	Type B
126.	85(3)(a)(i)	Type B
127.	85(3)(a)(ii)	Type B
128.	85(3)(b)	Type B
129.	85(4)(a)	Type B
130.	85(4)(b)	Type B
131.	85(5)	Type B
132.	86	Type B
133.	88(1)(a)	Type B
134.	88(1)(b)	Type B
135.	88(1)(c)(i)	Type A
136.	88(1)(c)(ii)	Type A
137.	88(1)(c)(iii)	Type A
138.	88(1)(c)(iv)	Type A
139.	90(1)	Type B
140.	90(2)	Type B
141.	90(3)	Type B
142.	90(4)	Type B
143.	91(1)(a)	Type B
144.	91(1)(b)(i)	Type B
145.	91(1)(b)(ii)	Type B
146.	91(2)	Type B
147.	92	Type B
148.	93	Type B
149.	94	Type B
150.	95(a)	Type B
151.	95(b)	Type B

152.	95(c)	Type B
153.	95(d)	Type B
154.	95(e)	Type B
155.	96(1)(a)	Type B
156.	96(1)(b)	Type B
157.	96(1)(c)	Type B
158.	96(1)(d)	Type B
159.	96(1)(e)	Type B
160.	96(2)	Type B
161.	96(3)	Type B
162.	97(1)(a)	Type B
163.	97(1)(b)	Type B
164.	97(2)(a)	Type B
165.	97(2)(b)	Type B
166.	99	Type B
167.	100	Type B
168.	101(1)(a)	Type B
169.	101(1)(b)	Type B
170.	101(1)(c)	Type B
171.	101(1)(d)	Type B
172.	101(1)(e)	Type B
173.	101(1)(f)	Type B
174.	101(1)(g)	Type B
175.	101(1)(h)	Type B
176.	101(1)(i)	Type B
177.	101(2)	Type B
178.	101(3)	Type A
179.	101(4)	Type A
180.	102(1)(a)	Type B
181.	102(1)(b)	Type B
182.	102(1)(c)	Type B
183.	102(1)(d)	Type B
184.	102(1)(e)	Type B
185.	102(2)	Type B
186.	103(1)(a)	Type B
187.	103(1)(b)	Type B
188.	103(2)	Type B
189.	104(2)	Type B
190.	104(3)	Type B
191.	105(3)(a)	Type B
192.	105(3)(b)	Type B
193.	105(3)(c)	Type B
194.	105(3)(d)(i)	Type B

195.	105(3)(d)(ii)	Type B
196.	105(4)	Type B
197.	105(5)	Type B
198.	105(6)(a)	Type B
199.	105(6)(b)	Type B
200.	106(1)	Type B
201.	106(2)	Type B
202.	106(3)(a)	Type B
203.	106(3)(b)	Type B
204.	106(3)(c)	Type B
205.	106(3)(d)	Type B
206.	106(3)(e)	Type B
207.	106(3)(f)	Type B
208.	106(3)(g)(i)	Type B
209.	106(3)(g)(ii)	Type B
210.	106(3)(h)	Type B
211.	106(4)	Type B
212.	107(a)	Type B
213.	107(b)	Type B
214.	107(c)	Type B
215.	108(1)(a)	Type B
216.	108(1)(b)	Type B
217.	108(1)(c)	Type B
218.	108(2)(a)	Type B
219.	108(2)(b)	Type B
220.	108(2)(c)	Type B
221.	108(2)(d)	Type B
222.	108(2)(e)(i)	Type B
223.	108(2)(e)(ii)	Type B
224.	108(2)(f)	Type B
225.	108(2)(g)	Type B
226.	108(2)(h)	Type B
227.	109(1)	Type B
228.	109(2)	Type B
229.	109(3)	Type B
230.	110(1)	Type B
231.	110(2)	Type B
232.	110(3)	Type B
233.	110(4)	Type B
234.	111(a)	Type B
235.	111(b)	Type B
236.	111(c)	Type B
237.	111(d)	Type B

238.	111(e)	Type B
239.	112(1)(a)	Type B
240.	112(1)(b)	Type B
241.	112(1)(c)	Type B
242.	113(1)	Type B
243.	113(2)(a)	Type B
244.	113(2)(b)	Type B
245.	113(3)	Type B
246.	113(4)	Type B
247.	113(5)(a)	Type B
248.	113(5)(b)	Type B
249.	113(5)(c)	Type B
250.	113(5)(d)	Type A
251.	113(5)(e)	Type B
252.	113(6)	Type B
253.	113(7)	Type B
254.	113(8)	Type B
255.	113(9)	Type B
256.	113(10)	Type B
257.	114(1)	Type B
258.	114(2)	Type B
259.	114(3)	Type B
260.	114(4)	Type B
261.	114(5)	Type B
262.	115(1)(a)	Type B
263.	115(1)(b)	Type B
264.	115(1)(c)	Type B
265.	115(1)(d)	Type B
266.	115(2)	Type B
267.	115(3)	Type B
268.	115(4)	Type B
269.	115(5)(a)	Type B
270.	115(5)(b)	Type B
271.	115(5)(c)	Type B
272.	115(6)	Type B
273.	115(7)	Type B
274.	115(8)(a)	Type B
275.	115(8)(b)	Type B
276.	115(8)(c)	Type B
277.	115(8)(d)	Type B
278.	116(1)	Type B
279.	116(2)	Type B
280.	116(3)	Type B

281.	116(4)	Type B
282.	116(5)	Type B
283.	116(6)	Type B
284.	116(7)(a)	Type B
285.	116(7)(b)(i)	Type B
286.	116(7)(b)(ii)	Type B
287.	118(1)(a)	Type B
288.	118(1)(b)	Type B
289.	118(1)(c)	Type B
290.	118(1)(d)	Type B
291.	118(2)(a)	Type B
292.	118(2)(b)	Type B
293.	118(3)	Type B
294.	119(1)(a)	Type B
295.	119(1)(b)	Type B
296.	119(3)	Type B
297.	119(4)	Type B
298.	119(5)	Type B
299.	119(6)	Type B
300.	120(1)(a)	Type B
301.	120(1)(b)	Type B
302.	120(2)	Type B
303.	120(3)	Type B
304.	120(4)(a)	Type B
305.	120(4)(b)	Type B
306.	120(5)	Type B
307.	120(6)(a)	Type B
308.	120(6)(b)	Type B
309.	120(6)(c)	Type B
310.	120(7)	Type B
311.	120(8)	Type B
312.	120(9)	Type B
313.	120(10)	Type B
314.	120(11)	Type B
315.	121(1)	Type B
316.	122(1)(a)	Type B
317.	122(1)(b)	Type B
318.	122(1)(c)	Type B
319.	122(1)(d)	Type B
320.	122(1)(e)	Type B
321.	122(2)(a)	Type B
322.	122(2)(b)	Type B
323.	123(1)	Type B

324.	123(2)	Type B
325.	123(3)	Type B
326.	123(4)(a)	Type B
327.	123(4)(b)	Type B
328.	123(4)(c)	Type B
329.	123(4)(d)	Type B
330.	123(5)	Type B
331.	124(1)	Type B
332.	124(2)(a)	Type B
333.	124(2)(b)	Type B
334.	124(2)(c)	Type B
335.	124(2)(d)	Type B
336.	124(3)	Type B
337.	124(4)(a)	Type B
338.	124(4)(b)	Type B
339.	124(5)	Type B
340.	124(6)	Type B
341.	124(7)	Type A
342.	125(1)	Type B
343.	125(2)	Type B
344.	126(1)(a)	Type B
345.	126(1)(b)	Type B
346.	126(1)(c)(i)	Type B
347.	126(1)(c)(ii)	Type B
348.	126(2)(a)	Type B
349.	126(2)(b)	Type B
350.	127(1)(a)(i)	Type B
351.	127(1)(a)(ii)	Type B
352.	127(1)(a)(iii)	Type B
353.	127(1)(a)(iv)	Type B
354.	127(1)(a)(v)	Type B
355.	127(1)(a)(vi)	Type B
356.	127(1)(a)(vii)	Type B
357.	127(1)(b)	Type B
358.	127(1)(c)	Type B
359.	127(1)(d)	Type B
360.	127(1)(e)	Type B
361.	127(1)(f)	Type B
362.	127(1)(g)	Type B
363.	127(1)(h)	Type B
364.	127(1)(i)	Type B
365.	127(1)(j)	Type B
366.	127(2)(a)	Type B

367.	127(2)(b)(i)	Type B
368.	127(2)(b)(ii)	Type B
369.	127(2)(b)(iii)	Type B
370.	127(2)(c)	Type B
371.	127(3)(a)(i)	Type B
372.	127(3)(a)(ii)	Type B
373.	127(3)(a)(iii)	Type B
374.	127(3)(a)(iv)	Type B
375.	127(3)(a)(v)	Type B
376.	127(3)(b)	Type B
377.	127(3)(c)	Type B
378.	127(3)(d)	Type B
379.	127(4)	Type B
380.	127(5)	Type B
381.	128	Type B
382.	129	Type B
383.	130(1)(a)	Type B
384.	130(1)(b)	Type B
385.	130(1)(c)	Type B
386.	130(1)(d)	Type B
387.	130(1)(e)	Type B
388.	130(1)(f)	Type B
389.	130(1)(g)	Type B
390.	130(2)(a)	Type B
391.	130(2)(b)	Type B
392.	130(2)(c)	Type B
393.	130(3)	Type B
394.	131(1)	Type B
395.	131(2)(a)	Type B
396.	131(2)(b)	Type B
397.	131(2)(c)	Type B
398.	131(3)	Type B
399.	132(1)	Type B
400.	132(2)	Type B
401.	132(3)(a)	Type B
402.	132(3)(b)	Type B
403.	132(3)(c)	Type B
404.	132(3)(d)	Type B
405.	132(3)(e)	Type B
406.	132(4)	Type B
407.	132(5)	Type B
408.	132(6)(a)(i)	Type B
409.	132(6)(a)(ii)	Type B

410.	132(6)(b)(i)	Type B
411.	132(6)(b)(ii)	Type B
412.	132(6)(b)(iii)	Type B
413.	132(7)	Type B
414.	132(8)	Type B
415.	133(1)	Type B
416.	133(2)(a)	Type B
417.	133(2)(b)	Type B
418.	133(2)(c)	Type B
419.	133(2)(d)	Type B
420.	133(3)	Type B
421.	133(4)(a)	Type B
422.	133(4)(b)	Type B
423.	133(4)(c)	Type B
424.	133(5)(a)	Type B
425.	133(5)(b)	Type B
426.	133(5)(c)	Type B
427.	133(5)(d)	Type B
428.	133(6)(a)	Type B
429.	133(6)(b)	Type B
430.	133(6)(c)	Type B
431.	133(9)	Type B
432.	134(1)(a)	Type B
433.	134(1)(b)	Type B
434.	134(1)(c)	Type B
435.	134(1)(d)	Type B
436.	134(2)	Type B
437.	134(3)(a)	Type B
438.	134(3)(b)	Type B
439.	134(3)(c)	Type B
440.	134(3)(d)	Type B
441.	134(3)(e)	Type B
442.	134(3)(f)	Type B
443.	134(3)(g)	Type B
444.	134(3)(h)	Type B
445.	134(3)(i)	Type B
446.	134(4)	Type B
447.	134(5)(a)	Type B
448.	134(5)(b)	Type B
449.	134(5)(c)	Type B
450.	134(5)(d)	Type B
451.	134(5)(e)	Type B
452.	134(5)(f)	Type B

453.	134(5)(g)	Type B
454.	134(5)(h)	Type B
455.	134(5)(i)	Type B
456.	134(5)(j)	Type B
457.	134(5)(k)	Type B
458.	134(5)(l)	Type B
459.	134(5)(m)	Type B
460.	134(5)(n)	Type B
461.	134(6)(a)	Type B
462.	134(6)(b)	Type B
463.	134(9)	Type B
464.	135(1)	Type B
465.	135(2)	Type B
466.	135(3)	Type B
467.	135(4)(a)	Type B
468.	135(4)(b)	Type B
469.	135(4)(c)	Type B
470.	135(4)(d)	Type B
471.	135(5)	Type B
472.	135(6)	Type B
473.	135(7)(a)	Type B
474.	135(7)(b)	Type B
475.	135(8)	Type B
476.	135(9)	Type B
477.	135(10)	Type B
478.	135(11)	Type B
479.	135(12)	Type B
480.	135(13)	Type B
481.	135(14)	Type B
482.	136(1)	Type B
483.	136(2)(a)	Type B
484.	136(2)(b)	Type B
485.	136(2)(c)	Type B
486.	136(2)(d)	Type B
487.	136(2)(e)	Type B
488.	136(2)(f)	Type B
489.	136(2)(g)	Type B
490.	136(2)(h)	Type B
491.	136(2)(i)	Type B
492.	136(2)(j)	Type B
493.	136(2)(k)	Type B
494.	136(3)(a)	Type B
495.	136(3)(b)	Type B

496.	136(3)(c)	Type B
497.	136(4)	Type B
498.	136(5)	Type B
499.	136(6)(a)	Type B
500.	136(6)(b)	Type B
501.	136(6)(c)	Type B
502.	136(6)(d)	Type B
503.	136(7)	Type B
504.	136(8)	Type B
505.	136(9)	Type B
506.	136(10)	Type B
507.	136(11)	Type B
508.	136(12)(a)	Type A
509.	136(12)(b)	Type A
510.	136(12)(c)	Type A
511.	136(12)(d)	Type A
512.	136(12)(e)	Type A
513.	136(12)(f)	Type A
514.	136(13)	Type A
515.	136(14)	Type A
516.	137(1)(a)	Type B
517.	137(1)(b)	Type B
518.	137(2)(a)	Type B
519.	137(2)(b)	Type B
520.	137(2)(c)	Type B
521.	137(2)(d)	Type B
522.	137(2)(e)	Type B
523.	137(2)(f)	Type B
524.	137(2)(g)	Type B
525.	137(3)	Type B
526.	137(4)	Type B
527.	137(5)(a)	Type B
528.	137(5)(b)(i)	Type B
529.	137(5)(b)(ii)	Type B
530.	137(5)(c)	Type B
531.	137(6)	Type B
532.	137(7)	Type B
533.	138(1)(a)	Type B
534.	138(1)(b)	Type B
535.	138(1)(c)	Type B
536.	138(2)	Type B
537.	138(3)(a)	Type B
538.	138(3)(b)	Type B

539.	138(3)(c)	Type B
540.	138(3)(d)	Type B
541.	138(4)	Type B
542.	138(5)	Type B
543.	138(6)	Type B
544.	138(7)(a)(i)	Type B
545.	138(7)(a)(ii)	Type B
546.	138(7)(a)(iii)	Type B
547.	138(7)(a)(iv)	Type B
548.	138(7)(a)(v)	Type B
549.	138(7)(a)(vi)	Type B
550.	138(7)(a)(vii)	Type B
551.	138(7)(b)	Type B
552.	138(8)	Type B
553.	138(9)	Type B
554.	138(10)	Type B
555.	139(1)	Type B
556.	139(2)(a)	Type B
557.	139(2)(b)	Type B
558.	139(2)(c)	Type B
559.	139(2)(d)	Type B
560.	139(2)(e)	Type B
561.	139(2)(f)	Type B
562.	139(2)(g)	Type B
563.	139(2)(h)	Type B
564.	139(3)	Type B
565.	139(4)	Type B
566.	139(5)	Type B
567.	139(6)	Type B
568.	139(7)	Type B
569.	140(1)	Type B
570.	140(2)	Type B
571.	140(3)	Type B
572.	140(4)	Type B
573.	141	Type B
574.	142	Type B
575.	143(1)	Type B
576.	143(2)	Type B
577.	143(3)	Type B
578.	143(4)	Type B
579.	144(1)	Type B
580.	144(2)(a)(i)	Type B
581.	144(2)(a)(ii)	Type B

582.	144(2)(a)(iii)	Type B
583.	144(2)(a)(iv)	Type B
584.	144(2)(b)	Type B
585.	144(3)(a)	Type B
586.	144(3)(b)	Type B
587.	144(3)(c)	Type B
588.	144(3)(d)	Type B
589.	144(4)	Type B
590.	145(1)(a)	Type B
591.	145(1)(b)	Type B
592.	145(1)(c)	Type B
593.	145(1)(d)	Type B
594.	145(1)(e)	Type B
595.	145(2)	Type B
596.	145(3)(a)	Type B
597.	145(3)(b)	Type B
598.	145(3)(c)	Type B
599.	145(3)(d)	Type B
600.	145(3)(e)	Type B
601.	145(3)(f)	Type B
602.	145(3)(g)	Type B
603.	145(3)(h)	Type B
604.	145(3)(i)	Type B
605.	145(4)	Type B
606.	145(5)	Type B
607.	146(1)	Type B
608.	146(2)	Type B
609.	146(3)(a)	Type B
610.	146(3)(b)	Type B
611.	146(4)	Type B
612.	146(5)	Type B
613.	146(6)	Type B
614.	147	Type B
615.	148(1)(a)	Type B
616.	148(1)(b)	Type B
617.	148(1)(c)	Type B
618.	148(1)(d)	Type B
619.	148(1)(e)	Type B
620.	148(1)(f)	Type B
621.	148(1)(g)	Type B
622.	148(1)(h)	Type B
623.	148(2)	Type B
624.	148(3)	Type B

625.	148(4)	Type B
626.	148(5)	Type B
627.	149(1)	Type B
628.	149(2)	Type B
629.	149(3)	Type B
630.	149(4)(a)	Type B
631.	149(4)(b)	Type B
632.	149(5)	Type B
633.	149(6)(a)	Type B
634.	149(6)(b)	Type B
635.	149(6)(c)	Type B
636.	149(6)(d)	Type B
637.	149(7)	Type B
638.	149(8)	Type B
639.	150(1)(a)	Type B
640.	150(1)(b)	Type B
641.	150(1)(c)	Type B
642.	150(1)(d)	Type B
643.	150(2)	Type B
644.	151(1)(a)	Type B
645.	151(1)(b)	Type B
646.	151(1)(c)	Type B
647.	151(2)	Type B
648.	151(3)	Type B
649.	152(a)	Type B
650.	152(b)	Type B
651.	152(c)	Type B
652.	153	Type B
653.	154	Type B
654.	155	Type B
655.	156(1)	Type B
656.	156(2)	Type B
657.	156(3)(a)	Type B
658.	156(3)(b)	Type B
659.	156(3)(c)	Type B
660.	156(3)(d)	Type B
661.	156(3)(e)	Type B
662.	156(3)(f)	Type B
663.	156(3)(g)	Type B
664.	156(3)(h)	Type B
665.	156(4)	Type B
666.	157	Type B
667.	158(1)(a)	Type B

668.	158(1)(b)	Type B
669.	158(1)(c)	Type B
670.	158(1)(d)	Type B
671.	158(1)(e)	Type B
672.	158(1)(f)	Type B
673.	158(1)(g)	Type B
674.	158(1)(h)	Type B
675.	158(1)(i)	Type B
676.	158(1)(j)	Type B
677.	158(1)(k)	Type B
678.	158(1)(l)	Type B
679.	158(1)(m)	Type B
680.	158(1)(n)	Type B
681.	158(1)(o)	Type B
682.	158(1)(p)	Type B
683.	158(1)(q)	Type B
684.	158(1)(r)	Type B
685.	158(1)(s)	Type B
686.	158(1)(t)	Type B
687.	158(1)(u)	Type B
688.	158(1)(v)	Type B
689.	158(1)(w)	Type B
690.	158(1)(x)	Type B
691.	158(1)(y)	Type B
692.	158(1)(z)	Type B
693.	158(1)(aa)	Type B
694.	158(1)(bb)	Type B
695.	158(2)(a)	Type B
696.	158(2)(b)	Type B
697.	158(2)(c)	Type B
698.	158(2)(d)	Type B
699.	158(2)(e)	Type B
700.	158(2)(f)	Type B
701.	158(2)(g)	Type B
702.	158(2)(h)	Type B
703.	158(2)(i)	Type B
704.	158(2)(j)	Type B
705.	158(2)(k)	Type B
706.	158(2)(l)	Type B
707.	158(2)(m)	Type B
708.	158(2)(n)	Type B
709.	158(2)(o)	Type B
710.	158(3)(a)	Type B

711.	158(3)(b)	Type B
712.	158(4)	Type B
713.	159(1)(a)	Type B
714.	159(1)(b)	Type B
715.	159(1)(c)	Type B
716.	159(2)	Type B
717.	163(1)	Type B
718.	163(2)	Type B
719.	163(3)	Type B
720.	163(5)	Type B
721.	164(a)	Type B
722.	164(b)	Type B
723.	164(c)	Type B
724.	165(1)(a)	Type B
725.	165(1)(b)	Type B
726.	165(1)(c)	Type B
727.	165(1)(d)	Type B
728.	165(1)(e)	Type B
729.	165(2)	Type B
730.	165(3)	Type B
731.	166(1)(a)	Type B
732.	166(1)(b)	Type B
733.	166(2)	Type B
734.	166(3)	Type B
735.	167(1)	Type B
736.	167(2)	Type B
737.	167(3)	Type B
738.	168(1)	Type B
739.	168(2)	Type B
740.	168(3)	Type B
741.	168(4)	Type B
742.	168(5)	Type B
743.	168(6)(a)	Type B
744.	168(6)(b)	Type B
745.	169(1)	Type B
746.	169(2)	Type B
747.	170(1)	Type B
748.	170(2)	Type B
749.	170(3)(a)	Type B
750.	170(3)(b)	Type B
751.	170(4)	Type B
752.	171(1)	Type B
753.	171(2)	Type B

754.	171(3)	Type B
755.	171(4)(a)	Type B
756.	171(4)(b)	Type B
757.	171(4)(c)	Type B
758.	172(1)(a)	Type B
759.	172(1)(b)	Type B
760.	172(2)(a)	Type B
761.	172(2)(b)	Type B
762.	172(2)(c)	Type B
763.	172(3)	Type B
764.	172(4)	Type B
765.	173	Type B
766.	174(1)	Type B
767.	174(2)	Type B
768.	175(1)	Type B
769.	175(2)(a)	Type B
770.	175(2)(b)	Type B
771.	175(2)(c)	Type B
772.	175(2)(d)	Type B
773.	175(2)(e)	Type B
774.	175(2)(f)	Type B
775.	175(2)(g)	Type B
776.	175(2)(h)	Type B
777.	175(2)(i)	Type B
778.	175(3)	Type B
779.	176	Type B
780.	177	Type B
781.	178	Type B
782.	180(1)	Type B
783.	180(2)(a)	Type B
784.	180(2)(b)	Type B
785.	180(2)(c)	Type B
786.	181	Type B
787.	182(1)	Type A
788.	182(2)(a)	Type A
789.	182(2)(b)	Type A
790.	182(2)(c)	Type A
791.	182(2)(d)	Type A
792.	183(1)	Type A
793.	183(2)(a)	Type A
794.	183(2)(b)	Type A
795.	183(2)(c)	Type A
796.	183(2)(d)	Type A

797.	184	Type A
798.	185	Type B
799.	186(1)	Type A
800.	186(2)(a)	Type A
801.	186(2)(b)	Type A
802.	186(2)(c)	Type A
803.	186(2)(d)	Type A
804.	186(2)(e)	Type A
805.	186(2)(f)	Type A
806.	186(2)(g)	Type A
807.	186(2)(h)	Type A
808.	186(2)(i)	Type A
809.	186(2)(j)	Type A
810.	186(2)(k)	Type A
811.	186(2)(l)	Type A
812.	187(a)	Type A
813.	187(b)	Type A
814.	187(c)	Type A
815.	187(d)	Type A
816.	187(e)	Type A
817.	188(1)	Type A
818.	188(2)(a)	Type A
819.	188(2)(b)	Type A
820.	188(2)(c)	Type A
821.	188(2)(d)	Type A
822.	188(2)(e)	Type A
823.	188(2)(f)	Type A
824.	188(2)(g)	Type A
825.	188(2)(h)	Type A
826.	188(2)(i)	Type A
827.	188(2)(j)	Type A
828.	188(2)(k)	Type A
829.	188(3)(a)	Type A
830.	188(3)(b)	Type A
831.	188(3)(c)	Type A
832.	188(4)(a)	Type A
833.	188(4)(b)	Type A
834.	188(4)(c)	Type A
835.	188(4)(d)	Type A
836.	188(4)(e)	Type A
837.	188(5)(a)	Type A
838.	188(5)(b)	Type A
839.	188(5)(c)	Type A

840.	188(5)(d)	Type A
841.	188(5)(e)	Type A
842.	188(5)(f)	Type A
843.	188(5)(g)	Type A
844.	188(5)(h)	Type A
845.	188(5)(i)	Type A
846.	188(6)	Type A
847.	189(2)	Type A
848.	190(1)	Type A
849.	190(2)	Type A
850.	190(4)	Type A
851.	191	Type A
852.	192(1)	Type A
853.	192(2)	Type A
854.	193(1)	Type B
855.	193(2)(a)	Type A
856.	193(2)(b)	Type A
857.	194(1)(a)	Type A
858.	194(1)(b)	Type A
859.	194(1)(c)	Type A
860.	194(1)(d)	Type A
861.	194(1)(e)	Type A
862.	194(1)(f)	Type A
863.	194(1)(g)	Type A
864.	194(1)(h)	Type A
865.	194(1)(i)	Type A
866.	194(1)(j)	Type A
867.	194(1)(k)	Type A
868.	194(2)(a)	Type A
869.	194(2)(b)	Type A
870.	194(2)(c)	Type A
871.	194(2)(d)	Type A
872.	195(1)	Type A
873.	195(2)(a)	Type A
874.	195(2)(b)	Type A
875.	195(2)(c)	Type A
876.	195(2)(d)	Type A
877.	196(a)	Type A
878.	196(b)	Type A
879.	197(1)	Type A
880.	197(2)(a)	Type A
881.	197(2)(b)	Type A
882.	198(a)	Type A

883.	198(b)	Type A
884.	198(c)	Type A
885.	198(d)	Type A
886.	199	Type A
887.	200(1)(a)	Type A
888.	200(1)(b)	Type A
889.	200(1)(c)	Type A
890.	200(1)(d)	Type A
891.	200(1)(e)	Type A
892.	200(2)	Type A
893.	200(3)	Type A
894.	200(4)	Type A
895.	201(a)	Type A
896.	201(b)	Type A
897.	201(c)	Type A
898.	201(d)	Type A
899.	201(e)	Type A
900.	202(a)	Type A
901.	202(b)	Type A
902.	202(c)	Type A
903.	202(d)	Type A
904.	202(e)	Type A
905.	202(f)	Type A
906.	203(a)	Type A
907.	203(b)	Type A
908.	204(a)	Type A
909.	204(b)	Type A
910.	204(c)	Type A
911.	205(a)	Type A
912.	205(b)	Type A
913.	206(a)	Type A
914.	206(b)	Type A
915.	206(c)	Type A
916.	206(d)	Type A
917.	207	Type A
918.	208(1)	Type A
919.	208(2)(a)	Type A
920.	208(2)(b)	Type A
921.	208(2)(c)	Type A
922.	208(2)(d)	Type A
923.	208(2)(e)	Type A
924.	208(2)(f)	Type A
925.	208(2)(g)	Type A

Commencement

3. These regulations come into force on October 28, 2024.

Extraordinary Gazette Index

Title of Act and Subordinate Legislation made thereunder	CNLR or NL Reg.	Amendment	NL Gazette Date & Page No.
Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act			
Offshore Area Petroleum Operations Framework Regulations	NLR 71/24	R&S CNLR 1/96 NLR 16/97 NLR 18/97 NLR 120/09 NLR 20/97	Oct. 28/24 p. 3
Offshore Petroleum Administrative Monetary Penalties Regulations (Amendment)	NLR 72/24	Amends NLR 5/16 S.4 Amdt. Sch. A Amdt.	Oct. 28/24 p. 187