



DRAFT Safety Plan Guideline

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For more information, contact:

C-NLOPB
240 Waterford Bridge Road, Suite 7100
The Tower Corporate Campus – West Campus Hall
St. John's, NL, A1E 1E2
Tel: (709)778-1400
Fax: (709)778-1473

CNSOPB
201 Brownlow Avenue, Suite 27
Dartmouth, NS, B3B 1W2
Tel: (902)422-5588
Fax: (902)422-1799

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Foreword

The Canada-Nova Scotia Offshore Petroleum Board and Canada-Newfoundland and Labrador Offshore Petroleum Board (the *Regulators*) have issued this Guideline to assist operators in the development of a Safety Plan to meet the requirement of section 9 of the *Canada-Newfoundland and Labrador and the Canada-Nova Scotia Offshore Area Petroleum Operations Framework Regulations*. This Guideline applies to all works and activities conducted in the *Offshore Area*.

Guidelines are developed to provide assistance to those with statutory responsibilities (including operators, employers, employees, supervisors, providers of services, suppliers, etc.) under the *Accord Acts* and regulations. Guidelines provide an understanding of how legislative requirements can be met. In certain cases, the goals, objectives and requirements of the legislation are such that no guidance is necessary. In other instances, guidelines will identify a way in which regulatory compliance can be achieved.

The authority to issue Guidelines and Interpretation Notes with respect to legislation is specified by subsection 151.1 and 205.067 of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Act, S.C. 1987, c.3 (C-NLAAIA)*, subsection 147 and 201.064 of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act, RSNL 1990 c. C-2*, subsection 156(1) and 210.068 of the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, S.C. 1988, c.28 (CNSOPRAIA)* and subsection 148 and 202BQ(1) of the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act*. The *Accord Acts* also state that Guidelines and Interpretation Notes are not deemed to be statutory instruments.

For the purposes of this Guideline, these Acts are referred to collectively as the *Accord Acts*. Any references to the C-NLAAIA, the CNSOPRAIA or to the regulations in this Guideline are to the federal versions of the *Accord Acts* and the associated regulations.

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1.0 Acronyms and Abbreviations

BOP	Blowout Preventer
BST	Basic Survival Training
C-NLAAIA¹	<i>Canada-Newfoundland and Labrador Atlantic Accord Implementation Act</i>
C-NLOPB	Canada-Newfoundland and Labrador Offshore Petroleum Board
CNSOPB	Canada-Nova Scotia Offshore Petroleum Board
CNSOPRAIA²	<i>Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act</i>
CSO	Chief Safety Officer
DP	Dynamic Positioning
EEBD	Emergency Escape Breathing Device
EUBA	Emergency Underwater Breathing Apparatus
FIT	Formation Integrity Test
FLOT	Formation Leak-Off Test
FMEA	Failure Modes and Effects Analysis
GHS	Global Harmonized System
H₂S	Hydrogen Sulfide
HPHT	High Pressure High Temperature
HSE	Health, Safety and Environment
HUET	Helicopter Underwater Escape Training
MED	Marine Emergency Duties
OHS	Occupational Health and Safety

¹ References to the C-NLAAIA in this Guideline are to the federal version of the *Accord Act*

² References to the CNSOPRAIA in this Guideline are to the federal version of the *Accord Act*

POB	Personnel On Board
PPE	Personal Protective Equipment
ROV	Remotely Operated Vehicle
RPAS	Remotely Piloted Aircraft Systems
SCBA	Self-Contained Breathing Apparatus
WHMIS	Workplace Hazardous Materials Information System

2.0 Definitions

In this Guideline, the terms such as “authorization”, “development plan”, “employee”, “employer”, “hazardous substance”, “marine installation or structure”, “operator”, “passenger craft”, “personal protective equipment”, “providers of services”, “supervisor”, “supplier”, “workplace” and “workplace committee” referenced herein have the same meaning as in the *Accord Acts*.

Refer also to defined terms in both the *Framework Regulations* and *OHS Regulations*.

For the purposes of this Guideline, the following terms have been capitalized and italicized when used throughout. The following definitions apply:

<i>Accord Acts</i>	means the <i>Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act</i> and <i>Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act</i> , <i>Canada-Newfoundland Atlantic Accord Implementation Act</i> and the <i>Canada-Newfoundland and Labrador Atlantic Accord Implementation (Newfoundland and Labrador) Act</i>
<i>Framework Regulations</i>	means the <i>Canada-Newfoundland and Labrador Offshore Area Petroleum Operations Framework Regulations, SOR/2024-25</i> and the <i>Canada-Nova Scotia Offshore Area Petroleum Operations Framework Regulations, SOR/2024-26</i>
<i>Marine Installation or Structure</i>	means a “marine installation or structure” as defined in Part III.1 of the <i>Accord Acts</i> . For the purposes of this Guideline, it generally refers to any installation or vessel used in the conduct of authorized petroleum-related works or activities, excluding support craft.
<i>Offshore Area</i>	means an offshore area as defined by the <i>Accord Acts</i>

OHS Regulations	means the <i>Canada-Newfoundland and Labrador Offshore Area Occupational Health and Safety Regulations, SOR/2021-247</i> or the <i>Canada-Nova Scotia Offshore Area Occupational Health and Safety Regulations, SOR/2021-248</i>
Regulator	means the Canada-Newfoundland and Labrador Offshore Petroleum Board or the Canada-Nova Scotia Offshore Petroleum Board, as the case may be

3.0 Purpose and Scope

The objective of this Guideline is to assist an operator in the development and submission of a Safety Plan pursuant to section 9 of the *Framework Regulations* and to provide clarity on the information to be included. Safety Plans must accompany all applications for authorization pursuant to section 8 of the *Framework Regulations*. This includes the following types of works or activities:

- Production
- Well operations (e.g., drilling, completion, intervention, servicing, testing)
- Diving
- Construction
- Geoscientific
- Geotechnical
- Environmental

4.0 Submission of the Safety Plan

Pursuant to the *Accord Acts*³, the *Regulator* must consider the safety (and the occupational health and safety) of the work or activity by reviewing, in consultation with the CSO, the system as a whole and its components, including its structures, facilities, equipment, operating procedures and personnel. The *Regulator* reviews the Safety Plan submitted by an operator during its consideration of an application for an authorization in making this determination. The Safety Plan should demonstrate to both the *Regulator* and to personnel engaged in the work or activity that the operator has taken all reasonable and practicable steps to achieve safety, taking into account the interaction among all components of the work or activity, including structures, facilities, equipment, materials, procedures, personnel, suppliers, providers of service and other resources.

The Safety Plan may be submitted to the *Regulator* as one or several documents. All documents that constitute the Safety Plan must be listed within the application for authorization submitted to the *Regulator*. The document or documents submitted to fulfill the requirement for a Safety Plan should be the documents that would be used by all persons

³ C-NLAAIA 138.2 & 205.068; CNSOPRAIA 142.2 & 210.069

involved in the conduct of the authorized work or activity, including contractors, providers of service and suppliers.

The regulations require that the Safety Plan form part of the application for authorization and, as such, changes to the Safety Plan are not considered accepted for use until the *Regulator* has had an opportunity to consider the changes and amend the authorization to replace the previous version with the version that the operator has proposed.

5.0 Amendments to the Safety Plan

If the operator proposes an amendment to the authorization to change the scope of activities under the authorization, the Safety Plan and any associated risk assessments and measures may require amendment to reflect the changes in the scope. The revised Safety Plan will be reviewed by the *Regulator* as part of the amendment of the authorization and prior to the changes being implemented. Some additional guidance on Safety Plans is provided in section 9 of the *Framework Regulations*.

6.0 Contents

6.1 Management System

Pursuant to paragraph 9(2)(a) of the *Framework Regulations*, the Safety Plan must include specific references to and detailed descriptions of the provisions of the management system that relate to safety. Operators should refer to the detailed guidance on management systems provided in Part 3 of the *Framework Guideline*. With respect to OHS, refer also to the requirements for management systems and OHS programs under sections 205.015 and 205.02 of the *Accord Acts* and Part 2 of the *OHS Regulations* and its associated guidance.

With respect to an installation, from design to abandonment or removal, operators should also refer to the requirements and associated guidance under section 100 of the *Framework Regulations* with respect to quality management systems.

The following should be described:

6.1.1. Management System Standards

References to the standard(s) adopted with respect to the management system.
[Refer to the requirements and associated guidance for paragraph 4(1)(w) of the Framework Regulations]

6.1.2. Scope

The scope of the operator's management system should be described and should include a summary of how the management system of other contractors have

been integrated. *[Refer to the requirements and associated guidance for paragraphs 4(1)(b) and (c) of the Framework Regulations]*

6.1.3. Legal Requirements

With respect to safety, reference to the applicable requirements of the *Accord Acts*, regulations and any other legal requirements of the *Regulator* or other authorities should be included. The Safety Plan should refer to the management system processes for ensuring compliance and should describe the processes for identifying, tracking and monitoring the close-out of any non-compliance. A reference to any associated procedures should be included. *[Refer to the requirements and associated guidance for paragraph 4(1)(u) of the Framework Regulations]*

6.1.4. Policies and Objectives

With respect to safety, reference to the policies and objectives upon which the management system is based (e.g., OHS, quality) and where controlled and signed copies of policies are made available to persons working onboard the *Marine Installation or Structure* should be included. *[Refer to the requirements and associated guidance for paragraph 4(1)(w) of the Framework Regulations]*

6.1.5. Leadership Commitment and Culture

With respect to safety, a description of how the management system will ensure that the leadership of the organization – from onshore executives to supervisors at the operations site:

- provide the necessary supervision to ensure safety and the protection of the environment consistent with subsection 3(2) of *the Framework Regulations*;
- provide the necessary commitment, resources, oversight, participation and support in the execution and continual improvement of the management system; and
- foster a culture which supports ongoing and continual improvement to safety.

A reference to associated processes and procedures that have been established should be included. *[Refer to the requirements and associated guidance for paragraphs 4(1)(e) and (f) and 100(1)(g), subsections 5(1) and 5(2), and section 7 of the Framework Regulations]*

This should also include a description of the following:

- The right to know, right to participate and right to refuse (including the right to refuse travel on a passenger craft) along with reference to associated procedures. *[Refer to the requirements and associated guidance for sections 5 and 6 of the OHS Regulations]*

- The workplace committee structure along with a reference to the rules of procedure (e.g., terms of reference). *[Refer to the requirements and associated guidance for section 7 of the OHS Regulations]*

6.1.6. Contractors, Providers of Service and Suppliers

A description of the following should be provided along with reference to associated procedures:

- Processes for selection, integration and monitoring of contractors and providers of service. *[Refer to the requirements and associated guidance for paragraphs 4(1)(b), (c), (g) and (j) of the Framework Regulations]*
- Processes for purchasing materials or equipment. *[Refer to the requirements and associated guidance for paragraphs 4(1)(b), (c), (g) and (j) of the Framework Regulations]*
- Administrative and logistical support including the names of contractors and providers of service. *[Refer to the requirements and associated guidance paragraph 41(g) of the Framework Regulations]*
- Processes for maintaining POB data as a result of personnel movements. *[Refer to the requirements of paragraph 18(2)(c) of the OHS Regulations]*

6.1.7. Communication

A summary of the processes for internal and external communication of information with respect to safety should be included along with reference to associated procedures. This should include the following processes:

- HSE meetings
- Shift and tour handovers
- Toolbox talks and job safety analysis
- Hazard or incident communication
- Workplace committee meetings

Details of how language differences will be addressed, to ensure communication of safety related information is not compromised. *[Refer to the requirements and associated guidance for paragraphs 4(1)(j), (k), (l) and (z) and 41(c) of the Framework Regulations]*

6.1.8. Control of Documents

A description of the process for approval, review, provision and control of documents should be included along with a reference to associated procedures. *[Refer to the requirements and associated guidance for paragraphs 4(1)(r) and (x) and subsection 4(2) of the Framework Regulations]*

6.1.9. Control of Records

A description of the process for generation, control and retention of records should be included along with a reference to associated procedures. *[Refer to the requirements and associated guidance for paragraph 4(1)(y) of the Framework Regulations]*

6.1.10. Management of Change

A description of the processes in place for identifying, evaluating and managing any changes should be included along with reference to associated procedures. *[Refer to the requirements and associated guidance for paragraph 4(1)(q) of the Framework Regulations]*

Other elements of the management system are described in subsequent sections below.

6.2 Hazard Identification and Risk Assessment

Pursuant to paragraph 9(2)(b) of the *Framework Regulations*, the Safety Plan must include a summary of hazards, studies, risk assessments and measures. Operators should refer to the detailed guidance on hazard identification and risk assessment provided for paragraphs 4(1)(m) and (o) and section 41 of the *Framework Regulations*. With respect to section 9 of the *Framework Regulations*, subparagraphs 9(2)(b)(i), (ii), (iii), (iv) and (vii) apply to all works or activities, whereas, subparagraphs 9(2)(b)(v) and (vi) only apply to production, drilling or accommodations installations.

6.2.1. All Works or Activities

Description of processes

- A description of and reference to the formal processes in place for the ongoing identification of hazards, assessment and management of associated risks and the identification of measures should be provided. This should include a description of each type of methodology used, when it is to be used and the data used in support. In addition, a description of the qualifications of those leading and participating in the risk assessments should be included. Reference to associated procedures should be provided.
- A description of how hazards and associated measures will be monitored and audited and how changes to risk will be managed should be provided.
- A description of the processes in place for doing field identification (e.g., work permit process, job safety analysis, toolbox talks, supervision, behavioral based observations, inspections) of health and safety hazards and how the information generated by these processes are captured and fed into the management system to achieve continual improvement and reduction of risk.

Summary of Results

- A summary of and reference to all studies and risk assessments that have been completed, including any assessments done in relation to hazards by adjacent or simultaneous activities taking place near the work or activity.
- A summary of all measures to be maintained which either anticipate, avoid, prevent, reduce, mitigate or manage health and safety risks. The following should be noted:
 - Equipment-related measures, including specific inspection, testing and maintenance and the description of particular systems or equipment can be provided as part of the facility description referred to in section 4.3 of this Guideline.
 - Procedural-related measures can be provided as part of the description of operations and maintenance procedures as referred to in section 4.5 of this Guideline.
 - Training and competency-related measures can be provided as part of the description of training and competency procedures as referred to in section 4.7 of this Guideline.

If the measures are not included with the summary of risk assessments, the section of the Safety Plan which discusses hazard identification and risk assessments should clarify where these measures are documented.

Communication of Hazards and Measures

A summary of how hazards and associated measures will be communicated to all directly affected individuals, including contractors and providers of service should be provided. Hazards and measures should be documented in procedures, in associated bowtie diagrams or on associated risk registers.⁴

6.2.2. Production Projects

For a production project, the summary of results should also include a reference to any underlying assumptions and target levels of safety that have been made with respect to safety in the Concept Safety Analysis and associated safety studies and risk assessments. [*Refer to the requirements and associated guidance under section 24 of the Framework Regulations*]

6.2.3. Production, Drilling and Accommodations Installations

The following risk assessments and results should also be summarized:

⁴ It is useful to maintain a risk register and to map where/how the risk has been addressed as part of the management system, however, this is not required as long as the hazards and measures are clearly identified within appropriate procedures in the management system.

- Fire and explosion risk assessment(s) including factors associated with the initial release, ignition sources, outcomes, assumptions and measures. *[Refer to the requirements and associated guidance under section 107 of the Framework Regulations]*
- Hazardous gas risk assessment(s) including factors associated with the initial release, outcomes, assumptions and measures as it relates to protection of safety. *[Refer to the requirements and associated guidance under section 107 of the Framework Regulations]*
- Risk and reliability analysis in relation to major accidental events and the associated assumptions, outcomes and measures. *[Refer to the requirements and associated guidance under section 108 of the Framework Regulations]*
- Escape, evacuation and rescue analysis along with associated outcomes, assumptions and measures. *[Refer to the requirements and associated guidance under section 116 of the Framework Regulations]*

6.3 Facility Description

Pursuant to paragraph 9(2)(c) and subparagraphs 9(2)(b)(iii) and (iv) of the *Framework Regulations*, the Safety Plan must include a description of all installations or vessels that are to be used during the proposed work or activity and a description of their systems and equipment critical to safety. This description should also include or make cross-reference to any equipment-related measures identified from risk assessments, which are also required to be included in the Safety Plan.

Detailed guidance on requirements for systems and equipment which should be described are provided below. This list is not exhaustive and if there are other systems installed that pose a hazard to personnel or are systems that are critical to safety, those systems should also be described. Operators should also refer to the relevant cross-referenced sections of the regulations for requirements within each section and refer to the associated guidance on these systems and associated equipment.

The Safety Plan should include a description of the following based on the types of facilities that are planned to be used:

6.3.1. All Marine Installations or Structures

6.3.1.1. General

With respect to any system or equipment critical to safety, the following information should be included, if applicable:

- The classification of the *Marine Installation or Structure* along with any specific class notations to be maintained. *[Refer to the requirements and associated guidance in the following sections of the Framework Regulations: vessels used in GGE programs – section 56; diving vessels - paragraph 94(c)]*

*and (d); construction vessels - section 117; and floating production, drilling and accommodations installations - section 140*⁵

- Any related decisions and exemptions from Flag State requirements. *[Refer to the requirements and associated guidance for floating production, drilling and accommodations installations under section 151 of the Framework Regulations. Other types of vessels should also submit this information in relation to any IMO Code that has been adopted or has been incorporated by reference into either the OHS or Framework Regulations.]*
- Any regulatory exemptions or substitutions that have been approved by the CSO.
- Any CSO approvals of relevant sections of the *OHS Regulations*.
- Any conditions or commitments related to safety identified by the operator, *Regulator* or other authority located in any associated:
 - Development Plan
 - Environmental Assessment (under the *Accord Acts* or the *Canadian Environmental Assessment Act*)
 - Impact Assessment (under the *Impact Assessment Act*)

6.3.1.2. Accommodations

- The general layout or description of the accommodations should be provided along with the maximum amount of POB that can be accommodated during normal operations. *[Refer to the requirements and associated under Part 11 of the OHS Regulations and paragraph 41(g) of the Framework Regulations]*
- A description of the medical room, facilities and associated equipment should be provided along with reference to any additional measures identified as a result of risk assessments. If arrangement drawings are provided, they should display the location of the medical room, any associated rooms and equipment, the location of stretchers, the location of automated external defibrillator(s) and first aid kits. *[Refer to the requirements and associated guidance under Part 6 of the OHS Regulations]*
- A description of the potable water system should be provided along with reference to the potable water program and the associated standards that are planned to be followed. *[Refer to the requirements and associated guidance under section 71 of the OHS Regulations]*

6.3.1.3. Hazardous and Non-Hazardous Areas

A description of hazardous and non-hazardous areas should be provided. The description should include reference to the standards that were applied and include reference to and location of hazardous area drawings. A reference to the program in place for maintaining the integrity of classification, segregation and access of hazardous areas should also be provided. For drilling or production installations that are new builds or new to the jurisdiction, hazardous area

⁵ Fixed installations are not required under marine rules to have a certificate of class issued by a classification society.

drawings should be submitted. *[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 113 of the Framework Regulations and for all types of Marine Installations or Structures, section 26 of the OHS Regulations]*

6.3.1.4. Electrical Systems

A description of the electrical systems (e.g., power supply, distribution, grounding systems) and reference to the associated standards which have been applied for the selection, design, inspection, testing, maintenance and operations of these systems should be provided. This should include:

- Key criteria for the design (e.g., ingress protection, low temperature performance rating for cables, maximum operating temperature of electrical equipment).
- Requirements for hazardous area rated equipment.
- A description of any other measures put in place to address electrical hazards to personnel or other equipment (e.g., arc flash, electrocution, short circuiting).
- The minimum illumination levels applied to normal lighting and emergency lighting.
- For drilling and production installations, a reference to controlled information, such as a hazardous area electrical equipment register.

[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 122 of the Framework Regulations and for all types of Marine Installations or Structures under Parts 14 and 27 of the OHS Regulations]

6.3.1.5. Emergency Electrical Power

A description of the sources of emergency electrical power (e.g., generators, uninterruptible power supplies) should be provided along with a list of equipment that is supplied with power from this system. *[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 126 of the Framework Regulations and for all types of Marine Installations or Structures under section 24 of the OHS Regulations]*

6.3.1.6. Mechanical Equipment

A description of mechanical equipment in place should be provided and include the number and type of the following, as applicable: engines, turbines, generators and motors, pumps, compressors, heat exchangers, inert gas generators, fans, propulsion systems, anchor winches or windlasses, gears or gear trains, couplings, turrets, pigging or cleaning equipment, offloading stations, bulk transfer stations and other machinery, including any associated utility

systems. Information should not be duplicated if the equipment is described under another section. For a production, drilling or accommodations installation, the description should include all features relevant to safety, including measures to prevent loss of containment of hazardous substances, to prevent contact with exposed moving, rotating, electrically charged or hot equipment and to prevent ignition of potentially hazardous atmospheres (e.g., spark arrestors, flame arrestors, temperature rating) and all associated critical safety devices (e.g., overspeed devices, trips). In addition, for a production, drilling or accommodations installation, any operating or physical and environmental condition limits should also be included. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included. *[Refer to the requirements and associated guidance under section 136 of the Framework Regulations for production, drilling or accommodations installations and for all types of Marine Installations or Structures under Part 18 of the OHS Regulations]*

6.3.1.7. Pressure Systems

A description of pressure systems certification (including the authorized inspection agency), design, operation, testing, maintenance and repair (including temporary repairs) should be provided and include a reference to measures in place for the safety of personnel (e.g., pressure relief system, pressure safety valves, bunding, closed drains, open drains). A reference to the standards for design, operation and maintenance should be provided. For a production, drilling or accommodations installation, a reference to other relevant information, such as a pressure equipment register, should also be included. *[Refer to the requirements and associated guidance for production, drilling or accommodations installations under section 135 of the Framework Regulations and for all types of Marine Installations or Structures under Part 27 of the OHS Regulations]*

6.3.1.8. Ventilation Systems

A description of the ventilation systems for the accommodations, smoking rooms, non-hazardous and hazardous areas should be provided along with associated controls for maintaining positive or negative pressure, if required. For each system, a reference to the codes and standards used for the design, operation and maintenance should be included. The description of the general ventilation systems (excluding local exhaust ventilation) should also include:

- The number of air changes provided by each system.
- The temperature and humidity levels to be maintained.
- The system in place for monitoring a loss of ventilation.

For installations, refer also to section 4.3.3.9 of this Guideline. *[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 114 of the Framework Regulations and for all types of Marine Installations or Structures under Part 16 of the OHS Regulations]*

6.3.1.9. Marine Systems

For vessels that are not production, drilling or accommodations installations, a description of the marine systems should be provided. This should include a summary of navigation systems, propulsion systems, DP systems, ballast and bilge systems and watertight integrity. For installations, refer to Section 4.3.3 of this Guideline. *[Refer to the requirements and associated guidance under section 41 of the Framework Regulations]*

6.3.1.10. Communication Systems

A description of the communication system and arrangements for maintaining the validity of associated radio inspection certificates should be provided. The description should include a list of all communication systems including the public address system, internal and external communication systems and emergency communication systems. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included. *[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 129 of the Framework Regulations; for all types of Marine Installations or Structures, under section 23 of the OHS Regulations; and for dive vessels, paragraph 171(1)(n), subsection 171(3) and section 172 of the OHS Regulations]*

6.3.1.11. General Alarm Systems

A description of the general alarm system should be provided and include a description of audible and visual alarms (e.g., fire and gas alarms, prepare to abandon alarms). This description should also include reference to manual alarm call points, if installed. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included. *[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 130 of the Framework Regulations and for all types of Marine Installations or Structures, under section 23 of the OHS Regulations]*

6.3.1.12. Fire and Gas Detection System

A description of the fire and gas detection systems should be provided and include details of the scope and location of the different types of detection

systems used and details on manual and automatic activation. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included. For drilling and production installations, associated alarm set points, voting logic, executive actions, etc., for each type that is used should also be described and references to associated fire and gas cause and effects diagrams should be included. *[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 132 of the Framework Regulations and for all types of Marine Installations or Structures, section 23 of the OHS Regulations]*

6.3.1.13. Fire Protection Systems

A description of the fire protection systems and equipment should be provided and include firewater and foam supply systems, deluge systems, hose reels, monitors, hydrants, general and local fire suppression systems, sprinkler systems, fire extinguishers and firefighting equipment, as applicable. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included. *[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 134 of the Framework Regulations and for all types of Marine Installations or Structures, sections 26, 27 and 28 of the OHS Regulations]*

6.3.1.14. Aircraft Landing Areas and Equipment

A description of the aircraft landing area (e.g., helicopter deck) and associated equipment should be provided and a reference to the standards being used for its design, operations and maintenance should be included. The description should include:

- Identification of the size, weight and type of aircraft that the aircraft landing area can accommodate and any associated parking area.
- Identification of any operation restrictions for the aircraft landing area (e.g., wind, heave, pitch, roll, visibility, turbulence, venting or exhaust releases).
- Identification of any obstructions in the obstacle free sector or limited obstacle sector and measures taken to reduce risks. (e.g., lowering of Preferred Orientation and Displacement (PrOD) booms).
- A reference to the standards for helicopter passenger transportation suit system and EUBA.

[Refer to the requirements and associated guidance for all types of Marine Installations or Structures under sections 174, 175 and 176 of the Framework Regulations and section 51 of the OHS Regulations]

6.3.1.15. Materials Handling Equipment

A description of all materials handling equipment (e.g., cranes, lifting devices, containers, loose lifting gear, drilling hoisting equipment, equipment used for the lifting of personnel, equipment used for subsea lifting) should be provided along with reference to standards that are being applied for their design, operation and maintenance. In addition, a list and the associated capacity of each laydown area should be provided. Any operating or physical and environmental condition limits for equipment that may be impacted should also be specified (e.g., wind, sea state, rated capacities for different modes of operation). If equipment is being used for lifting personnel, information should be provided to demonstrate that it has been rated and certified to do so by a competent person. *[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 137 of the Framework Regulations and for all types of Marine Installations or Structures, Part 24 of the OHS Regulations]*

6.3.1.16. Elevators and Personnel Lifts

A list of all elevators and personnel lifts should be provided and include its type and the purpose for which it will be used. Any operating or physical and environmental condition limits should also be included. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included and include a description of the competent persons (or organizations) who certify, inspect, test and maintain this equipment. *[Refer to the requirements and associated guidance under Part 19 of the OHS Regulations]*

6.3.1.17. Scaffolding, Ladders and Platforms

A reference to the standards in place for the design, use and inspection of portable ladders, scaffolding or platforms should be provided and a reference to the procedures for their use should be included. *[Refer to the requirements and associated guidance under Parts 20 and 21 of the OHS Regulations]*

6.3.1.18. Dropped Object Protection

A description of equipment put in place to prevent falling objects from posing a risk to persons along with reference to standards for design and inspection and associated procedures. *[Refer to the requirements and associated guidance under Part 23 of the OHS Regulations]*

6.3.1.19. Storage Areas for Hazardous Substances

For all hazardous substances, chemical substances and waste material, including radioactive materials or devices, explosives and compressed gases, a description of the various storage and segregation arrangements and associated protection measures for each storage area should be provided. *[Refer to the requirements and associated guidance under section 45 of the Framework Regulations and Parts 28, 30 and 31 of the OHS Regulations]*

6.3.1.20. Emergency Eye Wash and Shower Equipment

The location, number and type of emergency eye-wash and shower equipment should be provided and a reference to the standards being applied for their design, installation, operation, testing and maintenance should be included. *[Refer to the requirements and associated guidance under paragraph 157(1)(l) of the OHS Regulations]*

6.3.1.21. Escape Arrangements and Muster Areas

A description of the escape and evacuation routes and muster areas should be provided and include a description of the measures in place to allow the successful implementation of emergency response plans. The measures should include a description of ventilation systems, fire and explosion protection, signage, markings, lighting and PPE which are provided to enable personnel to safely escape to a muster area (or temporary safe refuge, if installed) and then to an evacuation station. A reference to the codes and standards for the design, maintenance, inspection and testing of these systems and associated equipment should be described. Associated escape, evacuation and life-saving plans should be provided and include the location of stretchers, smoke hoods, EEBDs, SCBAs, grab bags and emergency descent control devices. *[Refer to the requirements and associated guidance for production, drilling and accommodations installations under sections 116, 117 and 118 of the Framework Regulations and for all types of Marine Installations or Structures, sections 21, 22 and 25 of the OHS Regulations]*

6.3.1.22. Life-saving and Rescue Equipment

A description of the following should be included:

- Lifeboats, evacuation stations, launching devices, life rafts, immersion suits, lifejackets, lifebuoys, fast rescue boats, pyrotechnic distress signals, ladders, etc., along with reference to the codes or standards used for their design, maintenance, inspection and testing of these systems and associated equipment.
- Associated life-saving plans should be provided or information included in the description as to the quantity, capacity and location of life-saving equipment.

- Confirmation that the evacuation equipment sizing and capacity is suitable for the demographics of personnel in the operating region.
- Confirmation that personal survival equipment has been appropriately distributed.
- For production, drilling and accommodations installations, the operating (e.g., trim, heel) and physical and environmental condition limitations (e.g., wind, temperature, sea state, pack ice) for the use of launched equipment should be specified.

[Refer to the requirements and associated guidance for production, drilling and accommodations installations under section 119 of the Framework Regulations and for all types of Marine Installations or Structures, sections 21, 29 and 46 of the OHS Regulations]

6.3.2. Support Craft

In addition to the information requirements described under section 4.3.1 of this Guideline, the following should be described for all works or activities. For longer term programs, the functional specifications for all support craft used in a work or activity, including standby vessels, any aircraft or vessel used for passenger transport and search and rescue, RPAS, ROVs, shuttle tankers, etc., should be provided. For a short term program (less than six months), specifications and certification for the vessel(s) involved in the program may be submitted in lieu of a functional specification. *[Refer to the requirements and associated guidance under paragraph 41(g) of the Framework Regulations and for dive projects, paragraph 171(1)(e) of the OHS Regulations]*

6.3.3. Production, Drilling and Accommodations Installations

In addition to the information requirements described under section 4.3.1 of this Guideline, the following should be described with respect to production, drilling and accommodations installations:

6.3.3.1. Design for Physical and Environmental Conditions

The physical and environmental conditions that the installation or pipeline has been designed to operate in and a reference to the relevant standards and data used to assess the suitability of the design should be provided. *[Refer to the requirements and associated guidance under sections 104 and 105 of the Framework Regulations]*

6.3.3.2. Physical and Environmental Conditions Monitoring Equipment

A description of the equipment used for monitoring physical and environmental conditions should be provided along with reference to the standards applied for

their design, operation and maintenance. In addition, reference to third party certification (e.g., inspection and calibration) of the equipment should be provided. *[Refer to the requirements and associated guidance under section 109 of the Framework Regulations]*

6.3.3.3. Seafloor Strength and Stability

With respect to the placement of any foundation, installation, pipeline, subsea production system, template, wellhead, conductor and mooring system, confirmation should be provided that appropriate geophysical or geotechnical data has been acquired and the placement has been appropriately designed and selected for that location. *[Refer to the requirements and associated guidance under sections 104 and 105 of the Framework Regulations]*

6.3.3.4. Foundation Monitoring Equipment

With respect to placement of any foundation, a description of the equipment in place for monitoring the structure or its foundations along with reference to their associated monitoring, inspection, testing and maintenance should be provided. *[Refer to the requirements and associated guidance under sections 104 and 105 of the Framework Regulations]*

6.3.3.5. Winterization

For operations in winter months, a description of equipment in place that either provide protection during colder months (e.g., heat tracing) or are required to remove snow and ice accretion. *[Refer to the requirements and associated guidance under section 104 of the Framework Regulations]*

6.3.3.6. Structures

A reference to the standards applied for the design, inspection and maintenance of the structural components of an installation or pipeline should be provided along with reference to key criteria related to the selected structural philosophy (e.g., coatings, material loss) for various structural aspects. The description should include a discussion of primary structures and other structures critical to safety. *[Refer to the requirements and associated guidance under section 105 of the Framework Regulations]*

6.3.3.7. Materials

A description of the standards that have been applied for the design, construction and repair of equipment, structures, piping, floors, guardrails, insulating materials, ceilings and linings, primary deck coverings, surface finishes and other equipment. Reference to associated procedures should be provided and include

procedures in place for the management of the quantity and integrity of materials such as scaffolding, dunnage, etc. *[Refer to the requirements and associated guidance under section 111 of the Framework Regulations]*

6.3.3.8. Passive Fire and Blast Protection

A description of the passive fire protection and blast protection systems should be provided along with reference to associated standards used for the design, installation, inspection, testing and maintenance of these systems. This should include a description of the following:

- The layout of the installation and equipment which provides for inherent safety in providing passive fire and blast protection.
- The design of equipment and structures to provide inherent safety, including protection for valves and cables.
- The amount and type of passive fire protection and blast protection necessary to maintain the integrity of structural supports, floors, fire divisions, safety-critical equipment and associated support systems.
- Components of fire divisions, such as doors, windows, glass walls, penetrations (including piping, cables and ductwork), draft stops, joints, drains and dampers.
- Arrangements for bunding, open and closed hazardous drains systems and associated fire seals.

For installations that are new builds or new to the jurisdiction, arrangements drawings which describes the associated fire and blast divisions should be provided. *[Refer to the requirements and associated guidance under section 112 of the Framework Regulations]*

6.3.3.9. Ventilation Systems

In addition to section 4.3.1.8 of this Guideline, for drilling and production installations, the following should be described:

- The systems in place for monitoring a loss in differential pressure.
- A reference to interrelated systems (e.g., fire dampers, fire/gastight doors and airlocks) and associated closure times and alarms.

[Refer to the requirements and associated guidance under section 114 of the Framework Regulations]

6.3.3.10. Temporary Safe Refuge

The location and description of the temporary safe refuge(s) should be provided along with interfaces to other systems, such as ventilation, fire and gas detection and passive fire and blast protection. A reference to the codes and standards for the design, maintenance, inspection and testing of these systems and associated equipment should be described. The minimum time during which the temporary safe refuge will maintain positive pressurization and its associated protection

from fires and explosions should be described. *[Refer to the requirements and associated guidance under section 117 of the Framework Regulations]*

6.3.3.11. Life-saving and Rescue Equipment

In addition to section 4.3.1.22 of this Guideline, a description of enhanced evacuation systems and other measures that have been applied as a result of the escape, evacuation and rescue analysis conducted pursuant to section 116 of the *Framework Regulations* should be provided. The minimum time to muster, don immersion suits, prepare and board life-saving appliance(s) and launch and the minimum time provided for protection from fires and explosions should be specified. If maintenance turnarounds are planned and involve additional personnel being placed onboard, separate CSO approval may be required pursuant to subsection 63(3) of the *OHS Regulations*. In these circumstances, a reference to the updated escape, evacuation and rescue analysis should be provided along with a list of associated changes that will be made to the quantity, capacity and location of life-saving equipment and other associated measures. In addition, a reference to the codes and standards for the design, maintenance, inspection and testing of these systems and associated equipment should be described. Reference to any CSO approval and associated measures should be specified. *[Refer to the requirements and associated guidance under section 119 of the Framework Regulations]*

6.3.3.12. Ignition Prevention

The measures in place to reduce and manage all potential ignition sources should be described and include a description of the associated inspection, testing and maintenance procedures in place for equipment. *[Refer to the requirements and associated guidance under section 115 of the Framework Regulations and paragraph 91(1)(j) of the OHS Regulations]*

6.3.3.13. Lights and Sound-Signalling Appliances

A description of the navigation lights and sound-signalling appliances should be provided. Confirmation should be provided that the equipment remains available in the event of an emergency (refer to emergency power systems) and that they are suitable for operation in a hazardous environment. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included. *[Refer to the requirements and associated guidance under section 127 of the Framework Regulations]*

6.3.3.14. Radar

A description of the radar systems should be provided. Confirmation should be provided that the equipment remains available in the event of an emergency (refer to emergency power systems) and that they are suitable for operation in a

hazardous environment. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included. *[Refer to the requirements and associated guidance under section 128 of the Framework Regulations]*

6.3.3.15. Air Gap

The minimum air gap should be specified. *[Refer to the requirements and associated guidance under section 141 of the Framework Regulations]*

6.3.3.16. Stability

For floating platforms, the following should be provided with respect to stability:

- A reference to the standards and criteria used in determining intact and damage stability.
- A summary of inclining tests, deadweight surveys or lightship surveys, including dates of completion and results (i.e., changes in lightship weight and longitudinal center of gravity), as applicable, and plans and criteria for future tests or surveys.
- A description and reference to procedures and manuals in place for ongoing monitoring and recording of stability criteria and a description of the loading computer, if equipped.
- A reference to damage stability limits and conditions, including any limits set for certain operations (e.g., cargo, ballasting).
- Information on weathertight and watertight closures, with details of the open and close status monitoring.

[Refer to the requirements and associated guidance under section 142 of the Framework Regulations]

6.3.3.17. Ballast and Bilge Systems

For floating platforms, a description of the main and secondary ballast and bilge systems, if equipped, should be provided. The description should include location and capacities of tanks, location and capacities of pumps, description of control valves, confirmation of equipment on emergency power supply and a description of associated control and monitoring systems, including manual systems. The minimum times required to change from operating and transit drafts to survival draft should be specified and include associated operational limits (e.g., trim, list). A reference to the standards that have been applied for the selection, design, installation, operation and maintenance should be included. *[Refer to the requirements and associated guidance under section 144 of the Framework Regulations]*

6.3.3.18. Watertight Integrity

For floating platforms, a description of the arrangements in place to ensure watertight integrity should be provided. The description should include, as applicable, watertight compartments and systems in place for monitoring their integrity (e.g., leak detection), a description and location of all watertight doors, hatches, anti-flooding devices (e.g., ventilation inlets/outlets, air pipes) and their associated control and monitoring systems. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance should be included. *[Refer to the requirements and associated guidance under section 145 of the Framework Regulations]*

6.3.3.19. Mooring System

If equipped, a description of the mooring system should be provided. The scope of the description should include the following, if applicable: anchor winches/windlasses, fairleads, capstans, mooring lines, anchors/piles, mooring buoys, primary and secondary mooring disconnect systems, turrets and associated monitoring systems. Any operating or physical and environmental condition limits with respect to the mooring and the performance requirement for disconnectable mooring systems should be included. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance should also be included. *[Refer to the requirements and associated guidance under sections 146, 147 and 148 of the Framework Regulations]*

6.3.3.20. Dynamic Positioning System

If equipped, a description of the DP system, disconnect system and associated control and monitoring systems should be provided. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of the system should be included. Any operating or physical and environmental condition limits with respect to the system and the frequency and scope of DP trials and audits should also be specified. *[Refer to the requirements and associated guidance under sections 146, 149 and 150 of the Framework Regulations]*

6.3.3.21. Bulk Transfer System

A description of the equipment in place for transferring liquids or solids, including fuel, sewage, grey water, oily water, potable water, drilling fluids, barite, etc., and reference to standards for design, operation, inspection and maintenance should be provided. *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*

6.3.3.22. Emergency Shutdown System

A description of the emergency shutdown system should be provided. It should include a description of the hierarchy of the levels of shutdown and associated actions for each level. It should make reference to associated critical input devices (e.g., push buttons, alarms, trips), critical outputs (e.g., electrical isolation, emergency shutdown valves, emergency depressurization valves, activation of fire protection) and interfaces to other systems. The response time, leakage rates and fire performance associated with shutdown and emergency depressurization valves and the time for depressurization should also be included. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included and include a reference to associated cause and effect diagrams. *[Refer to the requirements and associated guidance under section 133 of the Framework Regulations]*

6.3.3.23. Gas Release System

A description of any gas release system (which includes flaring systems for production or well testing, pressure relief systems, depressurizing systems and cold vent systems) should be provided. Production installations should also include a description of the flaring system (including the flare knock out drum and its redundant ignition capabilities) and any key limits to be monitored during periods of continuous or emergency flaring including noise, rates, thermal radiation to personnel or thermal radiation to equipment. A reference to any applicable studies that have been done with respect to noise, thermal exposure, computational fluid dynamics and gas dispersion analysis should be included and any associated measures should be described (e.g., water spray, shielding, procedural controls). A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems should be included and include reference to hazardous area equipment drawings that show the location of any exhausts or vents. In addition, commitments respecting initial and periodic measurement of thermal radiation and noise levels should be outlined. *[Refer to the requirements and associated guidance under section 131 of the Framework Regulations]*

6.3.3.24. Corrosion Protection Systems

A description of corrosion protection and prevention systems should be provided along with any parameters which should be monitored for critical areas such as decks, structural members, guardrails, etc. A reference to the standards for design, operation and maintenance should be provided. *[Refer to the requirements and associated guidance under section 155 of the Framework Regulations]*

6.3.3.25. Control and Monitoring Systems

A description of control systems (including programmable electronic, electronic, electrical, hydraulic, pneumatic and mechanical), integrated software dependent systems and monitoring systems should be provided. This should summarize, as applicable, the process control system, drilling control system, marine control system, emergency control system and other control systems, as applicable. A summary of key critical devices, executive actions (e.g., high level alarms, trips) and key interfaces with other systems should be provided. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems and reference to standards that have been applied for consideration of human factors and alarm system management should be included. *[Refer to the requirements and associated guidance under sections 123, 124, 125 and 169 of the Framework Regulations]*

6.3.3.26. Utility Systems

A description of associated utility systems should be provided including seawater handling systems, fuel systems, non-potable water systems, hydraulic systems, service air systems, instrument air systems, nitrogen or inert gas generation systems, non-hazardous open drains systems, hazardous open drains system and closed drain systems. The description of each system should include the following:

- Number, configuration and type of equipment that makes up the system.
- Key operating parameters (e.g., pressure, flow, temperature) for the system.
- A description of equipment installed to protect the integrity of the system, as applicable.
- Reference to standards for the design, operation and maintenance of the system.

The above should be supplemented with basic general arrangement or process flow diagrams. *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*

6.3.3.27. Third Party and Temporary Equipment

The minimum requirements for any third party and temporary equipment to be used or introduced onboard the installation which have the potential to result in hazard to safety or which may impact safety-critical systems should be described. This description should include specifics for larger pieces of equipment (e.g., mud logging units, wireline units, coiled tubing units, ROV systems), required interfaces to other systems and should refer to procedures for management of other types of equipment. Any standards with respect to the design, operation and maintenance of equipment (in addition to what is specified generally for equipment) should be referenced. *[Refer to the requirements and associated guidance under section 139 of the Framework Regulations]*

6.3.3.28. Transportation and Installation

If an installation or any component of an installation is being transported and installed, the following should be included:

- A reference to the standards that have been applied for the activity or for the design and operation of associated equipment (e.g., towing, navigation or other temporary systems)
- A description of all additional equipment being utilized (e.g., towing, navigation or other temporary systems) including those that are installed on other vessels for the purposes of carrying out the activity.
- A description of any on-site monitoring conducted by a competent third party during the activity, if applicable.

[Refer to the requirements and associated guidance under section 121 of the Framework Regulations]

6.3.3.29. Self-Elevating Mobile Platforms

With respect to self-elevating mobile platforms, a description of systems specific to this type of platform should be provided and include jacking mechanisms, legs, spud cans, jetting systems, cantilevered systems (if equipped) and towing arrangements (if not self-propelled). A description of associated monitoring systems and a reference to the standards that have been applied for the design, installation, operation and maintenance of these systems should also be included. *[Refer to the requirements and associated guidance under section 143 of the Framework Regulations]*

6.3.3.30. Safety Zone

The approved safety zone around a fixed installation (including any fixed subsea assets and pipelines) should be provided. *[Refer to the requirements and associated guidance under section 173 of the Framework Regulations]*

6.3.4. Production

In addition to the information requirements described under section 4.3.1 and 4.3.3 of this Guideline, the following should also be described only with respect to production installations:

6.3.4.1. Subsea Production Systems

A description of subsea production systems should be provided and include a reference to the standards being used for its design, operations, inspection, testing and maintenance. This description should include foundations, templates, manifolds, subsea processing equipment, the production control and monitoring system, chemical injection system, umbilicals, flowlines, risers, pigging or

cleaning equipment, valves, other monitoring systems for stress and load, and associated well entry and intervention system equipment (for installation or removal, inspection, testing and maintenance). In addition, if a high integrity pressure protection system (HIPPS) is utilized, details should be provided. Any physical and environmental or operational limitations with respect to the above equipment or systems should also be specified. *[Refer to the requirements and associated guidance under section 138 of the Framework Regulations]*

6.3.4.2. Surface Production Systems

A description of the surface production systems should be provided and should include separation systems, chemical treatment systems, gas compression systems, gas lift systems, fuel gas systems, produced water systems, water injection systems, storage systems, inerting systems and associated utility systems. The description of each system should include the following:

- Number, configuration and type of equipment that makes up the system.
- Key operating parameters (e.g., pressure, flow, temperature) for the system.
- Any physical and environmental condition or operational limitations with respect to the system.
- A description of equipment installed to protect the integrity of the system, as applicable.
- Reference to standards for the design, operation and maintenance of the system.

The above should be supplemented with basic general arrangement or process flow diagrams. *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*

6.3.4.3. Metering System

A description of the metering system should be provided along with reference to standards for the design, operation and maintenance of the system. *[Refer to the requirements and associated guidance under sections 14, 77, 135 and 136 of the Framework Regulations]*

6.3.4.4. Offloading System

A description of the offloading system should be provided along with reference to standards for the design, operation and maintenance of the system. *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*

6.3.4.5. Pipelines

A description of pipeline(s), if applicable, and associated equipment should be provided and include a reference to the standards being used for its design,

operations and maintenance. This should include a description of pigging arrangements, contingency plans for flushing if it is exposed to marine hazards (e.g., anchor dragging, iceberg scour) and references to associated procedures. *[Refer to the requirements and associated guidance under section 168 of the Framework Regulations]*

6.3.5. Well Operations

In addition to the information requirements described under section 4.3.1 and 4.3.3 of this Guideline, the following should also be described only with respect to installations conducting well operations:

6.3.5.1. Drilling Fluid System

A description of the drilling fluid system and the associated monitoring equipment should be included. This should include the high pressure mud system, low pressure mud system, bulk system, trip tanks, shakers, cement system, mud conditioning system, degassing system, mud logging unit and cuttings cleaning system. A reference to codes or standards applied for the design, inspection, testing, operation and maintenance should be included. *[Refer to the requirements and associated guidance under section 163 of the Framework Regulations]*

6.3.5.2. Well Control Equipment

A description of the well control equipment (e.g., for drilling, coil tubing, slick line and wire line operations) should be provided along with reference to its maximum rated pressure and the standards applied for its design, operation and maintenance. This should include BOPs, diverters, choke manifold and associated control and monitoring systems. In addition, a description of the emergency back-up well control systems (e.g., deadman, autoshear) for subsurface drilling programs and the plans for arming these systems during well operations should also be provided. *[Refer to the requirements and associated guidance under section 68 of the Framework Regulations]*

6.3.5.3. Casing and Cement

A reference to the standards and criteria for design of casing and cement should be provided. With respect to the casing, this should include particulars related to the conditions, forces and stresses it will be designed for (e.g., burst, collapse, tension), the objectives of the casing design and details of the casing pressure testing program and criteria for a successful pressure test. *[Refer to the requirements and associated guidance under section 69 of the Framework Regulations]*

6.3.5.4. Completions

For production projects, typical completion schematics for wells should be provided. A reference to the standards that will be applied for production tubing and any additional load factors to be considered based on the operating conditions should be included. *[Refer to the requirements and associated guidance under sections 71 and 72 of the Framework Regulations]*

6.3.5.5. Subsurface Safety Valves

For each type of well, the approximate location and type of all downhole safety valves and the associated testing frequency and performance criteria should be provided. A reference to the standards for the design, operation, maintenance and testing should also be provided. *[Refer to the requirements and associated guidance under section 165 of the Framework Regulations]*

6.3.5.6. Drilling Riser System

A description of the drilling riser system (including flex joints, telescopic joints, lower marine riser package, drilling (marine) riser and riser tensioning system) should be provided, along with reference to where the specific operating and physical and environmental condition limitations will be located. Confirmation that a drilling riser analysis and a weak point analysis, and the associated verification by the Certifying Authority will be conducted for each well location, if required. A reference to the codes and standards that have been applied for the design, operations and maintenance of these systems should be included. *[Refer to the requirements and associated guidance under section 164 of the Framework Regulations]*

6.3.5.7. Wellheads, Trees and Tubulars

A description of wellheads and trees should be provided and include a reference to the standards to which they have been designed and will be operated, inspected, tested and maintained against. A reference to the wellhead fatigue analysis and plans for pressure testing should be included. *[Refer to the requirements and associated guidance under section 166 of the Framework Regulations]*

6.3.5.8. Formation Flow Test Equipment

If formation flow testing is planned, the equipment to be used and the standards to be applied for their design, operation, testing and maintenance should be described. In addition, any interfaces with the emergency shutdown system and other systems should be described. *[Refer to the requirements and associated guidance under section 167 of the Framework Regulations]*

6.3.6. Diving

In addition to the information requirements described under section 4.3.1 of this Guideline, the following should also be described with respect to *Marine Installations or Structures* carrying out diving activities.

6.3.6.1. Diving System

A description of the diving system should be provided and include the following, if equipped: compression chamber(s), diving bell(s), lifting equipment, divers personnel equipment, breathing air system, thermal control system, emergency locating devices, diver communication systems, hyperbaric evacuation systems, hyperbaric reception facilities, life support packages, associated monitoring systems and associated interfaces with support systems (e.g., emergency power system). A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems and a reference to any physical and environmental condition limitations should be included. In addition, the FMEA and associated measures should be described. *[Refer to the requirements and associated guidance under paragraphs 171(1)(j) and (k) and section 172 of the OHS Regulations and section 94 of the Framework Regulations]*

6.3.6.2. Dynamic Positioning System

A description of the DP system and associated control and monitoring systems and a reference to the standards that have been applied for the selection, design, installation, operation and maintenance should be included. Any operating or physical and environmental condition limits with respect to the system and the frequency and scope of DP trials and audits should be provided. In addition, the FMEA and associated measures should be described. *[Refer to the requirements and associated guidance under paragraphs 171(1)(j) and (k) and section 172 of the OHS Regulations and section 95 of the Framework Regulations]*

6.3.6.3. Diving Equipment Tests

A description of all diving equipment tests that will be completed prior to start of the diving project should be provided including, for saturation diving, the mating trial between hyperbaric lifeboats and the reception facility. *[Refer to the requirements and associated guidance under subparagraph 172(3)(f)(ii) of the OHS Regulations]*

6.3.6.4. Schematic Diagrams

The diagrams indicating the distance at various depths from a diver to the vessel's propulsion system components and other hazards to the diver and their umbilical

should be provided and include reference to the corresponding safe umbilical lengths. *[Refer to the requirements and associated guidance under paragraph 171(1)(g) of the OHS Regulations]*

6.3.6.5. Light Dive Craft

A description of the light dive craft and associated equipment should be provided and include any additional equipment which has been placed on the mother craft to support the light dive craft diving project. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of the arrangement and a reference to any physical and environmental condition limitations should be included. *[Refer to the requirements and associated guidance under section 96 of the Framework Regulations]*

6.3.6.6. Safety Zone

The safety zone around the diving operation should be described. *[Refer to the requirements and associated guidance under section 173 of the Framework Regulations]*

6.3.7. Construction

In addition to the information requirements described under section 4.3.1 of this Guideline, a description of associated construction equipment should be provided and include any associated removal or dumping systems. Any hazards (e.g., high pressure, noise, electrical, chemical, collision with subsea assets) associated with the use of this equipment should be summarized and reference made to the measures that have been put in place to reduce the risks to the safety of personnel. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems and a reference to any physical and environmental condition limitations should be included. *[Refer to the requirements and associated guidance for equipment under the OHS Regulations and general requirements under section 41 of the Framework Regulations]*

6.3.8. Geoscientific, Geotechnical and Environmental

In addition to the information requirements described under section 4.3.1 of this Guideline, the following should also be described with respect to *Marine Installations or Structures* or aircraft carrying out geoscientific, geotechnical or environmental activities.

- A description of equipment should be provided along with reference to associated operations and maintenance manuals. Any hazards (e.g., high

pressure, noise, electrical, chemical, collision with subsea assets) associated with the use of this equipment should be summarized and reference made to the measures that have been put in place to reduce the risks to safety. A reference to the standards that have been applied for the selection, design, installation, operation and maintenance of these systems and reference to any physical and environmental condition limitations should be included. *[Refer to the requirements and associated guidance under Part 7 of the Framework Regulations]*

- For programs carried out from a vessel:
 - If temporary equipment or structures have been installed onboard for the purposes of the activity, confirmation should be provided that all equipment and the associated sea fastening has been properly designed, installed and certified by a competent third party and that the equipment meets any other requirements of the *Framework Regulations* or *OHS Regulations* with respect to its design and installation. A description of any changes affecting certification or design of the vessel should be provided along with confirmation that the Flag State and classification society have reviewed and approved any changes. *[Refer to the requirements and associated guidance under section 52 of the Framework Regulations]*
 - The safety zone around the geoscientific, geotechnical or environmental activity should be described. *[Refer to the requirements and associated guidance under section 173 of the Framework Regulations]*
 - Verification should be provided that all fixed materials handling equipment (e.g., cranes, winches, a-frames) and loose (e.g., wire ropes, slings, chains, fittings) lifting gear to be used in the activity have been certified by a qualified third party inspector within the prescribed frequency. *[Refer to the requirements and associated guidance under section 128 of the OHS Regulations]*
- For programs carried out from an aircraft:
 - A description of safety, communication and navigation equipment should be provided.

6.4 Asset Integrity

Pursuant to paragraph 9(2)(c) of the *Framework Regulations*, the Safety Plan must include a brief description of the systems in place for the inspection, testing and maintenance of systems and equipment critical to safety. General guidance on this topic is also provided in Part 3 of the Framework Guideline.

The following should be provided:

6.4.1. All Works or Activities

A brief description of the system in place for the inspection, testing and maintenance of all structures, facilities, equipment and systems critical to safety should be provided. This should also include a brief description of the scope of what the system applies to and the competency of personnel performing inspection, testing and maintenance activities, including third party contractors.

In the development of the above, refer to the requirements and associated guidance in both the *Framework Regulations* and *OHS Regulations*, including reference to prescribed standards or any standards that have been adopted. In particular, reference should be made to paragraph 41(e) of the *Framework Regulations*, sections 87, 88 and 91 of the *OHS Regulations* and section 4.3.1 of this Guideline as it lists the particular equipment which should be included under this program. The asset integrity program should also cover equipment for diving projects, construction programs and geoscientific, geotechnical and environmental programs as referred to in sections 4.3.6, 4.3.7 and 4.3.8 of this Guideline, respectively.

6.4.2. Production, Drilling or Accommodations Installations

For a production, drilling or accommodations installations, reference should also be made to the requirements and associated guidance under sections 153, 154, 155, 158, 159, 160 and 161 of the *Framework Regulations*. In addition to Section 4.4.1 of this Guideline, the summary of the inspection, testing and maintenance system should also include:

- A description of and reference to associated integrity philosophies or maintenance strategies.
- A reference to any formal assessments of failure modes (e.g., FMEA) and mechanisms of safety-critical elements.
- A description of the philosophy for performance standards for safety-critical elements, including how functional requirements, assurance and verification activities and reference to standards have been incorporated.
- A list of performance standards in relation to safety-critical elements.
- A description of the weight control program and reference to associated procedures.
- A reference to requirements for conduct of special unscheduled inspections.
- A description of the processes for notifying the *Regulator* and the Certifying Authority for any replacement or modification to safety-critical elements should be provided along with reference to associated procedures. [*Refer to the requirements and associated guidance under section 162 of the Framework Regulations*]
- A description of the procedures in place for bringing onboard temporary or portable equipment and references to associated procedures. [*Refer to the*

requirements and associated guidance under sections 139 and 162 of the Framework Regulations]

6.5 Operations and Maintenance Procedures

Pursuant to subsection 9(1) of the *Framework Regulations*, the Safety Plan must set out the procedures and practices necessary to safely carry out the proposed work or activity. Operators should refer to the requirements and associated guidance under sections 41, 48 and 49 of the *Framework Regulations*. Guidance on operations and maintenance procedures is also provided in Part 3 of the *Framework Guideline*. A brief description of and reference to all operation and maintenance procedures should be provided including those that have been developed by contractors and accepted by the operator. The brief description should also include the scope and key commitments and reference to the procedures used for normal and emergency operations. Provided below is a list of processes that should be described, but this list is not exhaustive. If there are other critical processes that pose a hazard to personnel, those processes should also be described and communicated to persons. Operators should also refer to the cross-referenced sections of the regulations for requirements and associated guidance.

The Safety Plan should include a description of the following based on the types of works or activities that are planned to be undertaken:

6.5.1. All Works or Activities

6.5.1.1. General

With respect to any operation or maintenance procedure critical to safety, the following information should be included, if applicable:

- Any related decisions and exemptions from Flag State requirements. *[Refer to the requirements and associated guidance for floating production, drilling and accommodations installations under section 151 of the Framework Regulations. Other types of vessels should also submit this information in relation to any IMO Code that has been adopted or for which has been incorporated into either the OHS or Framework Regulations]*
- Any regulatory exemptions or substitutions that have been approved by the CSO.
- Any CSO approvals of relevant sections of the *OHS Regulations*.
- Any conditions or commitments related to safety identified by the operator, *Regulator* or other authority located in any associated:
 - Development Plan
 - Environmental Assessment (under the *Accord Acts* or under the *Canadian Environmental Assessment Act*)
 - Impact Assessment (under the *Impact Assessment Act*)

6.5.1.2. Physical and Environmental Conditions Observation and Reporting

A summary of and reference to the program for observing and forecasting physical and environmental conditions monitoring program should be provided along with commitments for:

- the frequency of observation of marine, aviation (as applicable) and surface weather;
- the frequency of observation of pack ice and icebergs;
- the frequency and distribution of observations and forecasts of physical and environmental conditions to individuals with responsibilities under section 42 of the *Framework Regulations*, the *Regulator* and interested parties; and
- the process for verifying the quality of the observations and forecasts of physical and environmental conditions.

[Refer to the requirements and associated guidance in section 42 of the Framework Regulations]

6.5.1.3. Occupational Health and Wellness

A description of and reference to procedures associated with the following should be included:

- The processes for conducting medicals, along with reference to associated standards. *[Refer to the requirements and associated guidance in sections 36, 37, 38 and 39 of the OHS Regulations and for dive projects, refer to Part 32 of the OHS Regulations]*
- The processes in place for impairment, including fatigue, injury, illness, medical conditions, alcohol or drugs. This should also include any person whose work has a direct effect an approved work or activity and includes appropriate onshore personnel. A reference to the adoption of the *Code of Practice for Fatigue Management* should be included. *[Refer to the requirements and associated guidance in sections 36, 37, 38 and 39 of the OHS Regulations]*

6.5.1.4. Noise and Lighting Surveys

A description of the scope and frequency for conducting noise and lighting surveys, including factors which may trigger additional surveys should be provided. *[Refer to the requirements and associated guidance in Parts 14 and 15 of the OHS Regulations]*

6.5.1.5. Hygiene and Sanitation

A description of and reference to procedures associated with the following should be included:

- Hygiene practices, including the frequency of cleaning and inspections, to ensure that accommodations areas and other areas that may be used by

multiple personnel (e.g., washrooms, offices, change facilities, local control rooms) are maintained in a clean and sanitary condition. *[Refer to the requirements and associated guidance in Part 12 of the OHS Regulations]*

- Food safety practices, along with reference to the standards that the program was based on. *[Refer to the requirements and associated guidance in section 70 of the OHS Regulations]*
- Potable water management, along with reference to the standards that the program was based on. *[Refer to the requirements and associated guidance in section 71 of the OHS Regulations]*

6.5.1.6. Safe Work Practices

A description of and reference to procedures and practices associated with the following should be included, as applicable:

- Laundry room practices. *[Refer to the requirements and associated guidance in sections 26 and 57 of the OHS Regulations]*
- Galley practices. *[Refer to the requirements and associated guidance in sections 26, 57 and 70 of the OHS Regulations]*
- Use of stairs, ramps, fixed ladders and portable ladders, along with referenced to standards for portable ladders. *[Refer to the requirements and associated guidance in Part 20 of the OHS Regulations]*
- Use of scaffolding and platforms, along with referenced to standards. *[Refer to the requirements and associated guidance in Part 21 of the OHS Regulations]*
- Rope access activities. *[Refer to the requirements and associated guidance in Part 22 of the OHS Regulations]*
- Fall protection practices. *[Refer to the requirements and associated guidance in Part 22 of the OHS Regulations]*
- Working around equipment, machines or devices with the potential to release hazardous energy or hazardous substances. This should include general practices in relation to working around pressure equipment, pressure testing practices, electrical equipment, mechanical equipment, compressed gases, abrasive blasting, high pressure washing and other similar activities. It should also include any associated procedures for access to restricted areas (e.g., enclosed process areas such as cargo pump rooms, electrical or instrumentation rooms) and confirming zero energy before work is undertaken. Any associated standards used for these programs should be referenced. *[Refer to the requirements and associated guidance in Parts 18, 27, 28, 29 and 31 of the OHS Regulations]*

[Refer to the requirements and associated guidance in paragraph 41(b) of the Framework Regulations]

6.5.1.7. Hazardous Substances

A description of and reference to the processes in place for the management of all hazardous substances, including transportation to and from the *Marine Installation or Structure* should be provided. The description should also include reference to where and how safety data sheets will be made readily accessible and describe the processes in place to ensure that they are maintained up-to-date and applied during specific activities involving their use. The description should also include reference to how the medic has been provided with immediate access to specific non-standard treatment information in the event of an emergency. *[Refer to the requirements and associated guidance under Part 32 of the OHS Regulations and sections 48 and 49 of the Framework Regulations]*

6.5.1.8. Radioactives

If radioactives are planned to be used, a description of the measures in place for the transportation, storage, handling and use should be provided, including reference to standards and licenses in place for radioactive source(s) and personnel. A reference to associated safe work practices should also be provided and include practices for the conduct of non-destructive examination with radiography. The associated qualifications of personnel performing non-destructive examinations should also be provided. *[Refer to the requirements and associated guidance under Part 32 of the OHS Regulations and sections 48 and 49 of the Framework Regulations]*

6.5.1.9. Explosives

If explosives are planned to be used, the maximum quantity to be stored onboard during normal operations should be specified. A description of the measures in place for the transportation, storage, handling and use should be provided, including reference to standards and licenses in place for the explosives and personnel who are required to accompany and use them. A reference to associated safe work practices should be provided. If the amount of explosives onboard requires to be exceeded, this requires CSO approval as per paragraph 153(1)(c) of the *OHS Regulations*. Reference to the CSO approval and associated measures should be specified. *[Refer to the requirements and associated guidance under Part 31 of the OHS Regulations and sections 48 and 49 of the Framework Regulations]*

6.5.1.10. Confined Spaces

A description of and reference to the confined space program should be provided. *[Refer to the requirements and associated guidance under Part 25 of the OHS Regulations]*

6.5.1.11. Work Permit

A description of the work permit system should be provided. This should describe how all activities at or near or workplace will be coordinated to ensure safety. A description of all works or activities to be conducted under a work permit should be provided along with references to associated procedures. *[With respect to all types of Marine Installations or Structures, refer to the requirements and associated guidance under paragraph 4(1)(z) of the Framework Regulations and Part 10 of the OHS Regulations. For production, drilling and accommodations installations, refer also to sections 101 and 102 of the Framework Regulations]*

6.5.1.12. Simultaneous Operations

A description of and reference to the procedures for the management of simultaneous operations should be provided. The description should highlight which activities are not permitted to occur simultaneously and those which may only occur simultaneously when specific precautions are in place (e.g., simultaneous operations procedures onboard the *Marine Installation or Structure*, within the field and between other *Marine Installations or Structures*, support craft or other activities (e.g., fishing) that may be affected by the operation). *[Refer to the requirements and associated guidance under Part 10 of the OHS Regulations and section 4.1.2 of the Contingency Plan Guideline]*

6.5.1.13. Personal Protective Equipment

A description of and reference to procedures in relation to the selection, provision, use, training, inspection, testing and maintenance of PPE such as EEBDs, anti-exposure suits, personal protective clothing, protective headwear, personal gas monitors, respiratory protective equipment, breathing air compressors, personal protective electrical equipment, grab bags, fall protection equipment, fire team equipment and any other PPE required should be used or worn in the workplace. *[Refer to the requirements and associated guidance under sections 22 and 28 and Parts 8 and 22 of the OHS Regulations and for dive projects, paragraph 171(1)(g) of the OHS Regulations]*

6.5.1.14. Materials Handling

A description of and reference to procedures in relation to materials handling operations should be provided, which should include the lifting equipment register, safe lift zones, communication methods, color codes, pre-use inspections and general safe lifting operating practices. If personnel lifting via crane or hoist is being undertaken this should also be described. Operational limitations with respect to outboard and personnel lifting should also be specified. A reference to the adoption of the *Code of Practice for Safe Lifting* should be provided. *[Refer to the requirements and associated guidance for*

production, drilling and accommodations installations under section 137 of the Framework Regulations and for all types of Marine Installations or Structures, Part 24 of the OHS Regulations]

6.5.1.15. Elevators and Personnel Lifts

A description of and reference to procedures in relation to normal and emergency use of elevators should be provided. *[Refer to the requirements and associated guidance under Part 19 of the OHS Regulations]*

6.5.1.16. Watertight Doors and Hatches

If automatically closing watertight doors and hatches are installed, a description of and reference to safe working practices for their operation and maintenance should be included. *[Refer to the requirements and associated guidance under paragraph 41(b) and section 145 of the Framework Regulations]*

6.5.1.17. Consumables

A description of the minimum and maximum quantities of consumables required for normal operations and any reasonably foreseeable emergency situation should be provided, along with the measures in place to ensure that their storage and handling ensures the health and safety of personnel. The rationale used to arrive at the quantity should also be explained. Examples to be described should include:

- a. the minimum and maximum quantities to be maintained at the operations site should include, as applicable:
 - i. diesel fuel;
 - ii. aviation fuel, if required;
 - iii. potable water;
 - iv. spill containment products, if required; and
 - v. safety-related chemicals (e.g., firefighting foam concentrate);
- b. the minimum and maximum quantities to be maintained for well operations should include, as applicable:
 - i. barite;
 - ii. bentonite;
 - iii. drill water;
 - iv. cement; and
 - v. other consumables; and
- c. the minimum and maximum amounts to be maintained onboard for production operations should include, as applicable:
 - i. methanol;
 - ii. monoethylene glycol; and
 - iii. other consumables.

For well operations, as the minimum quantity of consumables may change on a case-by-case basis dependent on the nature of the activities being performed, a general commitment should be made as to which approval will specify the minimum quantity. However, if the amount to be maintained is a set percentage (e.g., 100% excess) as opposed to a set amount (e.g., 100 T) then this detail should be included. *[Refer to the requirements and associated guidance under section 44 of the Framework Regulations]*

6.5.1.18. Contingency Plans

A reference to the Contingency Plans and associated emergency response procedures should be included. *[Refer to the requirements and associated guidance under section 11 of the Framework Regulations and the associated Contingency Plan Guideline]*

6.5.2. Support Craft

The procedures used in relation to the safety for support craft related works or activities should be described along with references to associated procedures. In addition, if passenger transfers are being undertaken via helicopter or vessel, reference to the adoption of the *Code of Practice for Transportation of Employees by Helicopter to or from a Workplace in the Offshore Petroleum Industry* and the *Code of Practice for Transportation of Employees by Vessel to or from a Workplace in the Offshore Petroleum Industry*, respectively, should be included. Guidance on the types of procedures which should be included are provided below. *[Refer to the requirements and associated guidance under paragraph 41(g) of the Framework Regulations and Part 9 of the OHS Regulations]*

6.5.2.1. Helicopter/Aircraft Operations

A description of and reference to procedures in relation to helicopter/aircraft operations should be provided, and the referenced procedures should include:

- Onshore security precautions
- Baggage and passenger weigh-in
- Pre-use inspection of PPE
- Pre-inspection of the aircraft landing area
- Fuel quality assurance
- Aviation weather forecasting and monitoring
- Landing and takeoff
- Refueling offshore
- Flight following
- Winching operations
- Cargo transfer operations (including dangerous goods)
- Lifting operations (e.g., installation of flare tips), if applicable

[Refer to the requirements and associated guidance under paragraph 41(g) and section 175 of the Framework Regulations and section 50 of the OHS Regulations]

6.5.2.2. Support Vessel Operations

A description of and reference to procedures in relation to cargo, personnel and bulk transfer operations should be provided, which should include, as applicable:

- Onshore security precautions
- Pre-entry checks
- Transfer of passengers
- Transfer of cargo (including dangerous goods)
- Anchor handling
- Standby
- Bulk transfer
- Vessel tracking
- Ice management
- Collision avoidance
- Spill response
- Towing

[Refer to the requirements and associated guidance under paragraph 41(g) of the Framework Regulations and section 51 of the OHS Regulations]

6.5.2.3. Remotely Piloted Aircraft Systems (RPAS) Operations

A description of and reference to procedures in relation to use of remotely piloted aircraft systems (e.g., drones) should be included. *[Refer to the requirements and associated guidance under paragraph 41(g) of the Framework Regulations]*

6.5.2.4. Remotely Operated Vehicles (ROV) Operations

A description of and reference to procedures in relation to the operation and maintenance of ROV's should be provided. *[Refer to the requirements and associated guidance under paragraph 41(g) of the Framework Regulations]*

6.5.2.5. Shuttle Tanker Operations

A description of and reference to procedures in relation to shuttle tanker operations should be provided. This should include pre-entry checks, station keeping and measures taken to protect safety of personnel and the installation (e.g., telemetry systems, DP requirements). *[Refer to the requirements and*

associated guidance under section 11 (in relation to collision avoidance) and paragraph 41(g) of the Framework Regulations]

6.5.3. Production, Drilling and Accommodations Installations

In addition to the procedures described under section 4.5.1 of this Guideline, the following should be described with respect to production or drilling activities or which use an accommodations installation in support of that activity:

6.5.3.1. System Operating Procedures

A general description of the content of system operating procedures should be provided. Guidance for system operating procedures is provided in section 73 of the *Framework Guideline*. Confirmation should also be provided that arrangement drawings, vendor design data, equipment data sheets, piping and instrumentation drawings and cause and effects diagrams associated with equipment and systems are maintained current and readily available to personnel for reference. Operating and maintenance procedures should be developed and implemented for all systems or equipment (even those not listed below). The Safety Plan should make reference to each one of the operating and maintenance procedures in use, including those implemented by contractors. System operating procedures should include the following topics, as applicable:

- General Systems
 - Structures [*Refer to the requirements and associated guidance under section 105 of the Framework Regulations*]
 - Main power generation and distribution system [*Refer to the requirements and associated guidance under section 122 of the Framework Regulations*]
 - Emergency power generation and distribution system [*Refer to the requirements and associated guidance under section 126 of the Framework Regulations*]
 - Blanketing systems (including inert gas, nitrogen or other systems) [*Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations*]
 - Compressed air systems [*Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations*]
 - Hydraulic systems [*Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations*]
 - Heating, ventilation and air conditioning systems [*Refer to the requirements and associated guidance under section 114 of the Framework Regulations and Part 16 of the OHS Regulations*]
 - Aviation fuel system [*Refer to the requirements and associated guidance under sections 175 and 176 of the Framework Regulations*]

- Diesel fuel system [*Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations*]
- Materials handling equipment (including lifting equipment for drilling) [*Refer to the requirements and associated guidance under section 137 of the Framework Regulations and Part 24 of the OHS Regulations*]
- Elevators and personnel lifts [*Refer to the requirements and associated guidance under Part 19 of the OHS Regulations*]
- Bulk transfer system [*Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations*]
- Seawater cooling system [*Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations*]
- Seawater lift system [*Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations*]
- Sewage system [*Refer to the requirements and associated guidance under Part 11 of the OHS Regulations and sections 135 and 136 of the Framework Regulations*]
- Potable and non-potable water systems [*Refer to the requirements and associated guidance under Parts 11 and 13 of the OHS Regulations*]
- Corrosion protection systems [*Refer to the requirements and associated guidance under section 155 of the Framework Regulations*]

- Marine Systems
 - Mooring system [*Refer to the requirements and associated guidance under sections 146, 147 and 148 of the Framework Regulations*]
 - Propulsion system [*Refer to the requirements and associated guidance under section 136 of the Framework Regulations*]
 - DP system [*Refer to the requirements and associated guidance under sections 146, 149 and 150 of the Framework Regulations*]
 - Ballast and bilge system [*Refer to the requirements and associated guidance under section 144 of the Framework Regulations*]
 - Watertight integrity [*Refer to the requirements and associated guidance under section 145 of the Framework Regulations*]
 - Lights and sound-signalling appliances [*Refer to the requirements and associated guidance under section 127 of the Framework Regulations*]
 - Radar system [*Refer to the requirements and associated guidance under section 128 of the Framework Regulations*]
 - Physical and environmental condition monitoring equipment (including foundation monitoring equipment) [*Refer to the requirements and associated guidance under section 109 of the Framework Regulations*]
 - Jack-up system [*Refer to the requirements and associated guidance under section 143 of the Framework Regulations*]

- Safety Systems
 - Communication systems *[Refer to the requirements and associated guidance under section 129 of the Framework Regulations and section 23 of the OHS Regulations]*
 - General alarm system *[Refer to the requirements and associated guidance under section 130 of the Framework Regulations and section 23 of the OHS Regulations]*
 - Open and closed drains systems *[Refer to the requirements and associated guidance under section 135 of the Framework Regulations]*
 - Control and monitoring system (including offshore and onshore control rooms) *[Refer to the requirements and associated guidance under sections 123, 124, 125 and 169 of the Framework Regulations]*
 - Fire and gas detection system *[Refer to the requirements and associated guidance under section 132 of the Framework Regulations]*
 - Passive fire and blast protection systems *[Refer to the requirements and associated guidance under section 112 of the Framework Regulations]*
 - Fire protection systems *[Refer to the requirements and associated guidance under section 134 of the Framework Regulations and sections 26, 27 and 28 of the OHS Regulations]*
 - Emergency shutdown system *[Refer to the requirements and associated guidance under section 133 of the Framework Regulations]*
 - Gas release systems (e.g., pressure relief, depressurizing, venting, flaring) *[Refer to the requirements and associated guidance under section 131 of the Framework Regulations]*
 - Escape arrangements and muster areas (including temporary safe refuges) *[Refer to the requirements and associated guidance under sections 117 and 118 of the Framework Regulations and section 21 of the OHS Regulations]*
 - Life-saving appliances (including fast rescue craft) *[Refer to the requirements and associated guidance under section 119 of the Framework Regulations and section 21 of the OHS Regulations]*

A reference to any other procedures critical to operations and maintenance should also be included, such as pre-start-up safety review procedures, start-up procedures or black start procedures.

6.5.3.2. Safe Work Practices

A description and reference to the following safe work practices should be provided *[Refer to the requirements and associated guidance under paragraph 41(b) of the Framework Regulations]*:

- If combustible material (e.g., scaffolding, dunnage) is being permanently used or stored onboard, a description of the measures in place to ensure that they

will not pose a hazard and references to associated procedures should be provided. *[Refer to the requirements and associated guidance under section 111 of the Framework Regulations]*

- A description of processes for breaking containment on equipment that contains a hazardous substance and for obtaining and testing samples. *[Refer to the requirements and associated guidance under Part 31 of the OHS Regulations]*
- A description of the processes for venting, depressurizing or cleaning any equipment which contained hydrocarbons, flammable, toxic or other hazardous substance. *[Refer to the requirements and associated guidance under Part 31 of the OHS Regulations and section 131 of the Framework Regulations]*
- A description of the processes in place for controlling valve positions along with reference to associated procedures. *[Refer to the requirements and associated guidance under section 73 of the Framework Regulations]*
- A description of the procedures in place in relation to management of potential ignition sources and reference to specific procedures (e.g., fueling) *[Refer to the requirements and associated guidance under section 115 of the Framework Regulations]*

6.5.3.3. Transportation and Installation

A description of and reference to plans and procedures in place for the transportation and installation of an installation or any component of an installation, including transit plans, towing procedures, set down procedures, simultaneous operation plans and contingency plans. The operational limitations for transit and set down (including minimum permitted penetration and preloading for self-elevating platforms) should be specified for each planned location. *[Refer to the requirements and associated guidance under section 121 of the Framework Regulations and for self-elevating mobile offshore platforms, also refer to the requirements and associated guidance provided in section 143 of the Framework Regulations]*

6.5.4. Production

In addition to the procedures described under section 4.5.1 and 4.5.3 of this Guideline, the following should also be described only with respect to installations conducting production-related activities, even if it is a contractor procedure. System operating procedures should include the following topics, as applicable: *[Refer to the requirements and associated guidance under sections 73 and 157 of the Framework Regulations]*

- Subsea production systems, including chemical injection and pigging systems *[Refer to the requirements and associated guidance under section 138 of the Framework Regulations]*

- Separation system *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*
- Produced water treatment system *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*
- Water injection system *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*
- Gas compression system *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*
- Fuel gas system *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*
- Gas injection and gas lift system *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*
- Crude storage system *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*
- Metering system *[Refer to the requirements and associated guidance under sections 14, 77, 135 and 136 of the Framework Regulations]*
- Offloading system *[Refer to the requirements and associated guidance under sections 135 and 136 of the Framework Regulations]*
- Pipeline system *[Refer to the requirements and associated guidance under section 168 of the Framework Regulations]*

In addition, any associated well handover procedures covering the handover and start-up of production from individual wells following a well operation and the handover of individual wells in production to make it safe for completing a well operation should be referenced.

6.5.5. Well Operations

In addition to the procedures described under section 4.5.1 and 4.5.3 of this Guideline, the following should also be described only with respect to installations conducting well operations-related activities: *[Refer to the requirements and associated guidance under sections 73 and 157 of the Framework Regulations]*

6.5.5.1. System Operating Procedures

System operating procedures should include the following topics, as applicable :

- Drilling fluid systems (including the high pressure mud system, low pressure mud system, bulk system, cement system, mud conditioning system, degassing system, cuttings cleaning system) *[Refer to the requirements and associated guidance under section 163 of the Framework Regulations]*
- Well control systems *[Refer to the requirements and associated guidance under section 68 of the Framework Regulations]*
- Drilling riser system *[Refer to the requirements and associated guidance under section 164 of the Framework Regulations]*

- Formation flow testing system *[Refer to the requirements and associated guidance under section 167 of the Framework Regulations]*

6.5.5.2. Drilling and Well Operation Procedures

A description and reference to associated policies and procedures for the following should be included, as applicable:

- Well trajectory – wellbore collision avoidance and frequency of directional and deviation surveys. *[Refer to the requirements and associated guidance under sections 67 and 73 of the Framework Regulations]*
- Casing program – the minimum casing design factors, the basis for casing setting depths, the pressure testing philosophy and fluid gradient to be used. *[Refer to the requirements and associated guidance under section 69 of the Framework Regulations]*
- Kick tolerance – minimum tolerances and fluid gradient. *[Refer to the requirements and associated guidance under section 73 of the Framework Regulations]*
- Cementing program – success criteria for cementing operations, when additional verification is needed and validation methods (e.g., tagging, pressure testing, logging). *[Refer to the requirements and associated guidance under section 69 of the Framework Regulations]*
- FLOT and FIT. *[Refer to the requirements and associated guidance under section 70 of the Framework Regulations]*
- Drilling fluid – riser margin plans (e.g., shallow, deep water), material balance and tripping management and practices with respect to the continuous monitoring of parameters critical to safe well operations or to the detection of a gain or loss of drilling fluid. *[Refer to the requirements and associated guidance under sections 73 and 163 of the Framework Regulations]*
- Shallow gas – the associated measures for detecting and dealing with shallow gas. *[Refer to the requirements and associated guidance under section 73 of the Framework Regulations]*
- Well control – well control management, kick and pressure detection, monitoring of parameters critical to well operations, function and pressure testing and overbalance plan (e.g., monitoring, drilling margin). *[Refer to the requirements and associated guidance under sections 68 and 73 of the Framework Regulations]*
- Well barrier – well barrier philosophy (primary vs. secondary) and operational considerations and associated well barrier schematics for each well operation. *[Refer to the requirements and associated guidance under sections 68 and 73 of the Framework Regulations]*
- Well kill readiness – the management of non-shearable equipment across BOPs and circulation methods (reverse vs. forward). *[Refer to the requirements and associated guidance under sections 68 and 73 of the Framework Regulations]*

- Lost circulation – the defining loss rates with actions (see page, minor, major, severe) and loss circulation mitigation and prevention and the loss circulation material to be used. *[Refer to the requirements and associated guidance under sections 68 and 73 of the Framework Regulations]*
- Well shut-in – the shut-in procedures and shut-in method (hard vs. soft). *[Refer to the requirements and associated guidance under sections 68 and 73 of the Framework Regulations]*
- Hang-off and emergency disconnect – the hang-off method, hang-off weights and emergency disconnect. *[Refer to the requirements and associated guidance under sections 68 and 73 of the Framework Regulations]*
- Source control – well planning considerations, capping limitations and description of any additional analysis conducted. *[Refer to the requirements and associated guidance under sections 11 and 73 of the Framework Regulations]*
- Well intervention – coiled tubing and wireline operational practices. *[Refer to the requirements and associated guidance under sections 68 and 73 of the Framework Regulations]*
- Formation flow testing – a description of the formation flow testing practices and associated precautions to ensure safety. *[Refer to the requirements and associated guidance under sections 63 and 167 of the Framework Regulations]*
- Well abandonment, suspension or completion practices. *[Refer to the requirements and associated guidance under sections 90 - 93 of the Framework Regulations]*
- Managed pressure drilling or underbalanced drilling – a list of associated precautions to be taken to ensure safety and protection of the environment. *[Refer to the requirements and associated guidance under section 73 of the Framework Regulations]*
- Deepwater – a list of associated precautions to be taken to ensure safety and protection of the environment. *[Refer to the requirements and associated guidance under section 73 of the Framework Regulations]*
- HPHT – a list of associated precautions to be taken to ensure safety and protection of the environment should be provided. *[Refer to the requirements and associated guidance under section 73 of the Framework Regulations]*

6.5.5.3. Well Verification Scheme

A description and reference to the policies and procedures for the well verification scheme should be provided. In addition, a reference to any standard that has been adopted should be included. *[Refer to the requirements and associated guidance under section 19 of the Framework Regulations]*

6.5.6. Diving

In addition to the procedures described under section 4.5.1 of this Guideline, any *Marine Installation or Structure* carrying out diving activities should include a description of the operating and maintenance procedures for all diving systems and reference to associated procedures. *[Refer to the requirements and associated guidance under Part 32 of the OHS Regulations and Part 9 of the Framework Regulations]*

6.5.7. Construction

In addition to the procedures described under section 4.5.1 of this Guideline, any *Marine Installation or Structure* carrying out construction activities should include a description of the following:

6.5.7.1. Transportation and Installation

If a construction vessel is engaged in the transportation and installation of an installation or any component of an installation, refer to Section 4.5.3.3 of this Guideline.

6.5.7.2. Operating and Maintenance Procedures

The operating and maintenance procedures for all construction activities, including a list of specialized procedures for equipment such as vacuum/suction systems, conveyors, dredgers, etc., that are not captured generally under Section 4.5.1 of this Guideline. Reference should also be made to associated procedures.

6.5.8. Geoscientific, Geotechnical and Environmental

In addition to the procedures described under section 4.5.1 of this Guideline, any *Marine Installation or Structure* or aircraft carrying out geoscientific, geotechnical or environmental activities should include a description of operations and maintenance procedures for the following equipment, if not captured generally under Section 4.5.1. This should include:

- Geoscientific (e.g., air gun systems, sonar)
- Geotechnical (e.g., drilling systems, sample systems)
- Environmental (e.g., deployment systems)

Reference should also be made to associated procedures. *[Refer to the requirements and associated guidance under Part 7 of the Framework Regulations]*

6.6 Organizational Structure and Roles, Responsibilities and Authorities

Pursuant to paragraph 9(2)(d) of the *Framework Regulations*, the Safety Plan must include a description of the organizational structure and chain of command for the proposed work or activity. Operators should refer to the requirements and associated guidance on organizational structures provided in section 3 and Part 3 of the *Framework Regulations*.

The following information should be included:

- A description of how it has been ensured that there will be a sufficient number of persons available to complete the authorized work or activities, including dealing with emergencies to ensure safety. This should include a description of succession planning in the event an individual becomes impaired or unavailable for work.
- The organizational structure for the operation (including onshore and offshore roles, communication interfaces to key contractors and providers of service including those in the field or onshore). This should indicate the number of positions in each role and how many are working days/night and it should also be reflective of the scope associated with the mode of operation (e.g., transportation, construction, operation, decommissioning). This can be depicted on a chart.
- Unless it has been included in the contingency plan, a description of the organizational structure for emergency operations.
- A description of the roles, responsibilities and authorities of critical personnel and classes of personnel (e.g., groups, departments) in respect of safety should be included. This should include onshore management, onshore roles, offshore management and key service providers. In addition, the general duties of the operator, employers, supervisors and employees should be included. This should also describe each of the parties role in implementing the Safety Plan.
- The position of the person accountable for the Safety Plan and person(s) responsible for implementing it.
- The roles, responsibilities and authorities of personnel with respect to the *Regulator* (inclusive of the CSO, operational safety officers, OHS Officers) and the Certifying Authority, if applicable, should be included.

The roles, responsibilities and authorities of personnel with respect to other agencies involved in safety matters, should be described and include:

- Other applicable regulatory agencies (e.g., Canadian Coast Guard, Transport Canada Marine Safety, Transport Canada Aviation)
- Classification society, if applicable
- Marine warranty surveyor, if applicable
- Flag State, if applicable

6.7 Training and Competency Assurance

Pursuant to subsection 9(1) of the *Framework Regulations*, the Safety Plan must set out a description of practices and resources. Operators should refer to the requirements and associated guidance on experience, training, qualifications and competence provided in section 3 and Part 3 of the *Framework Regulations* and Part 4 of the *OHS Regulations*. In addition, for a dive project refer to Part 32 of the *OHS Regulations*.

Any equipment or process that has been described in the Safety Plan should be linked to the competency assurance program. The description of the training and competency processes should include those that have been developed by contractors and accepted by the operator, if they are different. In addition to any requirements of the *Framework Regulations* and *OHS Regulations*, the training and competency program should include reference to requirements from associated standards referenced in these regulations or any standards that have been adopted. In addition, if risk assessments identify or assume that specialized training or competency requirements will be provided, this should also be reflected with reference to where the requirement was obtained.

In addition, any planned training exemptions or equivalencies should follow the process as outlined in the *Atlantic Canada Offshore Petroleum Code of Practice for the Training and Qualifications of Offshore Personnel*.

The following information should be included:

6.7.1. All Works or Activities

- A description of and reference to the program in place for provision of qualified, trained and competent persons should be provided. This should include:
 - Selection and placement
 - Medical fitness
 - Qualifications
 - Support craft orientations (e.g., helicopter and vessel safety briefings, as applicable)
 - Workplace orientations
 - Emergency response training
 - Emergency response exercises and drills
 - Competency assurance program
 - Training quality oversight processes
- Confirmation should be provided that persons are qualified, trained and competent to perform all normal or emergency duties prior to being assigned.
- A reference to specific requirements should be specified and include:
 - WHMIS/GHS
 - Medical
 - BST/MED
 - EUBA and HUET

- H₂S training
- Regulatory awareness (including orientation to the Safety Plan)
- Details of the emergency response teams
- Medic and number of persons trained in first aid
- A reference to the requirements of competent person(s) who inspect and test the following should be provided:
 - Pressure systems (including air gun systems, if applicable) [*Refer to the requirements and associated guidance under Part 25 of the OHS Regulations and section 135 of the Framework Regulations*]
 - Elevators and personnel lifts [*Refer to the requirements and associated guidance under Part 19 of the OHS Regulations*]
 - Materials handling equipment [*Refer to the requirements and associated guidance under Part 24 of the OHS Regulations*]
- For a diving project, specialized dive physicians and dive safety specialists should be listed and information provided respecting their qualifications.
- Confirmation should be provided that any changes to requirements for key personnel are communicated.
- Confirmation should be provided that the *Atlantic Canada Offshore Petroleum Code of Practice for the Training and Qualifications of Offshore Personnel* has been adopted.
- Confirmation of compliance to the regulations and to any standard which references training which is either required by regulation or has been adopted for the operation and maintenance of equipment.

Short term projects or programs may submit a detailed training matrix in lieu of including details in the Safety Plan as long as it includes every position onboard (e.g., covers marine crew, technical crew, medic, fishery liaison officers, marine mammal observers). However, if there is a crew change during the course of the project or program, updated information (e.g., training matrix) should be provided and acknowledged by the *Regulator* prior to the crew change occurring.

6.7.2. Production Projects and Drilling Programs

In addition to the information requested under Section 4.7.1 of this Guideline, this should include:

- A reference to the procedures in place for maintaining role descriptions for each position, including those for emergency response.
- A reference to the procedures for ensuring roles and responsibilities are communicated.
- A description of the process in place for maintaining and tracking training and qualifications and ensuring that changes are appropriately managed and communicated.
- A description of the competency assurance program which describes how persons are assessed as competent on installation specific equipment and procedures in relation to their role, including dealing with upsets or emergencies. The description

should also include reference to the competency program in place for competency assessors.

- A reference to the certification held by persons responsible for transporting dangerous goods or the storage, transport and use of radioactives and explosives should be provided.
- A reference to the required certification and competency to be maintained by persons for compliance to Flag State requirements.

6.8 Compliance Monitoring, Performance Measurement and Continual Improvement

Pursuant to paragraph 9(2)(e) of the *Framework Regulations*, the Safety Plan must describe the measures to be implemented to monitor compliance with the plan and to evaluate performance in relation to its objectives. Operators should refer to the requirements and associated guidance on management systems provided in Part 3 of the *Framework Regulations*. Pursuant to the *Accord Acts*, the onus is on the operator to ensure that any non-compliances are corrected and measures are put in place to prevent future non-compliances.

The Safety Plan should include a description of the following:

6.8.1. Performance Indicators

A description of the performance indicators established in relation to goals for safety should be provided along with reference to associated procedures for the collection and analysis of data. A description of the process for identifying issues and making improvements should be provided.

6.8.2. Monitoring

A description of and reference to the processes in place for monitoring compliance with procedures and standards by leadership and supervisors should be included along with reference to associated procedures. This should include behavior based observations, observation of tasks or monitoring of other critical activities, such as the management of work permits.

6.8.3. Audits and Inspections

A description of and reference to the processes in place for the conduct of audits and inspections should be included along with reference to associated procedures. This should include:

- Internal audits
- Audits of employers
- Audits of providers of services (e.g., including contractors, service providers)
- Audits of suppliers
- Workplace inspections, including any associated hygiene inspections.

- Observation of critical processes such as the work permit process and critical tasks.

6.8.4. Incident Reporting and Investigation

A description of and reference to the incident reporting and investigation process should be provided along with reference to associated procedures. [*Refer to the requirements and associated guidance under section 179 of the Framework Regulations and Part 3 of the OHS Regulations*]

6.8.5. Lessons Learned

A description of and reference to the processes in place for the following should be provided:

- Collection and sharing of lessons learned during programs or projects.
- Issuance of HSE alerts and bulletins.
- Review and distribution of relevant HSE alerts and bulletins that have been issued by others.

6.8.6. Management Review

A description of and reference to the processes in place for conducting management reviews of performance indicators, compliance monitoring, audits and inspections, incidents and lessons learned and how any outcomes from these reviews will be addressed to achieve continual improvement of the management system.

6.8.7. Reporting to the Regulator and Other Authorities

In addition to the reporting requirements referred to in Part 12 of the *Framework Regulations*, there may be other reporting requirements identified as part of the Development Plan process or associated Environmental and Impact Assessments in relation to safety. A description and reference to procedures for submission of other types of reports and the frequency at which these reports are submitted should be provided.