CANADA-NEWFOUNDLAND and LABRADOR OFFSHORE PETROLEUM BOARD

CNSOPB CANADA-NOVA SCOTIA OFFSHORE PETROLEUM BOARD

National Energy Board | Office national de l'énergie

Safety Plan Guidelines

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Foreword

The National Energy Board, Canada-Nova Scotia Offshore Petroleum Board and Canada-Newfoundland and Labrador Offshore Petroleum Board (the Boards) have issued these guidelines to assist an operator in developing a Safety Plan (SP) to meet the requirements of sections 6 and 8 of the *Drilling and Production Regulations* (Regulations). In accordance with the Regulations, a SP must accompany an application for an operations authorization.

An operator may also find this guidance helpful when developing safety plans for other works and activities regulated by the Boards or in developing integrated Health, Safety and Environment Plans.

The Boards may develop or adopt guidance, standards and recommended practices to support and complement the Regulations which they enforce. In all cases, the Boards' intent is to provide additional information and guidance to the operator so that they may better understand the expectations of the Boards with respect to responsiveness to and compliance with the regulatory requirements. Section 2 of these guidelines provides a description of the relevant portions of the regulatory regime applicable to Canada's frontier oil and gas operations.

The authority to issue guidelines and interpretation notes with respect to regulations is specified by subsection 5.3 (1) of the *Canada Oil and Gas Operations Act* (COGOA), subsection 156(1) of the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act* (CNSOPRAIA) and subsection 151.1(1) of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Act* (CNAAIA).

In many instances, these guidelines identify a particular means or method toward achieving regulatory compliance. These means or methods may be based on a number of criteria including:

- the mandatory requirements of the Regulations,
- the experience of the Boards in how compliance may be achieved, or
- industry best practice

Guidelines are not statutory instruments and the description of a means or method in the guidelines is not mandatory, unless referencing a Regulatory or Board requirement. The onus is on the operator to comply with the Regulations and to be able to demonstrate to the appropriate Board the adequacy and effectiveness of the methods employed to achieve compliance.

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Acronyms

ALARP	As Low As Reasonably Practicable
CAPP	Canadian Association of Petroleum Producers
CNAAIA[1]	*Canada Newfoundland Atlantic Accord Implementation Act*
CNSOPB	Canada – Nova Scotia Offshore Petroleum Board
CNSOPRAIA[1]	*Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*
COGOA	*Canada Oil and Gas Operations Act*
C-NLOPB	Canada – Newfoundland and Labrador Offshore Petroleum Board
CSA	Canada Standards Association
COF	Certificate of Fitness
HSE	Health, Safety & Environment
IADC	International Association of Drilling Contractors
ISO	International Organization for Standardization
MODU	Mobile Offshore Drilling Unit
NEB	National Energy Board
SMS	Safety Management System
SP	Safety Plan
WHMIS	Workplace Hazardous Materials Information System

1 Where the acronyms CNAAIA or CNSOPRAIA are used in this document they may be interpreted to include both the federal and provincial versions of the legislation. Section 2 of these guidelines provides a description of the relevant portions of the regulatory regime applicable to Canada's frontier oil and gas operations.

Definitions

Selected definitions are excerpted here from the Acts and/or Regulations for convenience. Section 2 of these guidelines provides a description of the relevant portions of the regulatory regime applicable to Canada's frontier oil and gas operations. Where definitions are from an international standard or similar document an appropriate reference is provided.

Accord Acts	the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act* and *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act, Canada-Newfoundland Atlantic Accord Implementation Act* and the *Canada-Newfoundland and Labrador Atlantic Accord Implementation (Newfoundland and Labrador) Act*
Acts	the *Canada Oil and Gas Operations Act*, the *Canada-Nova Scotia Atlantic Accord Implementation Act* and the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Act*.
authorization[2]	an authorization issued by a Board under paragraph 5(1)(b) of COGOA, 142(1)(b) of CNSOPRAIA, and 138(1)(*b*) of CNAAIA
audit[3]	a systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled
Board	the Canada-Newfoundland and Labrador Offshore Petroleum Board, the Canada-Nova Scotia Offshore Petroleum Board, or the National Energy Board as the case may be
development plan	the development plan that is approved by a Board pursuant to subsection 5.1(4) of COGOA, 143(4) of CNSOPRAIA, or 139(4) of the CNAAIA
document[4]	information and its supporting medium (see record)
hazard[5]	a source or situation with a potential for harm in terms of human injury or ill health[5], whether it be a major hazard identified in studies or an occupational hazard
management system	the system required by section 5 of the Regulations, that integrates operations and technical systems with the management of financial and human resources to ensure compliance with the Act and the Regulations

2 Excerpted from section 1.(1) of the *Regulations*

3 CSA Standard CAN/CSA-ISO 9000:05

4 CSA Standard CAN/CSA-ISO 9000:05

5 CSA Z1000-06 Occupational Health and Safety Management

operator[6]	a person that holds an operating licence under paragraph 5(1)(a) of COGOA, 142(1)(a) of CNSOPRAIA, 138(1)(a) of CNAAIA, and an authorization
record[7]	a document stating results achieved or providing evidence of activities performed, including those required by sections 80 and 81 of the Regulations
Regulations	the *Canada Oil and Gas Drilling and Production Regulations*, *Newfoundland Offshore Petroleum Drilling and Production Regulations*, and/or *Nova Scotia Offshore Petroleum Drilling and Production Regulations*, as the case may be
safety management system	the elements of an operator's management system dedicated to safety management, whether or not these management elements are incorporated in or separate from the overall management system
safety policy	the overall intention and direction of an organization related to its safety performance as formally expressed by senior management

6 Excerpted from section 1.(1) of the *Regulations*

7 CSA Standard CAN/CSA-ISO 9000:05

1. Purpose and Scope of Guidelines

The objective of these guidelines is to assist an operator in the development of a safety plan (SP) that meets the requirements of the Acts and Regulations. Pursuant to section 19 of the Regulations, an operator must take all reasonable precautions for the continued safety of the operations, i.e. reduce risk to a level that is as low as reasonably practicable (ALARP). While the concept of ALARP is not explicitly discussed in the Regulations, the operator should demonstrate to the Boards that this concept is a factor in the development of the SP. Other safety-related requirements are present in the Acts, other applicable regulations and other parts of the Regulations. Pursuant to section 8 of the Regulations, the SP must set out the procedures, practices, resources, sequence of key safety-related activities and monitoring measures necessary to ensure the safety of the proposed work or activity.

The scope of these guidelines is limited to the SP. Where guidance on general or specific safety matters has been developed elsewhere, these guidelines direct the reader to that guidance.

2. Regulatory Framework

Exploration for and development of petroleum resources in the frontier areas of Canada is regulated by three Acts of the Federal parliament:

- *Canada Oil and Gas Operations Act*, R.S.C. 1985, c. O-7
- *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*, S.C. 1988, c. 28. (NS Accord Act)
- *Canada-Newfoundland and Labrador Atlantic Accord Implementation Act*, R.S.C. 1985, c. O-7. (NL Accord Act)

For the two Accord Acts, created as part of the Atlantic Accord process, the provinces of Nova Scotia and Newfoundland and Labrador have promulgated companion acts:

- *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act*. 1987, c. 3, s. 1.
- Canada-*Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act*, R.S.N.L. 1990, c. C-2.

In this guidance, where reference is made to the Acts, it means the Federal Acts unless otherwise noted.

There may be other legislation that applies to operations in frontier areas. It is the operator's responsibility to ensure its operations comply with all applicable legislation.

Under subsection 14(1) of COGOA, subsection 149(1) of the NL Accord Act and subsection 153(1) of the NS Accord Act, the Governor in Council may make regulations for the purposes of

safety and the protection of the environment as well as for the production and conservation of petroleum resources. A number of regulations have been made in this regard.

These guidelines are intended to support three versions of the *Drilling and Production Regulations,* as published in *Canada Gazette II, on 9 December 2009:*

- Newfoundland Offshore Petroleum Drilling and Production Regulations
- Nova Scotia Offshore Petroleum Drilling and Production Regulations, and the
- Canada Oil and Gas Drilling and Production Regulations.

In this guidance, the three federal versions are collectively referred to as the Regulations. There are two provincial versions of the Regulations that are mirrors of their respective federal versions.

The Regulations describe the requirement for a SP and the elements that must be included in the SP.

An operator should note that, where other regulations made under the Acts apply to matters of safety, the SP should address the requirements of those regulations for the purposes of consolidation, integration and effectiveness.

The Regulations require, under section 6, that an application for authorization to conduct work or activities related to drilling or production operations be accompanied by a SP.

> ***Drilling and Production Regulations***
>
> ***6.*** *The application for authorization shall be accompanied by*
>
> …(c) *a safety plan that meets the requirements of section 8*;

An operator is required to develop, and submit to the applicable Board, a SP that is in accordance with section 8 of the Regulations*:*

> ***Drilling and Production Regulations***
>
> **8.** *The safety plan shall set out the procedures, practices, resources, sequence of key safety related activities and monitoring measures necessary to ensure the safety of the proposed work or activity and shall include*
>
> *(a) a summary of and references to the management system that demonstrate how it will be applied to the proposed work or activity and how the duties set out in these Regulations with regard to safety will be fulfilled;*
> *(b) a summary of the studies undertaken to identify hazards and to evaluate safety risks related to the proposed work or activity;*
> *(c) a description of the hazards that were identified and the results of the risk evaluation;*

(d) a summary of the measures to avoid, prevent, reduce and manage safety risks;

(e) a list of all structures, facilities, equipment and systems critical to safety and a summary of the system in place for their inspection, testing and maintenance;

(f) a description of the organizational structure for the proposed work or activity and the command structure on the installation, which clearly explains

(i) their relationship to each other, and

(ii) the contact information and position of the person accountable for the safety plan and of the person responsible for implementing it;

(g) if the possibility of pack sea ice, drifting icebergs or land-fast sea ice exists at the drill or production site, the measures to address the protection of the installation, including systems for ice detection, surveillance, data collection, reporting, forecasting and, if appropriate, ice avoidance or deflection; and

(h) a description of the arrangements for monitoring compliance with the plan and for measuring performance in relation to its objectives.

Other sections of the Regulations are applicable to matters of safety, including:

- Section 5 outlines the requirement for an operator's management system and its elements;
- Section 19 outlines the general duty requirements of an operator with respect to safety and environmental protection
- Safety-related requirements are present throughout parts 3 to 10 of the Regulations.

In addition to satisfying the expectations of the Regulations, the SP may be used to satisfy the legislative requirements of the Acts (e.g. the following COGOA requirements).

Canada Oil and Gas Operations Act

5.02 The (Board) shall, before issuing an authorization for a work or activity referred to in paragraph 5(1)(b), consider the safety of the work or activity by reviewing, in consultation with the Chief Safety Officer, the system as a whole and its components, including its installations, equipment, operating procedures and personnel.

5.11(1) Subject to subsection (2), no authorization under paragraph 5(1)(b) shall be issued unless the (Board) has received, from the applicant for the authorization, a declaration in the form fixed by the (Board) that states that:

(a) the equipment and installations that are to be used in the work or activity to be authorized are fit for the purposes for which they are to be used, the operating procedures relating to them are appropriate for those uses, and the personnel who are to be employed in connection with them are qualified and competent for their employment; and

(b) the applicant shall ensure, so long as the work or activity that is authorized continues, that the equipment and installations continue to be fit for the purposes for which they are used, the operating procedures continue to be appropriate for those uses, and the personnel continue to be so qualified and competent.

The operator's SP is submitted in support of its application for an authorization. The SP assists the Board with their consideration of safety when reviewing applications for authorizations (section 5.02 COGOA) and sets out the foundation upon which the operator has signed the declaration referred to above. The SP should be used by the operator to demonstrate that it has taken all reasonable and practicable steps to achieve safety for the proposed work or activity, taking into account the interaction of all components including structures, facilities, equipment, operating procedures and personnel.

An operator shall provide reasonable notice to the Board of any material changes to the SP prior to implementing those changes.

These guidelines do not contain an exhaustive review of the requirements of all regulations made under the Acts, but an operator should note that, where other regulations made under the Acts apply to matters of safety the SP should address the requirements of those regulations as necessary.

3. Management System Linkages

3.1. Management of the Operator's Work or Activity

A SP is a component of the operator's management system, which should provide assurance that the operator can appropriately manage safety when conducting a specific work or activity. Pursuant to paragraph 8(a) of the Regulations, the SP shall summarize and reference the management system that will be applied to the planned work to protect workers and to fulfill the duties set forth in the Acts and Regulations for that specific authorized activity.

Sections 5 and 18 of the Regulations require applicants and operators to have in place a management system of sufficient size and complexity to manage the operator's work or activities. Pursuant to subsection 5(1), the management system must integrate operations and technical systems with the management of financial and human resources to ensure compliance with the Acts and the Regulations.

The operator may determine the structure of the management system taking into account the purpose of the system and requirement elements as identified in section 5 of the Regulations. An operator may have a separate Safety Management System (SMS), or manage the safety elements of its activity through a general management system. The structure and the scope of the management system may be broader than the requirements in section 5, but must meet those requirements.

For the safety related aspects of an operator's management systems, the operator may refer to the Canadian Standard for Occupational Health and Safety Management, CAN/CSA-Z1000-06[8]. The standard is a useful tool for the development of safety management systems and associated plans.

8 CSA Z1000-06 Occupational Health and Safety Management

The SP may describe the links to the operator's management system or some combination of the operator's system and that of key contractors. For example, the operator's safety management system would typically apply to an exploration-drilling program with regard to the assessment of hazards, the selection of contractors and overall project coordination. However, hazards specific to a drilling installation and the occupational safety of personnel onboard the drilling installation are usually managed by the drilling installation owner's safety management system, which is vetted and monitored by the operator.

3.2. Management of Contractor's Work or Activity

Pursuant to paragraphs8(a) and 5(2)(j) of the Regulations, the SP must summarize the manner in which the operator's management system includes arrangements for coordinating the management and operations of the proposed work or activity among the owner of the installation, the contractors, the operator and others, as applicable.

The operator is responsible to ensure that contractors it employs meet applicable regulatory requirements for safety. Contractors' activities must be conducted within the scope of work described by the operator's SP.

The operator is responsible to allocate appropriate personnel and resources to ensure that contractors it employs meet the applicable regulatory requirements.

4. Content of the Safety Plan

4.1. General

The SP is an operator's plan for the proposed project, the scope of which should include contractors and their personnel. The SP describes responsibilities and expectations for safety associated with an authorized activity.

An effective SP should incorporate the following elements:

- Procedures, practices, resources, key safety-related activities and monitoring measures to ensure the safety of the proposed work or activity;
- Means to comply with safety-related requirements of legislation (statutes and regulations);
- Safety measures identified through the hazard identification and risk evaluation process;
- Safety measures identified as part of a safety program needs assessment and Safety commitments made as part of an application for exploratory drilling or Safety commitments made as part of a development application, as the case may be.

The SP should serve as a summary and reference document that describes and provides a road map to all safety related processes and documents. It should summarize and refer to the safety management elements of the management system that apply to the activity. The SP is not

intended to describe all details of an operator's safety management system or integrated management system.

The Boards do not have specific requirements for the format of a SP. However, an operator should consider the following when organizing a SP:

- The SP document forms part of the operator's management system and should be consistent with the overarching management system;
- The SP must adequately address the requirements outlined in the Regulations;
- The SP documents must describe safety hazards, risks and mitigations that have been identified for the proposed work or activity; and
- For the production phase, the SP must reflect commitments to safety made in the approved Development Plan.

The legislation and regulations require that an operator address all of the aspects of planned work or activities that can have potential impacts on safety, whether they are specifically identified in these guidelines or not. An operator should be aware that a SP should be responsive to other sections of the Acts and their associated regulations as applicable.

Where the operator has developed detailed procedures or work instructions (or detailed procedures or work instructions have been developed by their contractors and accepted by the operator) to satisfy their statutory safety duties, the SP should summarize the content of these documents rather than repeat the content.

An operator may have an integrated Health, Safety and Environmental Management System. If so, the integrated Health, Safety and Environmental Protection Plan may be submitted, but it must meet the requirements of sections 8 and 9 of the Regulations.

The SP should explain the operator's due diligence, overall coordination and oversight of the work or activity, as well as appropriate installation specific information. In the case of a drilling operation using a Mobile Offshore Drilling Unit (MODU), an operator should append to the SP a valid and current Health, Safety and Environmental (HSE) Case developed in accordance with the International Association of Drilling Contractors (IADC) HSE Case Guideline for Mobile Offshore Drilling Units.[9]

In the case of an onshore drilling operation, an operator may append to the SP an HSE Case developed in accordance with the IADC HSE Case Guideline for Land Drilling Units. An operator that does not submit a supporting HSE Case may find the IADC guidelines helpful in developing documentation to demonstrate that their management system is comprehensive and effective in identification of hazards, selection of mitigation and in meeting risk reduction and control expectations and regulatory requirements.

9 International Association of Drilling Contractors (2009), *Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units*, Issue 3.2.1, 01 May 2009, Houston, Texas, USA and available at http://www.iadc.org/hsecase/index.html

Just as SPs for drilling with a MODU can take advantage of an IADC HSE Case, operator SPs for activities that involve marine vessels should align with and take advantage of the vessel's International Safety Management (ISM) certification and associated documentation. An operator should ensure that vessels have a valid and current ISM certificate, and that project specific risks, which may fall outside the ISM system, are appropriately managed. SPs should reflect these expectations and may build on, or summarize and reference appropriate ISM documentation rather than repeat it.

The submitted material must meet the minimum requirements for information content as laid out in the Regulations and must contain sufficient detail to allow a thorough assessment of the risk management measures associated with the proposed program.

The SP should reflect the actual conditions encountered in the field. As such, the SP should be periodically reviewed and revised by the operator to reflect field conditions once authorized operations commence.

4.2. Purpose and Scope of the Safety Plan

The Safety Plan should include statements that describe its purpose and the scope:

- The purpose statement should demonstrate that the operator understands the relationship between the SP and operator and contractor management systems, legal requirements, and the work to be completed.

- The scope statement should describe what is covered, what is excluded. The scope should describe the typical offshore and onshore work and activities to be conducted (e.g. installations, vessels, support craft), as well as critical onshore support processes, including but not limited to logistics and program administration. The scope should be consistent with the scope described in the Application for Authorization (paragraph 6(a) of the Regulations).

The SP is likely to be limited by the operational boundaries of the work or activity, but it may also be limited in time (temporal scope). The SP should identify the specific aspects of the planned work or activities to which the SP will be applied, including any particular limitations to its applicability. This should include, as applicable, work and activities related to pre-mobilization, mobilization, exploration, drilling, construction, installation, operations, decommissioning and abandonment, and post-abandonment.

The breadth and depth of a SP is a function of work activity complexity and risk. A SP for a low hazard, low risk, single activity would likely not need to be either as lengthy or complex as a plan for a high hazard, high risk multi-faceted project.

The information contained within the SP should be communicated and made available to all project personnel, so that they are aware of their responsibilities and what is expected of them concerning safety.

4.3. Safety Policy Statement

The operator's management system and the SP are linked by the operator's safety policy, which should form part of the core values of the operator's management system (see paragraph 5(2)(a) of the Regulations).

The SP should include a safety policy statement that establishes the basic safety principles applicable to the planned work or activities to be conducted. This policy statement sets the tone for safety responsibility and required performance.

Typically, the safety policy defined in the operator's or a major contractor's management system would be applied to the planned work or activities. However, an activity-specific safety policy may be defined instead.

4.4. Applicable Plans and Procedures

A SP provides a summary of and reference to the safety elements of the operator's management system, including policies, plans, procedures, resources, monitoring and work instructions to the activity at the work site or installation.

As required by paragraph 8(a) of the Regulations, the SP shall include a summary of and references to the management system that demonstrates how it will be applied to the work or activity and how the duties set out in the Regulations with regard to safety will be fulfilled. The SP must contain sufficient objective commitment and detail to be understandable and useful. The SP is not a stand-alone document, and should refer to rather than duplicate detailed information contained elsewhere in the management system.

The SP should refer to the specific plans, procedures, work instructions, operating manuals and other documents intended to direct the work of personnel at the installation. These documents may be at varying levels of authority within the management system and should be written appropriately to control work activities such that the following can be achieved:

- the work or activity is conducted in a manner that conforms to the safety policy;
- safety mitigation commitments are met; and
- operator's objectives and targets are met.

As necessary, the SP should refer to documents at higher or lower levels in the operator's management system. Higher-level documents may describe safety management policies and processes. Lower level documents may describe general procedures, specific operational procedures, activity-specific work procedures and work instructions, equipment manuals, personnel allocations, and resource allocations to satisfy the safety obligations of the operator.

4.5. Planning

4.5.1. Hazard Identification, Evaluation and Risk Mitigation

Section 19 of the Regulations requires that "The operator shall take all reasonable precautions to ensure safety and environmental protection". Additional safety-related requirements are contained in Parts 3 to 10 of the Regulations. Each exploration, development and production work or activity is unique. A prudent management system requires an operator to determine the hazards associated with all aspects of the planned work or activity, to evaluate the risk potential of such hazards, and to identify and implement appropriate mitigation strategies.

While the concept 'as low as reasonably practicable' (ALARP) is not discussed in the Regulations, this concept has been used for a number of years by industry and numerous agencies in considering safety matters and reduction of risk. Industry may demonstrate incorporation of ALARP into their risk reduction and associated mitigating measures through a number of means, including a combination of qualitative analysis, quantitative analysis and good industry practice.

Paragraph 5(2)(c) of the Regulations requires that the management system contain "processes for identifying hazards and for evaluating and managing the associated risks". The SP should provide a high-level understanding of the Operator's processes for identifying hazards and for evaluating and managing the associated risks for the type of work or activity proposed. Pursuant to paragraphs 8(b) and (c) of the Regulations, the plan must then provide detailed information for the specific work or activity including a summary of the studies undertaken to identify hazards and assess risk and a description of the hazards that were identified.

The processes for identification of safety hazards and risks, whether on a situation-specific or project wide basis, should not only occur at the authorization/approval phase. Operators must have processes in place which assure that hazards are identified and risk is assessed at all levels of the organization as work proceeds. Hazards should be re-assessed at higher levels as project assumptions change or experience is obtained, from the exploration and development phase through to project completion. The SP should provide an explanation of how risk is assessed and re-assessed at all levels through the life of the proposed work or activity.

4.5.2. Legal Requirements

Implementation of the operator's management system must ensure compliance with all applicable legal requirements and the SP should summarize and reference the applicable legal requirements that the planned work or activities are to comply with in respect of its safety obligations. This should include all Canadian, flag and international requirements as may be applicable. The SP should summarize and reference possible conflicts between regulatory requirements. The portions of the Regulations relevant to the SP are discussed in Section 2 of these Guidelines.

4.5.3. Commitments by the Operator

The SP should reference and be responsive to commitments that the operator has made, with respect to safety, as part of the application process prior to work or activities being undertaken. This may include, but is not limited to:

- commitments made in an application for a Development Plan Approval; and
- commitments made in the application for authorization of a work or activity.

4.5.4. Adopted Codes and Standards

The SP should list industry guidance and other codes and standards that the operator has adopted related to the work or activity unless those standards are already incorporated in legislation. For example

- Canadian Association of Petroleum Producers (CAPP) "Atlantic Canada Offshore Petroleum Industry Standard Practice for the Training and Qualification of Personnel" (CAPP, CNSOPB, C-NLOPB)
- CAPP "Atlantic Canada Offshore Petroleum Industry Safe Lifting Practices Guide" (CAPP, CNSOPB, C-NLOPB)
- CAPP "Atlantic Canada Offshore Petroleum Industry Medical Assessment Guide" (CAPP, CNSOPB, C-NLOPB)
- ENFORM industry recommended practices

The operator should be aware that where they adopt a code or standard as part of the SP, compliance is enforceable.

4.5.5. Objectives, Targets and Limits

Consistent with paragraph 8(h) of the Regulations, the SP should describe the safety goals, how the operator will monitor compliance with the SP, measure effectiveness of the SP, and measure safety performance, including safety of personnel, process safety and integrity of the installations. In this regard the SP should summarize and reference the leading and lagging performance indicators that the operator will use to steward the safety goals, including those for asset integrity, process safety, and human factors.

4.6. Implementation and Operations

4.6.1. Resources, Roles, Responsibilities and Authority

Paragraph (8)(f) of the Regulations requires that the SP include a description of the organizational structure for the proposed work or activity and the command structure on the installation, which clearly explains:

i) Their relationship to each other, and

ii) The contact information and position of the person accountable for the safety plan and of the person responsible for implementing it.

These individuals must ensure that both the design and implementation of the SP is effective in ensuring safety, including the allocation and management of financial and human resources, as required, to achieve the purpose of the management system and of the SP.

Identifying the position(s) accountable for the SP includes indicating who within the company has responsibility and authority for its implementation, ongoing maintenance, performance monitoring and continuous improvement. The SP should contain organization charts showing reporting relationships for both line management roles and supporting safety staff functional roles. The Safety Plan should identify safety-related accountabilities and responsibilities of all senior managers and other key personnel for both the operator and key contractors. The SP should describe, at an operational level, how installation management and personnel will implement the SP on a day-to-day basis.

The arrangements for coordinating the management and operations of the proposed work or activity among the owner of the installation, the contractors, the operator and others as applicable are also a requirement of the management system under paragraph 5(2)(j) of the Regulations. With regard to contractors, the operator should allocate appropriate personnel and resources to ensure that the contractors it employs can support the operator's applicable regulatory obligations and meet the requirements of the SP. Note that, ultimately, it is the operator's responsibility to meet applicable legislative and regulatory requirements.

4.6.2. Commitment, Leadership and Participation

The SP should describe how the leadership of the organization will demonstrate safety commitment, oversight, and visible participation.

The SP should describe how workers will be encouraged and supported to participate in the execution and ongoing evolution of the SP.

The SP should describe how workers will be engaged in safety management activities, such as the worker's right to know, right to participate and right to refuse. The right to know includes the right to be aware of all credible hazards and the systems in place to mitigate risk associated with these hazards. The right to participate includes not only such established forums as a Joint Occupational Health & Safety Committees, but also the more general right for workers to have input into safety management, including the SP. The SP should include a clear statement reiterating the right to refuse dangerous work and outlining the process workers follow to exercise this right as required by applicable legislation.

4.6.3. Awareness, Competence, and Training

An operator must provide for safety awareness and competence assurance among all personnel. The latter includes both training and competency assessment. This is particularly relevant with respect to safety. Pursuant to section 5.11 of COGOA 139.1 of CNAAIA and section 143.1 of CNSOPRAIA and sections 5, 8, 19 and 72 of the Regulations there must be plans and procedures

in place to achieve these objectives, and the operator must maintain records of induction, training and competency assessment.

4.6.3.1. Awareness

The SP should summarize and reference the procedure(s) in place to make persons aware of the existence of the SP and their obligations with respect to safety. This awareness should be communicated to all levels of the organization including contractors. All personnel should be aware of:

- the organization's commitment to safety and operating in a responsible manner;
- the potential hazards of the work or activity and the individuals role in controlling those hazards;
- the responsibilities of each individual to meet safety objectives and achieve conformity with safety policies and procedures; and
- the potential consequences of departure from specified procedures.

Safety hazards, risks and mitigations associated with a work or activity, the safety elements of the management system, targets and goals should be communicated as appropriate through all levels of the organization and to appropriate external stakeholders. The SP should refer to the policies, plans and procedures for communicating safety matters.

4.6.3.2. Competence and Training

The Acts require (e.g. COGOA 5.11) that the operator declare that the personnel employed in connection with any authorized work or activity "are qualified and competent for their employment;" and will "continue to be so qualified and competent so long as the work or activity that is authorized continues." Paragraph 5(2)(d) of the Regulations requires that "processes for ensuring that personnel are trained and competent to perform their duties;" be included in the management system. Paragraph19(l) of the Regulations requires that an operator ensure that "a sufficient number of trained and competent individuals are available to complete the authorized work or activities and carry out any work or activity safely and without pollution". Furthermore, section 72 of the Regulations require that the operator ensure that

> "(*a*) all personnel have, before assuming their duties, the necessary experience, training and qualifications and are able to conduct their duties safely, competently and in compliance with these Regulations; and (*b*) records of the experience, training and qualifications of all personnel are kept and made available to the Board upon request."

The SP should summarize, and then make reference to:

a) Processes that establish candidate competency requirements at time of hire, noting how operator and contractor personnel are selected (e.g. objective criteria of experience, training and other qualifications)

b) The medical standards and associated processes used to assess personnel's physical ability to work in the "offshore" environment and in specific positions (e.g. API medical standards for crane operators) without posing an undue risk to themselves or others

c) The requirements and qualifications for core offshore and onshore positions. This includes personnel performing key support roles, such as helicopter pilots and vessel Masters. The CAPP – *Canadian East Coast Offshore Petroleum Industry Standard Practice for the Training and Qualifications of Personnel* provides some guidance on minimum requirements for the training, experience and certification of offshore personnel[10]. However, the Operator should set project-specific training and qualification requirements based on project specific activities, roles, hazards and risk.

d) The procedures followed to ensure that personnel are trained in operating and maintenance processes, including simulator training where appropriate.

e) The procedures and processes for determining safety critical tasks, and the competency assurance process for personnel performing those tasks, including how the minimum number of personnel required for safety critical roles was determined for the activity, and the management system reference document where those numbers have been set.

f) Succession plans and other planning and monitoring procedures to manage ongoing requirements for qualified and competent personnel in safety critical roles

g) Processes that describe how required professional, marine and trade certifications will be determined and how they will be maintained.

h) When specialized training required because of the specific safety aspects of a planned work or activity.

i) Procedures for determining the specific training leaders are required to receive in matters related to safety, risk management and their role in the operator's management system.

The SP should explain how the operator has ensured that personnel are trained and competent to perform their duties and provide references to more detailed information as may be necessary for audit. This may include personnel involved in the planning and shore based management of projects as well as those involved in offshore execution. The application of a systematic approach to the assurance of competence, which considers hiring and placement processes, training, certification, competency assessment, documentation, audit, review and feedback, is inherent in the legislation. The SP need not include a detailed listing of training and competency requirements.

10 Canadian Association of Petroleum Producers, *Canadian East Coast Offshore Petroleum Industry: Standard Practice for the Training and Qualifications of Personnel*, December 2005, Calgary Alberta, available from Canadian Association of Petroleum Producers, 403, 235 Water Street, St. John's, Newfoundland and Labrador, Canada, A1C 1B6 and at www.capp.ca

4.6.4. Communication

Safety hazards, risks and mitigations associated with a work or activity, the safety elements of the management system, targets and goals should be communicated as appropriate through all levels of the organization and to appropriate external stakeholders. The SP should refer to the policies, plans and procedures for communicating safety matters.

Where the operator has made commitments during the safety study or risk assessment process or the development plan approval process to provide safety related documents to the public, the procedures that will used to satisfy this commitment should be summarized and then referenced in the SP.

4.6.5. Documentation and Document Control

The requirement for the operator to establish a process for document control is set out in subsection 5(3) of the Regulations. The Drilling and Production Guidelines[11], section 5, describe the typical attributes of document control processes. Document control processes, among other things, ensure that documents are accurate and current, and ensure the efficient and effective dissemination of changes and revised documents to the appropriate persons. The SP should summarize and then make reference to document control processes.

The Boards require the SP to be a controlled document and that the appropriate Board will be provided with an up-to-date copy when the document is changed (see requirements relating to communication of changes under section 2 of these guidelines). Where the SP consists of multiple documents, the same expectation applies.

A Board may request an up-to-date copy of any document required to conduct the Board's oversight function.

4.6.6. Operational Control

4.6.6.1. Operations and Maintenance Procedures

The Acts require (e.g. COGOA 5.11) that the operator declare that the operating procedures are appropriate for their uses and section 8 of the Regulations requires that the SP set out the procedures, practices and resources necessary to ensure the safety of the work or activity. The SP should demonstrate that a comprehensive system of procedures and practices is in place to guide all hazardous operations and their interaction with one another. Hazardous operations include drilling, well operations, production and process operations, helicopter operations, materials handling, marine, maintenance, construction, installation operations, etc.

The SP should list, summarize and reference key operational and safety procedures. The SP should explain and reference processes that describe how operational procedures are developed, monitored, controlled and maintained.

11 Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board, *Drilling and Production Guidelines* (latest edition), available from C-NLOPB, 5th Floor, TD Place, 140 Water Street, St. John's, NL, A1C 6H6, or CNSOPB, 6th Floor, TD Centre, 1791 Barrington St., Halifax, NS, B3J 3K9

The SP should identify and summarize the processes in place to control and coordinate hazardous work and reference applicable procedures. These should include work permit systems, shift and tour hand-over procedures, alarm and safety system inhibit control, simultaneous operations procedures, planning meetings and planning activities at all levels of the organization, e.g. tool box talks, pre-task risk assessments, communications procedures, etc.

The SP should identify routine hazard control measures such as planned inspections, identification and control of personal protective equipment, machine guards and other barriers, control of hazardous materials, occupational hygiene, etc.

For SPs submitted to the CNSOPB and C-NLOPB, the SP should also summarize the processes that manage and control the risk associated with all forms of worker impairment, including fatigue, drugs, sickness, etc. and reference applicable procedures[12]. This applies to all persons whose work has a direct effect an approved work or activity and includes appropriate "onshore" personnel. In this context, "risk" means both risk to individuals in question, and any risk their impaired function may pose to the safety of other personnel, the installation or to the environment.

4.6.6.2. Critical Structures, Facilities, Equipment and Systems

Pursuant to paragraph 8(e) of the Regulations, the SP shall include a listing of all structures, facilities, equipment and systems critical to safety, and a summary of the system in place for their inspection, testing and maintenance.

The methodology used to develop the list of safety critical items should be summarized and then referenced, including links to the overall risk assessment and design processes. As this safety critical item list may be quite lengthy and electronically controlled, it may not be practical to include it directly in the SP. Consequently the SP may include some appropriate abbreviated form of this list along with details of how the operator and / or installation owner maintains the full list.

The Acts require that the operator declare, *"the equipment and installations that are to be used in the work or activity to be authorized are fit for the purposes for which they are to be used"*. The SP shall therefore summarize and then make reference to the processes and procedures for how fitness for purpose has been determined for safety critical items.

For offshore installations, an operator may rely, to an appropriate degree, on the Certificate of Fitness and / or Flag State certificates as third party verification of specific regulatory requirements, including the integrity assurance of safety critical items. However, these certificates do not relieve the operator of overall accountability for the integrity of safety critical items. Consequently, for offshore installations, the SP should explain how these third party certification schemes fit into the operator's overall due diligence process and demonstrate how the operator will use third party verification to complement internal processes.

12 Operators in NEB jurisdiction should refer to the current version of the *Canada Labour Code* and its regulations.

As explained in the Drilling and Production Guidelines[13], Asset Integrity is a life cycle process that an operator should integrate within the overall management system. The SP should provide a high-level overview of asset integrity management to complement the specific information provided on safety critical equipment. Where an operator has developed processes and procedures for managing the integrity of "Safety and Environmentally Critical Systems," the SP need not repeat these in detail but rather provide an overview explanation and may refer to the specific documents.

4.6.7. Contractor and Supply Chain Management

The SP should identify processes to evaluate products, supplies, equipment, new materials and other goods prior to purchase. These processes should identify and assess the hazards and risks associated with the use of these goods (e.g. chemicals) and establish mitigation (such as equipment, procedures and monitoring) to eliminate or control these hazards and risks.

The SP should identify processes that describe how contractors are selected, including the significance placed upon safety performance and competence and an explanation of how the operator measures and verifies these factors. The SP should explain the coordination or integration of respective safety management systems, including contract provisions for performance monitoring.

The SP should explain operator and contractor relationships and explain operator oversight and coordination of these matters. This includes an explanation of how the operator's overall "processes for conducting periodic reviews or audits of the [management] system and for taking corrective actions where reviews or audits identifying areas of non-conformance with the management system and opportunities for improvement", as required by paragraph 5(2)(i) of the Regulations, will apply to the activity.

4.6.8. Management of Change

The Acts require (e.g. COGOA 5.11) that the Operator declare that they shall ensure, so long as the work or activity that is authorized continues, that the equipment and installations continue to be fit for the purposes for which they are used, the operating procedures continue to be appropriate for those uses, and the personnel continue to be qualified and competent. Change can pertain to such areas as equipment, materials, procedures, practices, systems, and personnel, including risk assessment and approval processes. Consequently, the operator must manage all change to ensure that it does not compromise safety.

The Drilling and Production Guidelines, Section 5, describe the typical attributes of a management of change process. The SP should summarize and refer to the operator's and / or contractor's management of change procedures applicable to the work or activity. This includes processes that ensure the revision distribution and control of associated documents (see 4.6.5 above).

13 Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board, *Drilling and Production Guidelines* (latest edition), available from C-NLOPB, 5th Floor, TD Place, 140 Water Street, St. John's, NL, A1C 6H6, or CNSOPB, 6th Floor, TD Centre, 1791 Barrington St., Halifax, NS, B3J 3K9,

4.6.9. Safety Incidents and Near Misses

4.6.9.1. Emergency Preparedness and Response

Plans to deal with safety and environmental emergencies must be submitted to the Board with the application for an authorization under paragraph 6(j) of the Regulations. Plans to deal with potential hazards (e.g. abnormal conditions) are a requirement under paragraph 19(h) of the Regulations.

The SP should identify potential hazards, abnormal situations, emergencies, incidents and accidents that could have an impact on safety and for which contingency plans, including emergency response procedures have been developed. The SP should refer to the appropriate emergency plans and procedures.

In addition, the SP should refer to the Operator's plans to test and exercise its emergency preparedness plans and response equipment.

4.6.9.2. Incident and Near Miss Reporting and Investigation

Paragraphs 5(c) and (f) of the Regulations require processes for the reporting of hazards and injuries and for taking corrective action. Section 76 of the Regulations (75 in the Regulations under COGOA) contains incident and near-miss notification, investigation and reporting requirements. The SP should explain and identify the procedures for the reporting of safety incidents and near misses both internally and to the relevant Board. Procedures should include the investigation of all such incidents to find the underlying or root causes, the identification, implementation and tracking of remedial actions to prevent future recurrence of the incident or similar incidents.

Operators in C-NLOPB and CNSOPB jurisdictions should refer to the *Guideline for the Reporting and Investigation of Incidents.*[14] Operators in NEB jurisdiction should consult with the NEB to determine appropriate procedures for the reporting and investigation of incidents.[15]

4.7. Checking

4.7.1. Performance Measurement and Compliance Monitoring

Paragraph 8(h) of the Regulations requires arrangements for both measuring the performance of the SP in relation to its objectives and monitoring compliance with the SP. The SP should identify which performance indicators the operator will measure and track. The SP should also identify how the operator will monitor and ensure compliance with the plan.

14 Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board, ***Guideline for the Reporting and Investigation of Incidents***, ISBN 978-1-897101-48-3, available from C-NLOPB, 5th Floor, TD Place, 140 Water Street, St. John's, NL, A1C 6H6, or CNSOPB, 6th Floor, TD Centre, 1791 Barrington St., Halifax, NS, B3J 3K9

15 Procedures for incident reporting in NEB jurisdiction are described in the *Canada Labor Code Part II, Oil and Gas Occupational Safety and Health Regulations* and in the COGOA and associated regulations.

4.7.2. Auditing

To be in compliance with paragraph 5(2)(i) of the Regulations, the operator must conduct periodic reviews or audits of their management system and its components. The safety elements of the management system should be captured as part of this process. The SP should identify the type of audits (internal and external) to be performed during the planned work or activities related to safety performance, the nature and extent of such audits and how the corrective and preventive actions for non-compliance are dealt with and communicated to senior management. The SP should refer to the operator's procedures for managing and conducting their auditing program.

The operator may elect to have an external auditor assess compliance with legislation and regulations, and assess the management systems that achieve compliance (or components of these systems, e.g. safety). These audits may be conducted to determine conformance to the operator's internal policies/model or to an external criteria such as a standard. The SP should identify any procedures relevant to audit of the SP, including implementation of corrective actions.

4.7.3. Managing Nonconformities

The SP should summarize, and then make reference to, the procedure(s) to identify and deal with nonconformities or problems related to procedures and equipment that have caused or could cause poor safety performance. Such procedures should also address communication; how corrective and preventative action(s) will be taken to address such nonconformities; and how the effectiveness of corrective and preventative actions will be assessed after an appropriate implementation period.

Remedial actions resulting from periodic reviews or audits and incident investigations may include changes to policies, plans, procedures, work instructions or equipment. The SP should be reviewed and revised to reflect these changes as necessary.

4.7.4. Control of Records

The SP should identify the types of records to be maintained to demonstrate safety and conformity to the management system, and the SP. In identifying such records, the operator shall take into account the various record keeping requirements set out in Part 11 of the Regulations. In particular, training and competency records, inspection, testing and maintenance records, compliance monitoring records, records of safety incidents, accidents and investigations, and records of safety activities undertaken in response to investigation reports, audit outcomes or other safety initiatives must be maintained as per record retention requirements outlined in legislation and or the management system.

4.8. Continual Improvement

The expectations for continual improvement are implicit in section 5 of the Regulations. Specifically, the management system must include the following:

> 5(2)(b) the processes for setting goals for the improvement of safety, environmental protection and waste prevention;…
>
> 5(2)(i) the processes for conducting periodic reviews or audits of the system and for taking corrective actions if reviews or audits identify areas of non-conformance with the system and opportunities for improvement;

With respect to safety matters, Part 11 of the Regulations require, as part of an Annual Safety Report, a summary of lost or restricted workday injuries, minor injuries and safety-related incidents that have occurred during the preceding year; and a discussion of efforts undertaken to improve safety.

The operator may collect or receive safety performance information in a number of ways:

- Compliance monitoring;
- Incident and near miss reporting and investigation;
- Audits;
- Monitoring of leading and lagging indicators, etc.

The Boards expect an operator to seek opportunities for improvement in safety and are required to report annually on their safety performance. The SP should refer to the annual safety report, and that report should refer back to the SP.

The SP should describe how experience gained from operations will be reviewed and used to improve the SP and the safety management system. Where the operator has a separate procedure for continuous improvement, the SP may refer to that procedure. The SP should be a dynamic document that is updated from time to time to reflect the operator's learnings, changes in industry standards, and changes in regulatory requirements.

5. References

5.1. Acts and Regulations

Canada-Newfoundland Atlantic Accord Implementation Act, S.C. 1987, c. 3, as published by the Minister of Justice, Ottawa, Canada, and available at http://laws-lois.justice.gc.ca

Canada-Newfoundland and Labrador Atlantic Accord Implementation (Newfoundland) Act, R.S.N 1990, c. C-2., as published by the Queen's Printer, St. John's, Canada, and available at http://assembly.nl.ca/Legislation/sr/statutes/c02.htm

Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, S.C. 1988, c. 28., as published by the Minister of Justice, Ottawa, Canada, and available at http://laws-lois.justice.gc.ca

Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation (Nova Scotia) Act, S.N.S. 1987, c. 3.s.1. as published by the Office of the Legislative Counsel, Halifax, Canada and available at http://www.gov.ns.ca/legislature/legc/

Canada Labour Code, R.S.1985, c. L-2., as published by the Minister of Justice, Ottawa, Canada, and available at http://laws-lois.justice.gc.ca

Canada Oil and Gas Operations Act, R.S., 1985, c. O-7, s. 1; 1992, c. 35, s. 2. as published by the Minister of Justice, Ottawa, Canada, and available at http://laws-lois.justice.gc.ca

Canada Oil and Gas Drilling and Production Regulations, SOR/2009-315, as published by the Minister of Justice, Ottawa, Canada, and available at http://laws-lois.justice.gc.ca

Newfoundland Offshore Petroleum Drilling and Production Regulations, SOR/2009-316, as published by the Minister of Justice, Ottawa, Canada, and available at http://laws-lois.justice.gc.ca

Nova Scotia Offshore Petroleum Drilling and Production Regulations, SOR/2009-317 as published by the Minister of Justice, Ottawa, Canada, and available at http://laws-lois.justice.gc.ca

Offshore Petroleum Drilling and Production Newfoundland and Labrador Regulations, 2009, O.C. 2009-386, as published by the Queen's Printer, St. John's, Canada, and available at http://www.assembly.nl.ca/legislation/sr/regulations/rc090120.htm

Nova Scotia Offshore Petroleum Drilling and Production Regulations, O.I.C. 2009-518, N.S. Reg. 336/2009, as published by the Office of the Legislative Counsel, Halifax, Canada and available at http://www.gov.ns.ca/just/regulations/regs/coprdrill.htm

5.2. Other References

Canadian Association of Petroleum Producers, *Canadian East Coast Offshore Petroleum Industry: Standard Practice for the Training and Qualifications of Personnel*, December 2005, Calgary Alberta, available from Canadian Association of Petroleum Producers, 403, 235 Water Street, St. John's, Newfoundland and Labrador, Canada, A1C 1B6 and at www.capp.ca

Canadian Standards Council, *CAN/CSA-Z1000-06, Canadian Standard for Occupational Health and Safety Management*, available from Canadian Standards Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6

Canadian Standards Council, *CAN/CSA- ISO 9000:05, Quality management systems – Fundamentals and Vocabulary*; available from Canadian Standards Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6

Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board, *Drilling and Production Guidelines* (2009), available from C-NLOPB, 5th Floor, TD Place, 140 Water Street, St. John's, NL, A1C 6H6, or CNSOPB, 6th Floor, TD Centre, 1791 Barrington St., Halifax, NS, B3J 3K9,

Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board, *Guidelines for the Reporting and Investigation of Incidents, ISBN 978-1-897101-48-3,* available from C-NLOPB, 5th Floor, TD Place, 140 Water Street, St. John's, NL, A1C 6H6, or CNSOPB, 6th Floor, TD Centre, 1791 Barrington St., Halifax, NS, B3J 3K9