



National Energy Board Office national de l'énergie

Environmental Protection 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 operators in developing Environmental Protection Plans (EPP) to meet the requirements of sections 6 and 9 of the *Drilling and Production Regulations* (Regulations).

The Boards may develop or adopt guidance, standards and recommended practices to support and complement the regulations that they enforce. In all cases, the intent of the Boards 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 Atlantic Accord Implementation Act* (CNAAIA).

In many instances, these guidelines identify a 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

CAPP	Canadian Association of Petroleum Producers
CEAA	<i>Canadian Environmental Assessment Act</i>
CNAAIA ¹	<i>Canada - Newfoundland Atlantic Accord Implementation Act</i>
CNSOPB	Canada-Nova Scotia Offshore Petroleum Board
CNSOPRAIA ¹	<i>Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act</i>
COGOA	<i>Canada Oil and Gas Operations Act</i>
CSA	Canadian Standards Association
COF	Certificate of Fitness
C-NLOPB	Canada – Newfoundland and Labrador Offshore Petroleum Board
EA	Environmental Assessment
EMS	Environmental Management System
EPP	Environmental Protection Plan
IFA	Inuvialuit Final Agreement
ISO	International Organization for Standardization
MODU	Mobile Offshore Drilling Unit
MVRMA	<i>Mackenzie Valley Resource Management Act</i>
NEB	National Energy Board
NLCA	Nunavut Land Claims Agreement

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	<i>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</i>
Acts	the Accord Acts and the <i>Canada Oil and Gas Operations Act</i>
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 National Energy Board, Canada-Newfoundland and Labrador Offshore Petroleum Board or the Canada-Nova Scotia Offshore Petroleum 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 CNAAIA
document ⁴	information and its supporting medium (see record)
environmental aspect ⁵	an element of an operator's activities, products or services that can interact with the environment

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 Standard CAN/CSA-ISO 14004:04

environmental effect	any changes to the environment ⁶ , whether adverse or beneficial, wholly or partially resulting from the work or activity conducted by an operator
environmental management system	the portions of an operator's management system dedicated to environmental management or the management of environmental aspects of an operation, whether or not these management elements are incorporated in or separate from the overall management system
environmental policy ⁷	the overall intention and direction of an organization related to its environmental performance as formally expressed by senior management
environmentally critical role	assigned work or responsibility key to the mitigation of the effects of pollution, or to monitoring or managing structures, facilities, equipment and systems critical to environmental protection
hazard	a possible source of an adverse environmental effect
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 <i>Act</i> and the <i>Regulations</i>
natural environment ⁸	the physical and biological environment
operator ⁹	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
preventative action ¹⁰	an action to eliminate the cause of a potential nonconformity
pollution ¹¹	the introduction into the natural environment of any substance or form of energy outside the limits applicable to the activity that is subject to an authorization, including spills

6 *Canadian Environmental Assessment Act*, S.C. 1992, c. 37, Section 2, Definitions

7 CSA Standard CAN/CSA-ISO 14004:04

8 Excerpted from section 1.(1) of the Regulations

9 Excerpted from section 1.(1) of the Regulations

10 CSA Standard CAN/CSA-ISO 14004:04

11 Excerpted from section 1.(1) of the Regulations

record¹² 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

waste material¹³ any garbage, refuse, sewage or waste well fluids or any other useless material that is generated during drilling, well or production operations, including used or surplus drilling fluid and drill cuttings and produced water

12 CSA Standard CAN/CSA-ISO 9000:05

13 Excerpted from section 1.(1) of the Regulations

1. Purpose and Scope of Guidelines

The objective of these guidelines is to assist an operator in the development of an environmental protection plan (EPP) that meets the requirements of the *Acts* and Regulations and the objective of protection of the environment from its proposed work or activity. 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 scope of these guidelines is limited to the EPP and where guidance on general or specific environmental protection matters has been developed elsewhere, these guidelines will 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, and
- *Canada-Newfoundland Atlantic Accord Implementation Act*, R.S.C. 1985, c. O-7

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 CNAAIA, and subsection 153(1) of the CNSOPRAIA, 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 these guidelines, the three federal versions of the regulations are collectively referred to as the Regulations. There are two provincial versions of the Regulations that mirror their respective federal version.

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 an EPP.

Drilling and Production Regulations

6. The application for authorization shall be accompanied by ... (d) an environmental protection plan that meets the requirements of section 9;

An operator is required to develop, and submit to the relevant Board, an EPP that is in accordance with section 9 of the Regulations:

Drilling and Production Regulations

9. The environmental protection plan shall set out the procedures, practices, resources, and monitoring necessary to manage hazards to and protect the environment from the proposed work or activity and shall include;

- (a) *a summary of and references to the management system that demonstrate how it will be applied to the proposed work or activity and how the duties set out in these Regulations with regard to environmental protection will be fulfilled;*
- (b) *a summary of the studies undertaken to identify environmental hazards and to evaluate environmental risks relating 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 environmental risks;*
- (e) *a list of all structures, facilities, equipment and systems critical to environmental protection and a summary of the system in place for their inspection, testing and maintenance;*
- (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 environmental protection plan and of the person responsible for implementing it;*

- (g) the procedures for the selection, evaluation and use of chemical substances including process chemicals and drilling fluid ingredients;*
- (h) a description of equipment and procedures for the treatment, handling and disposal of waste material;*
- (i) a description of all discharge streams and limits for any discharge into the natural environment including any waste material;*
- (j) a description of the system for monitoring compliance with the discharge limits identified in paragraph (i), including the sampling and analytical program to determine if those discharges are within the specified limits; and*
- (k) 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 environmental protection, including:

- Section 5 outlines the requirements for an operator’s management system and its elements;
- Sections 19, 20, 22, 23, and 24 outline an operator’s general duties with respect to environmental protection

In addition to satisfying the expectation of the Regulations, the EPP may be used to satisfy the requirements of the Acts (e.g., the following COGOA requirements):

Canada Oil and Gas Operations Act

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 EPP is submitted in support of its application for an authorization. The EPP assists the Board with their consideration of environmental protection when reviewing applications for authorization and sets out the foundation upon which the operator has signed the declaration referred to above. The EPP should be used by the operator to demonstrate that the

operator has taken all reasonable and practicable steps to achieve environmental protection 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 EPP 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 environmental protection, the EPP should address the requirements of those regulations as necessary.

3. Management System Linkage

Pursuant to paragraph 9(a) of the Regulations, the EPP shall summarize and make reference to the management system elements that will be applied to the authorized work or activity to protect the environment and to fulfill the environmental protection duties set forth in the Acts and Regulations.

3.1. Management of the Operator's Work or Activity

The EPP is a component of an operator's management system and is an operator's plan to effectively implement its environmental protection measures. Decisions about the style of an operator's management system, and whether a separate Environmental Management System (EMS) is developed, are left to the discretion of the operator.

There are many management system models and the operator may develop a management system that suits its own purpose as long as it meets the requirements of section 5 of the Regulations.

The CAN/CSA-ISO 14004:04 may be useful for the development of environmental management systems and associated plans. An operator may choose to make reference to CAN/CSA-ISO 14004 or to other standards as appropriate.

3.2. Management of Contractor's Work or Activity

Paragraph 5(2)(j) of the Regulations states that the operator's management system shall include 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. Where contractors are to be employed, the EPP should refer to management system processes that describe factors such as how contractors are selected, including the significance placed upon environmental performance and competence, and how the operator intends to measure and verify these factors.

The operator is responsible to ensure that contractors it employs meet applicable regulatory requirements for environmental protection. Contractors' activities must be conducted within the scope of the operator's EPP. The EPP should refer to the operator's processes for ensuring that

each contractor will meet the environmental protection objectives for the project or activity and for verifying that each objective is accomplished.

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 Environmental Protection Plan

4.1. General

The EPP is an operator's plan for all project personnel, including contractor personnel, describing responsibilities, expectations and methodologies for environmental protection associated with an authorized work or activity.

An effective EPP should incorporate the following elements:

- means to comply with requirements of relevant legislation (statutes and regulations),
- environmental protection measures identified as part of an environmental assessment, and
- environmental commitments made as part of an application for exploratory drilling or a development application, as the case may be.

The EPP should serve as a summary and reference document that describes, or provides a map to, all environment related processes and documents. It should summarize and refer to the environmental management elements of the management system that apply to the activity. The EPP is not intended to describe all details of the environmental elements of an operator's management system.

The Boards do not have specific requirements for the format of an EPP and this guidance is not intended to provide an implicit table of contents. However, certain elements should be considered when organizing an EPP:

- The EPP document forms part of the management system and should be consistent with the overarching management system;
- The EPP must adequately address the requirements outlined in the Regulations and will be assessed by the Boards with respect to those Regulations;
- The environmental assessment documents that describe the predicted environmental hazards and risks, including the mitigation measures that have been identified to reduce those risks, should be reflected in the EPP; and
- The EPP for a production operation must reflect the commitments to environmental protection made as part of a Development Plan.

An operator should address all of the aspects of its planned work or activity that may have potential impacts on the environment, whether they are specifically identified in these guidelines or not. An operator should be aware that, in addition to the requirements of section 9 of the Regulations, an EPP should be responsive to other sections of the Acts and the various related regulations applicable to environmental protection.

An operator may have a combined Health, Safety and Environmental Management System. The Boards will accept a combined Health, Safety and Environmental Protection Plan to meet the requirement for an EPP as long as the environmental components of the plan meet the intent of the Regulations.

In the case of a drilling operation using a Mobile Offshore Drilling Unit (MODU), the EPP may reference installation specific information contained in a valid and current IADC HSE Case.¹⁴ In general, HSE Cases focus on an installation, while EPPs look more broadly at all aspects of the work or activity for which an operator is seeking approval.

The level of detail included in an EPP should be proportional to the complexity and risk of the proposed activity. However, the submitted material must meet the requirements for information content as laid out in the Regulations and must contain sufficient detail to allow a thorough assessment of the environmental protection measures associated with the proposed program.

The EPP should accurately reflect the actual conditions encountered in the field. The EPP therefore should be periodically reviewed and revised by the operator once authorized operations commence.

4.2. Purpose and Scope of the Environmental Protection Plan

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

- The purpose statements should demonstrate how the operator understands the relationship between the EPP and the operator's management system, the legal requirements, and the work to be completed.
- The scope statements should describe what is covered, and what is excluded. The scope of the EPP should be consistent with the description of the scope of proposed activities required by paragraph 6(a) of the Regulations.

The EPP should identify the specific aspects of the planned work or activities to which the EPP will be applied, including any particular limitations such as geographic boundaries (spatial scope); time (temporal scope); or limitation to particular activities. The EPP should include the activities that fall within the scope of the application for authorization and could include, as applicable; work and activities related to pre-mobilization, mobilization, exploration, drilling, construction, installation, operations, decommissioning and abandonment, and post-abandonment.

¹⁴ 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>

The EPP should serve as a reference document for all project personnel, so that they are aware of their responsibilities and what is expected of them concerning environmental protection.

4.3. Environmental Policy Statement

The operator's management system and the EPP are linked by the operator's environmental policy, which should form part of the core values of the operator's management system.

The EPP should include or refer to an environmental policy statement that establishes the basic environmental principles applicable to the planned work or activities to be conducted. This policy statement sets the tone for environmental responsibility and environmental performance required.

Typically, the environmental 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 environmental policy may be defined instead.

For recommendations on the elements of an effective environmental policy, the operator may refer to section 4.2 of CAN/CSA-ISO 14001:2004.

4.4. Applicable Plans and Procedures

An EPP provides a summary of and reference to the environmental elements of the operator's management system, including policies, plans, procedures and work instructions relevant to the proposed work or activity.

As required by paragraph 9(a) of the Regulations, the EPP shall include a summary of and references to the management system that demonstrate how it will be applied to the work or activity and how the duties set out in the Regulations with regard to environmental protection will be fulfilled. The EPP is not a stand alone document, and should refer to rather than duplicate other elements of the management system.

The EPP 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 and activities such that the following can be achieved:

- the work or activity is conducted in a manner that conforms to the environmental policy;
- environmental mitigation commitments are met;
- limits for discharges are not exceeded; and
- the operator's objectives and targets are met.

As necessary, the EPP should refer to documents at higher or lower levels in the operator's management system. Higher level documents may describe environmental management policies and processes. Lower level documents may describe general procedures, specific operational

procedures, activity specific work-procedures and work instructions, equipment manuals, environmental protection procedures, personnel allocations, and resource allocations to satisfy the environmental protection obligations of the operator.

4.5. Planning

4.5.1. Hazard Identification, Risk Evaluation and Mitigation

Each exploration, development and production work or activity is unique. An effective management system would enable an operator to determine the environmental 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 for the proposed work or activity.

In accordance with paragraph 9(b), 9(c) and 9(d) of the Regulations, the EPP shall contain a summary of the studies undertaken to identify environmental hazards and to evaluate environmental risks; the results of those studies; and a summary of the means to avoid, prevent, reduce or manage risks to the natural environment.

An environmental assessment (EA) of proposed exploration and production activities, including proposed development plans, will be triggered by the *Canadian Environmental Assessment Act*¹⁵, the *Mackenzie Valley Resource Management Act*¹⁶, the *Nunavut Land Claims Agreement*¹⁷, the *Inuvialuit Final Agreement*¹⁸, and the *Labrador Inuit Land Claims Agreement*¹⁹ as the case may be. The applicable assessment must be completed prior to the Board's issuance of regulatory approvals.

In an EA, identification of potential hazards to the environment, assessment of risks associated with these hazards, and identification of mitigation measures to reduce these risks are fundamental tasks that are undertaken. The EPP should refer to the proponent's environmental impact studies as appropriate, and reflect the commitments to environmental protection contained in the EA.

Operators are expected to identify hazards and to assess associated risk and mitigation requirements on an ongoing basis throughout the full lifecycle of a project in accordance with paragraph 5(2)(c) of the Regulations. The EPP should summarize and refer to the applicable management system elements that address the requirements of paragraph 5(2)(c) with respect to environmental protection.

4.5.2. Legal Requirements

The operator's management system must ensure compliance with all applicable legal requirements and the EPP should summarize and refer to the legal requirements that the planned

15 *Canadian Environmental Assessment Act*, S.C. 1992, c. 37,

16 *Mackenzie Valley Resource Management Act*, S.C. 1998, c. 25

17 *Nunavut Land Claims Agreement Act*, S.C. 1993, c. 29

18 *Western Arctic (Inuvialuit) Claims Settlement Act*, S.C. 1984, c. 24

19 *Labrador Inuit Land Claims Agreement Act*, 2005, c. 27

work or activities are to comply with in respect of its environmental aspects. The specific EPP relevant portions of the Regulations are discussed in section 2 of these Guidelines.

4.5.3. Commitments by the Operator

The EPP should reference and be responsive to environmental commitments that the operator made both before and during the application process. This may include, but is not limited to:

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

4.5.4. Guidance and Adopted Standards

The Boards have published guidance in relation to various regulations. The operator may reference the published documents that apply in the operator's geographic region. Some of these documents include:

- *Offshore Waste Treatment Guidelines*²⁰
- *Offshore Chemical Selection Guidelines for Drilling & Production Activities on Frontier Lands*²¹
- *Guidelines for the Reporting and Investigation of Incidents*²²

Guidance documents are not statutory instruments and are not binding on the operator or the Boards. An operator may propose alternative approaches to those presented in guidance as long as those approaches meet the intent of the legislation.

Additionally, the EPP should refer to other requirements (eg. codes, standards, and best practices) that the planned work or activities are to conform to respecting the management of environmental aspects. The operator should be aware that where it adopts a standard or best practice as part of the EPP, compliance with the requirements of that standard may be enforceable.

20 National Energy Board, Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board (2010), *Offshore Waste Treatment Guidelines*, ISBN 978-1-100-17491-4, available from The Publications Office, National Energy Board, 444 Seventh Avenue S.W., Calgary, Alberta, T2P 0X8.

21 National Energy Board, Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board (2009), *Offshore Chemical Selection Guidelines for Drilling & Production Activities on Frontier Lands*, ISBN 978-1-100-12451-3, available from The Publications Office, National Energy Board, 444 Seventh Avenue S.W., Calgary, Alberta, T2P 0X8.

22 Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board (2009), *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

4.5.5. Discharge Limits

Pursuant to paragraphs 9(h) and 9(i) of the Regulations, the EPP shall describe all of the planned discharges, the limits on these discharges, and, for waste discharges, the equipment and procedures for treatment, handling and disposal of waste material.

Emissions and discharges associated with offshore drilling and production are well known and the Boards have co-published guidance, the *Offshore Waste Treatment Guidelines*²³ (OWTG) that discuss the Boards' expectations with respect to discharge limits for a variety of waste streams.

For onshore drilling, the discharge limits, including emissions, may be established in conjunction with regional requirements and guidelines. The EPP should identify the limits and reference any guidance or standards that were used to establish those limits.

The sampling and analysis of discharges is described in section 4.7.1.

The operator may also refer to section 4.3.3 of CAN/CSA-ISO 14001:2004, for further information on objectives, targets and programmes of an environmental management system.

4.6. Implementation and Operations

4.6.1. Resources, Roles, Responsibilities and Authority

Paragraph 9(f) of the Regulations requires that the EPP include a description of the organizational structure for the planned work or activities, 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 environmental protection plan and of the person responsible for implementing it.

Identifying the position(s) accountable for the EPP includes indicating who within the company has responsibility and authority for its implementation, ongoing maintenance, performance monitoring and continuous improvement. The EPP should describe, at an operational level, how installation management and personnel will implement the EPP on a day-to-day basis. Reporting relationships and structures for both management roles and supporting environmental protection staff functional roles, including contractor staff when applicable, are most easily understood when represented in organization charts. The operator is encouraged to use organization charts to explain these relationships.

The operator may also refer to CAN/CSA-ISO 14001:2004, section 4.4.1, for further information on resources, roles, responsibility and authority, in relation to an environmental management system.

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4.6.2. Commitment, Leadership and Participation

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

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

4.6.3. Awareness, Competence, and Training

The EPP should summarize and/or reference how environmental awareness training is provided for all personnel, and should summarize and/or reference the procedures to ensure that personnel in environmentally critical roles are qualified and competent. This includes requirements for both training and competency assessments.

Pursuant to section 5.11 of COGOA, section 139.1 of CNAAIA and section 143.1 of CNSOPRAIA, an operator applying for authorization of a work or activity must declare that personnel who are to be employed in connection with equipment and installations that are to be used in the work or activity are qualified and competent for their employment. There must be plans and procedures in place to accomplish these objectives, and the operator must maintain records of induction, training and competency assessment.

Operators may also refer to section 4.4.2 of CAN/CSA-ISO 14001:2004, for further information on competence, training and awareness, in relation to an environmental management system.

4.6.3.1. Awareness

The EPP should summarize and reference the procedure(s) in place to make persons aware of their obligations with respect to environmental protection and the existence of the EPP. This awareness should be imparted to all levels of the organization including contractors.

4.6.3.2. Competence and Training

The requirement for competent personnel is laid out in subsections 5.11(1) and 5.11(2) of COGOA, subsections 139.1(1) and 139.1(2) of CNAAIA, and in subsections 143.1(1) and 143.1(2) of CNSOPRAIA. For all operators, the need for processes to ensure that personnel are trained and competent is outlined in paragraph 5(2)(d) of the Regulations. Additionally, paragraph 19(1) of the Regulations requires that operators 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.” This requirement includes personnel on the installation and extends to personnel on support craft.

To demonstrate the capability to meet the goals of paragraph 19(1), the EPP should do the following:

- list environmentally critical roles;
- refer to the operator’s procedures for designating environmentally critical roles, determining the qualifications for environmentally critical roles, assessing the

competency of personnel assigned to these roles, and assuring itself that sufficient competent personnel are assigned to these roles.

The personnel allocation and the processes for training and of assessing competence should be traceable through records.

The CAPP *Canadian East Coast Offshore Petroleum Industry Standard Practice for the Training and Qualifications of Personnel*²⁴ provides some guidance on minimum requirements for training, experience and certification of offshore personnel. However, for environmentally critical roles, the operator should set specific training and qualification requirements.

4.6.4. Communication

Environmental hazards, risks and mitigations associated with an authorized activity, environmental effects, environmental protection elements of the management system, and targets and goals should be communicated as appropriate through all levels of the operator's organization. The EPP should refer to the policies, plans and procedures for communicating environmental protection matters within the operator's organization.

Where the operator has made commitments during the environmental assessment process or the development plan approval process to provide environmental information to the public, the EPP should refer to the appropriate policies, plans and procedures for communicating environmental matters to external stakeholders.

The operator may refer to section 4.4.3, CAN/CSA-ISO 14001:2004, for further information on communication, in relation to an environmental management system.

4.6.5. Document Control

Paragraph 5(2)(h) of the Regulations requires that a document control system is in place. The EPP should summarize and refer to document control processes as they relate to management of the EPP and associated documents. As an important component of the management system, the EPP should be a controlled document and the appropriate Board should be provided with an up to date copy when the document is changed (see requirements relating to authorization of changes under section 2 of these guidelines). Where the EPP consists of multiple documents, the same expectation would apply.

The operator may also refer to sections 4.4.4, and 4.4.5 of CAN/CSA-ISO 14001:2004, for further information on documentation and control of documents, in relation to an environmental management system.

4.6.6. Operational Control

4.6.6.1. Operations and Maintenance Procedures

24 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

Section 5.11 of COGOA, section 139.1 of the CNAAIA and section 143.1 of the CNSOPRAIA require that the operator declare that the operating procedures are appropriate for their uses and section 9 of the Regulation requires that the EPP set out the procedures and practices necessary to ensure environmental protection.

The EPP should therefore summarize and/or refer to operating procedures and other operational documents that are to be implemented to ensure environmental protection.

4.6.6.2. Structures, Facilities, Equipment and Systems Critical to Environmental Protection

Pursuant to paragraph 9(e) of the Regulations, the EPP shall include a list of all structures, facilities, equipment and systems critical to environmental protection, and a summary of the system in place for their inspection, testing and maintenance.

The methodology used to develop the list of structures, facilities, equipment and systems that are critical to environmental protection should be summarized and referenced. The methodology should be informed by the identification and assessment of environmental hazards and the proposed measures to avoid, prevent, reduce and manage environmental risks (see subsection 4.5.1).

The list of structures, facilities, equipment and systems critical to environmental protection may be lengthy and may be electronically controlled. The EPP may include an abbreviated form of this list with a reference to the complete list. The procedures used to maintain the list should also be summarized.

The EPP should summarize and refer to the system in place for the inspection, testing and maintenance of structures, facilities, equipment and systems critical to environmental protection.

As described in section 2 of these guidelines, the Acts require that the operator declare that the equipment and installations to be used are fit for purpose. The EPP should summarize and reference the process for verifying “fitness for purpose” for environmentally critical items. The EPP should explain how third-party certification schemes fit into the operator’s overall due diligence process and demonstrate how the operator uses third-party verification to complement its internal processes. Use of third-party certificates does not relieve the operator of overall accountability for the integrity of environmentally critical items.

4.6.7. Selection and Use of Chemical Substances

The EPP shall summarize and refer to the process for the selection, evaluation and use of chemical substances including process chemicals and drilling fluid ingredients, pursuant to paragraph 9(g) of the Regulations.

The Boards have published the *Offshore Chemical Selection Guidelines for Drilling & Production Activities on Frontier Lands*²⁵ (OCSG) in support of the operator’s development of a chemical management system and the operator should consult those guidelines for a detailed

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discussion of this matter. For onshore activities the operator may wish to consult the OCSG to assist in the establishment of a framework for the selection and evaluation of chemical substances.

4.6.8. Disposal of Waste Material

Pursuant to paragraph 9(h) of the Regulations, the EPP shall include a description of equipment and procedures for the treatment, handling and disposal of waste material. The description of limits for discharges to the natural environment, including any waste material pursuant to paragraph 9(i) of the Regulations is discussed in section 4.5.5 of these guidelines.

For waste material that will not be discharged from an offshore installation, the EPP must summarize and refer to a procedure for the management of waste materials during temporary storage on an installation. This description should include procedures for classifying and separating waste streams, and for handling and storing waste materials at the site.

Similarly for onshore activities, the EPP should include the procedures for the temporary storage and management of waste. The description should also include the procedures for classifying and separating waste streams, and for the handling, storing and transportation of the material. The procedures should refer to the regional requirements, permits and guidelines.

4.6.9. Management of Change

Change should be managed to ensure that environmental protection is not compromised, particularly when environmentally critical systems are impacted. The EPP should refer to the operator's management of change procedures.

4.6.10. Environmental Incidents

4.6.10.1. Emergency Preparedness and Response

The EPP should identify potential environmental emergencies and hazards and should refer to the appropriate emergency plans and procedures and/or spill response plan(s) that would be implemented in such situations. In addition, the EPP should refer to the operator's plans to test and exercise its emergency preparedness plans and response equipment.

The operator may also refer to section 4.4.7 of CAN/CSA-ISO 14001:2004 for further information on emergency preparedness and response, in relation to an environmental management system.

4.6.10.2. Incident Reporting and Investigation

The EPP should summarize and reference the procedures for the reporting of all environmental incidents and near misses to the relevant Board, for the investigation of all such incidents to find the underlying or root causes, and for the identifying of remedial actions to prevent future recurrence of the incident or similar incidents in the future.

Offshore operators in C-NLOPB or CNSOPB jurisdictions should refer to the *Guidelines for the Reporting and Investigation of Incidents*²⁶ in this regard. Operators in NEB jurisdiction should consult with the NEB regarding the requirements for incident reporting and investigation.²⁷

Remedial actions resulting from incident investigations may include changes to policies, plans, procedures, work instructions or equipment. The EPP should be reviewed and revised to reflect these changes as necessary. These activities to improve environmental performance should also be reflected in the Environmental Report required under paragraphs 87(1)(b) and 87(2)(b) of the *Newfoundland Offshore Petroleum Drilling and Production Regulations* and the *Nova Scotia Offshore Petroleum Drilling and Production Regulations* and paragraphs 86(1)(b) and 86(2)(b) of the *Canada Oil and Gas Drilling and Production Regulations*.

4.7. Checking

4.7.1. Compliance Monitoring and Performance Measurement

Paragraph 9(j) of the Regulations requires that the EPP contain a description of the system for monitoring compliance with the EPP described limits for discharges to the environment, including the sampling and analytical program to quantify that compliance. The sampling and analytical program must form part of the EPP, or alternatively the EPP may summarize and reference a separate document commonly known as an *Environmental Compliance Monitoring Plan*. Board expectations for reporting related to authorized discharges are described in the *Offshore Waste Treatment Guidelines*²⁸

Paragraph 9(k) of the Regulations requires that the EPP describe the arrangement for monitoring compliance with the EPP and for measuring performance in relation to its objectives. The reporting of this information may be accomplished as part of the Environmental Report described in paragraphs 87(1)(b) and 2(b) of the provincial regulations (paragraphs 86(1)(b) and 86(2)(b) of the *Canada Oil and Gas Drilling and Production Regulations*).

4.7.1.1. Sheen Monitoring

An example of performance measurement pursuant to paragraph 9(k) of the Regulations is sheen monitoring. Petroleum sheens may occasionally form on the surface of a water body in association with discharges that comply with the discharge limits that are identified in the operator's EPP. These sheens therefore do not constitute an exceedance or incident, but may be confused with those associated with pollution, or may lead to a greater potential for adverse effects upon wildlife, or both. Therefore, operators of installations that discharge substances that may form sheens typically monitor the occurrence of all sheens in the vicinity in a systematic manner. Each such operator, in its EPP, summarizes and/or refers to its procedure for the

26 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

27 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 *Canada Oil and Gas Operations Act* and associated regulations. The NEB is developing a specific incident reporting procedure.

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systematic observation and reporting of sheens near the installation. The procedure provides, where practicable, for the estimation of the areal dimensions and temporal persistence of each sheen, and the tentative identification of the discharge with which it is associated.

4.7.1.2. Environmental Effects Monitoring

The environmental assessment of a planned drilling or production program may identify the need for an Environmental Effects Monitoring (EEM) program. For example, development-drilling and production projects in C-NLOPB and CNSOPB jurisdictions historically have required EEM programs. Where an EEM program is required, the program should adapt as necessary over time to ensure continued focus upon the potential environmental effects of the activity. An operator should review the outcomes of its EEM programs to determine if the outcomes match the expected outcomes in the environmental assessment. The outcomes may result in new hazards, risks or mitigations being identified in relation to environmental protection. This information should be fed into the operator's program to ensure conformance to the EPP and continual improvement in environmental performance.

4.7.2. Auditing and Review

The EPP should summarize and refer to the procedures the operator has developed pursuant to paragraph 5(2)(i) that it will use for reviewing and auditing compliance with the EPP and performance in relation to its objectives. The information provided should include the type of audits and inspections (internal and external) to be performed during the authorized work or activities, the nature and extent of such audits and how the results of the audits and inspections will be used and communicated to senior management. The outcomes of internal and external audits and inspections, and operator responses or remedial actions should also be reflected in the environmental reports required under section 87 of the *Newfoundland Offshore Petroleum Drilling and Production Regulations*, and the *Nova Scotia Offshore Petroleum Drilling and Production Regulations*, and section 86 of the *Canada Oil and Gas Drilling and Production Regulations*.

An operator may also refer to section 4.5.5, CAN/CSA-ISO 14001:2004, for further information on internal audits, in relation to an environmental management system.

4.7.3. Managing Non-conformities

The EPP should summarize and refer to the procedure(s) employed by the operator to identify and deal with nonconformities or problems related to procedures and equipment that have caused or could cause poor environmental performance, spills or pollution. Such procedures should also address 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 period of implementation.

An operator may also refer to section 4.5.3, CAN/CSA-ISO 14001:2004, for further information on nonconformity, corrective action and preventive action, in relation to an environmental management system.

4.7.4. Control of Records

The EPP should identify the types of records that are to be maintained to demonstrate environmental protection and conformity to the management system. In identifying such records, the operator should take into account the various record keeping requirements set out in Part 11 of the Regulations. In particular, compliance monitoring records, records of environmental incidents, accidents and investigations, and records of environmental protection activities undertaken in response to investigation reports, audit outcomes or other environmental initiatives should be maintained.

An operator may refer to section 4.5.4 of CAN/CSA-ISO 14001:2004, for further information on how to address control of records as part of an environmental 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 continual improvement and environmental matters, section 87 of the Newfoundland Offshore Petroleum Drilling and Production Regulations, and the Nova Scotia Offshore Petroleum Drilling and Production Regulations, and section 86 in the Canada Oil and Gas Drilling and Production Regulations, requires reporting on environmental matters as described below:

- Paragraph 87(1)(b) requires, for each production project, *“a summary of environmental protection matters during the year, including a summary of any incidents that may have an environmental impact, discharges that occurred and waste material that was produced, a discussion of efforts undertaken to reduce pollution and waste material and a description of environmental contingency plan exercises.”*
- Paragraph 87(2)(b) requires, for each drilling installation for an exploration or delineation well and within 90 days after the rig release date, *“a summary of environmental protection matters during the drilling program, including a summary of spills, discharges occurred and waste material produced, a discussion of efforts undertaken to reduce them, and a description of environmental contingency plan exercises.”*

The operator collects or receives environmental performance information in a number of ways, including:

- Compliance monitoring,

- Incident investigation reports,
- Audits, and
- Environmental effects monitoring

An operator should seek opportunities for improvement in environmental protection and to report on its progress in so doing. The EPP should refer to the environmental reports required by the above noted Regulations, and those reports should refer back to any necessary changes to the EPP.

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

5. References

5.1. Acts and Regulation

Canadian Environmental Assessment Act, S.C. 1992, c. 37, as published by the Minister of Justice, Ottawa, Canada, and available at <http://laws-lois.justice.gc.ca>

Canadian Environmental Protection Act, 1999, S.C. 1999 c. 33 as published by the Minister of Justice, Ottawa, Canada, and available at <http://laws-lois.justice.gc.ca>

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 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>

The Western Arctic Claim, The Inuvialuit Final Agreement, 1984 as published by the Minister of Justice, Ottawa, Canada, and available at <http://laws-lois.justice.gc.ca>

Labrador Inuit Land Claims Agreement Act, 2005, c. 27, as published by the Minister of Justice, Ottawa, Canada, and available at <http://laws-lois.justice.gc.ca>

Mackenzie Valley Resource Management Act, S.C. 1998, c. 25, 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>

Nunavut Land Claims Agreement Act, S.C. 1993, c. 29, 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, 2004, *Canadian Standard for Environmental Management Systems*, CAN/CSA-ISO 14004:04, ISBN 1-55397-863-3, 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

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>

National Energy Board, Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board (2010), *Offshore Waste Treatment Guidelines*, ISBN 978-1-100-17491-4, available from The Publications Office, National Energy Board, 444 Seventh Avenue S.W., Calgary, Alberta, T2P 0X8 or at the Boards' respective websites

<http://www.cnlopb.nl.ca>

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National Energy Board, Canada Nova Scotia Offshore Petroleum Board and Canada Newfoundland and Labrador Offshore Petroleum Board (2009), *Offshore Chemical Selection Guidelines For Drilling & Production Activities On Frontier Lands*, available from The Publications Office, National Energy Board, 444 Seventh Avenue S.W., Calgary, Alberta, T2P 0X8 or at the Boards' respective websites

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