

Environmental Protection Plan Guidelines

Draft

December 31, 2009

For more information, contact:

C-NLOPB
5th Floor TD Place, 140 Water Street
St. John's, NL, A1C 6H6
Tel: (709)778-1400
Fax: (709)778-1473

CNSOPB
6th Floor TD Centre, 1791 Barrington St.
Halifax, NS, B3J 3K9
Tel: (902)422-5588
Fax: (902)422-1799

ISBN #: 978-1-897101-77-3

These Guidelines have been issued effective from December 31, 2009 for the purposes of stakeholder consultation, and for reference by interested parties to assist in the transition to the new goal-oriented regulatory *Drilling and Production Regulations* applicable in the Nova Scotia offshore area. The draft Guidelines will be revised as necessary during this one year consultation time period based on feedback and experience gained.

Comments, suggestions and areas for improvement may be directed to:

E-mail: doc_ctrl@cnsopb.ns.ca

All references to the Regulations are to the Newfoundland Offshore Petroleum Drilling and Production Regulations, and the Nova Scotia Offshore Petroleum Drilling and Production Regulations, as published in Canada Gazette II, Vol. 143, No. 25, 9 December 2009.

Page references for Canada Gazette II, as published 9 December 2009 as follows:
Newfoundland Offshore Petroleum Drilling and Production Regulation, (pp. 2352 to 2383)
Nova Scotia Offshore Petroleum Drilling and Production Regulations (pp. 2384 to 2415)

These regulations are published in two versions which contain slight differences in content and thus in section numbering. A thorough review is required to ensure a match of all references

Foreword

The Canada-Nova Scotia Offshore Petroleum Board and Canada-Newfoundland and Labrador Offshore Petroleum Board (the Boards) have issued this guidance to assist operators in developing Environmental Protection Plans in support of drilling and production operations in areas regulated by the Boards.

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 operator so that they may better understand the expectations of the Boards with respect to responsiveness to and compliance with the regulatory requirements.

The authority to issue guidelines and interpretation notes with respect to regulations is specified by subsection 156(1) of the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act and sub-section 151.1(1) of the Canada-Newfoundland Atlantic Accord Implementation Act (the Acts).

The purpose of this Guideline is to aid operators in understanding the goals, objectives and requirements of the regulations, and the expectations of the Boards with respect to the development of an Environmental Protection Plan that is responsive to the regulatory requirements.

In many instances, the Guideline identifies a particular means or method toward achieving regulatory compliance. These means or methods may be based on a number of criteria:

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

It is important to note that a guideline is not a statutory instrument, and the description of a means or method in the Guideline does not preclude the operator from using alternative approaches that achieve an equivalent level of compliance with the regulations. The onus is on the operator to achieve compliance with the regulations and to be able to demonstrate to the appropriate Board the adequacy and effectiveness of the methods employed to achieve compliance.

Table of Contents

Table of Contents	4
Acronyms	5
Definitions	6
1 Purpose and Scope of the Guideline.....	8
2 Regulatory Framework	8
3 Management System Linkages	10
4 Content of the Environmental Protection Plan	11
4.1 General	11
4.2 Purpose and Scope of the Environmental Protection Plan	12
4.3 Environmental Policy Statement.....	12
4.4 Applicable Plans and Procedures	12
4.5 Planning.....	13
4.5.1 Hazard Identification, Risk Evaluation and Mitigation	13
4.5.2 Legal Requirements.....	14
4.5.3 Commitments by the Operator.....	14
4.5.4 Guidance and Adopted Standards	14
4.5.5 Objectives, Targets and Limits	15
4.5.5.1 Discharge Limits.....	15
4.5.6 Contractor Selection	15
4.6 Implementation and Operations	15
4.6.1 Resources, Roles, Responsibilities and Authority	15
4.6.2 Commitment, Leadership and Participation.....	16
4.6.3 Awareness, Competence, and Training	16
4.6.3.1 Awareness	16
4.6.3.2 Competence and Training.....	17
4.6.4 Communication.....	17
4.6.4.1 Internal Communication	17
4.6.4.2 External Communication	17
4.6.5 Document Control.....	18
4.6.6 Operational Control.....	18
4.6.6.1 Critical Structures, Facilities, Equipment and Systems.....	18
4.6.6.2 Selection and Use of Chemical Substances.....	19
4.6.6.3 Disposal of Waste Material	19
4.6.7 Management of Change	19
4.6.8 Environmental Incidents	20
4.6.8.1 Emergency Preparedness and Response	20
4.6.8.2 Incident Reporting and Investigation.....	20
4.6.8.3 Spill Environmental Effects Monitoring	20
4.6.8.4 Liability for Spills and Debris.....	21
4.7 Checking.....	21
4.7.1 Performance Measurement and Compliance Monitoring	21
4.7.2 Environmental Effects Monitoring.....	21
4.7.3 Auditing	22
4.7.3.1 Internal Audits.....	22
4.7.3.2 External Audits	22
4.7.4 Managing Nonconformities.....	22
4.7.5 Control of Records.....	22
4.8 Continual Improvement	23
References	24

Acronyms

CEAA	Canadian Environmental Assessment Act
CNSOPB	Canada Nova Scotia Offshore Petroleum Board
C-NLOPB	Canada – Newfoundland and Labrador Offshore Petroleum Board
CSA	Canada Standards Association
EA	Environmental Assessment
EMS	Environmental Management System
EPP	Environmental Protection Plan
ISO	International Standards Organization

Definitions

Where definitions are from the Act or the Regulations, no reference is given as this Guideline is an explanatory instrument for those documents. Where definitions are from an international standard or similar document an appropriate reference is provided.

Authorization	means an authorization issued by a Board
Audit ¹	means 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	means the Canada-Newfoundland and Labrador Offshore Petroleum Board or the Canada-Nova Scotia Offshore Petroleum Board, as the case may be.
development plan	means the development plan that is approved by the Board
document ²	means information and its supporting medium (see record).
environmental aspect ³	means an element of an operator's activities or products or services that can interact with the environment.
environmental impact ⁴	means any changes to the environment, whether adverse or beneficial, wholly or partially resulting from an operator's environmental aspects.
environmental management system	means 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 ⁵	means the overall intention and direction of an organization related to its environmental performance as formally expressed by senior management.
management system ⁶	means a system to establish policy and objectives and to achieve those objectives
natural environment	means the physical and biological environment.

¹ CSA Standard [CAN/CSA-ISO 9000-05](#)

² CSA Standard [CAN/CSA-ISO 14004:04](#)

³ CSA Standard [CAN/CSA-ISO 14004:04](#)

⁴ CSA Standard [CAN/CSA-ISO 14004:04](#)

⁵ CSA Standard [CAN/CSA-ISO 14004:04](#)

⁶ CSA Standard [CAN/CSA-ISO 9000-05](#)

nonconformity	a condition, noted in an audit, which does not conform to the description or requirements set out in management system documentation.
operator	means a person that holds (a) an operating licence under the Act; and (b) an authorization.
preventative action ⁷	means an action to eliminate the cause of a potential nonconformity
pollution	means the introduction into the natural environment of any substance or form of energy outside the limits established in the authorization, including spills
record ⁸	Means a document stating results achieved or providing evidence of activities performed including those required by Sections 80 and 81 of the Regulations.
waste	means, in addition to its ordinary meaning, waste as understood in the petroleum industry and in particular, but without limiting the generality of the foregoing, includes a) the inefficient or excessive use or dissipation of reservoir energy; b) the locating, spacing or drilling of a well within a field or pool or within part of a field or pool or the operating of any well that, having regard to sound engineering and economic principles, results or tends to result in a reduction in the quantity of petroleum ultimately recoverable from a pool; c) the drilling, equipping, completing, operating or producing of any well in a manner that causes or is likely to cause the unnecessary or excessive loss or destruction of petroleum after removal from the reservoir; d) the inefficient storage of petroleum above ground or underground; e) the production of petroleum in excess of available storage, transportation or marketing facilities; f) the escape or flaring of gas that could be economically recovered and processed or economically injected into an underground reservoir; or g) the failure to use suitable artificial, secondary or supplementary recovery methods in a pool when it appears that such methods would result in increasing the quantity of petroleum ultimately recoverable under sound engineering and economic principles.
waste material	means 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

⁷ CSA Standard CAN/CSA-ISO 14004:04

⁸ CSA Standard CAN/CSA-ISO 9000-05

1 Purpose and Scope of the Guideline

The objectives of this Guideline are two-fold, one of which is to assist an operator to effectively develop a plan for environmental protection in association with an authorized activity.

The other objective is to assist the operator in developing a plan that will meet the information needs of the Board in assessing an application for authorization.

These guidelines are part of a suite of guidance documents associated with the Drilling and Production Regulations, hereinafter referred to as the *Regulations*, and are issued for the use of Operators in developing their Environmental Protection Plans (EPP) in accordance with the requirements of those regulations. The scope of this guidance 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 jurisdictional areas of the CNSOPB and the C-NLOPB is regulated by two Acts of the Federal parliament:

- *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, CNSOPRAIA, and*
- *Canada-Newfoundland Atlantic Accord Implementation Act, CNAAIA*

The provinces of Nova Scotia and Newfoundland and Labrador have promulgated companion acts:

- Canada – Nova Scotia Offshore Petroleum Resources Accord Implementation Act (Provincial version)
- 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 Section 149(1) of the *Canada-Newfoundland Atlantic Accord Implementation Act, and Section 153(1) of the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation 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.

This Guideline is intended to support two versions of the *Drilling and Production Regulations*, as published in *Canada Gazette II, 9 December 2009*:

- *Newfoundland Offshore Petroleum Drilling and Production Regulations, and the*
- *Nova Scotia Offshore Petroleum Drilling and Production Regulations*

The Regulations describe the requirement for an EPP and the content required within that EPP. The Regulations require that an application for authorization to conduct work or activities related to drilling or production operations be accompanied by an EPP. Operators 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.

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;

In the case of a drilling operation using a MODU, the EPP may reference installation specific information contained in a valid and current HSE Case⁹. 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.

Operators are 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.

⁹ Health, Safety and Environmental Case Guidelines for Mobile Offshore Drilling Units, Issue 3.2.1, 01 May 2009. International Association of Drilling Contractors
<http://www.iadc.org/hsecase/index.html>

Other sections of the *Regulations* are applicable to matters of environmental protection:

- Section 5 has a number of requirements related to management systems;
- Sections 19, 20, 22, 23, and 24 outlines the general duty requirements of operators with respect to safety and environmental protection

The EPP also assists in satisfying the legislative requirement under CNAIA 139.1(1) and CNSOPRA 143.1(1) for the declaration that an applicant for an authorization is required to submit under the relevant Acts:

Canada-Newfoundland Atlantic Accord Implementation Act (as well as in CNSOPRA)

139.1 (1) Subject to subsection (2), no authorization under paragraph 138(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 EPP assists the Board with their consideration of environmental protection when reviewing applications for work or activity authorizations and sets out for both the Board and the Operator the foundation upon which the Operator has signed the Declaration referred to above. The EPP demonstrates 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.

3 Management System Linkages

Section 5 of the *Regulations* requires operators to have in place a management system of sufficient size and complexity to manage the operator's activity. By regulation, the management system must integrate operations and technical systems with the management of financial and human resources to ensure compliance with the Act and the Regulations. Whether an organization has a separate Environmental Management System (EMS), or manages the environmental elements of their activity through their general management system, is at their own discretion.

EMS operators may make reference to the Canadian Standard for Environmental Management Systems, CAN/CSA-ISO 14004:04. The Boards consider this standard to be a useful tool for the development of environmental management systems.

An EPP is a component of the operator's management system and is an operator's plan to effectively implement their environmental protection measures. The implementation of the EPP should assure that environmental protection is appropriately managed when conducting work or activities related to drilling or production operations.

Pursuant to Section 9 (a) of the *Regulations*, the EPP shall make reference to the management system that will be applied to the planned work or activities to protect the environment and to fulfill the duties set forth in the Regulations.

Where an operator employs contractors as part of its activity, the contractors' activities should be governed by the operator's EPP, or the operator should ensure that contractors have sufficiently robust management systems to meet the requirements of the operator's EPP. As appropriate, the EPP may also describe linkages to key contractors' management systems. In all cases, the operator is responsible to ensure that contractors it employs meet the applicable regulatory requirements.

4 Content of the Environmental Protection Plan

4.1 General

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

An effective EPP incorporates the following elements

- requirements of legislation (statutes and regulations),
- environmental protection measures identified as part of an environmental assessment,
- environmental commitments made as part of an application for exploratory drilling, and
- environmental commitments made as part of a development application.

The EPP should serve as a reference document for all project personnel 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 an operator's environmental management system, EMS.

The Board will rely on the EPP as an accurate description of the environmental protection measures in place and will use the EPP as a guide when conducting inspections and audits. 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 environmental protection measures associated with the proposed program.

The Boards do not have specific requirements for the format of an EPP. This guidance is not intended to provide an implicit table of contents for an EPP. 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 describe environmental hazards, risks and mitigations that have been identified for those risks and should be reflected in the EPP; and
- for the production phase, the Development Plan includes commitments to environmental protection which should be reflected in the EPP

Operators should address all of the aspects of its planned work or activities that can have potential impacts on the environment, whether they are specifically identified in this Guideline or not. Operators should be aware that an EPP must be responsive to other sections of the legislation and the various related regulations as applicable.

The Boards are aware that a number of operators have a combined Health, Safety and Environmental Management System and, as such, the Boards will accept a combined Health,

Safety and Environmental Protection Plan, as long as the environmental components of the Plan meet the intent of the regulations.

The EPP should accurately reflect the actual conditions which would be found in the field. The EPP should be reviewed and revised by the operator as and when changing field conditions require. Revisions are to be submitted to the appropriate Board for review prior to implementation.

Operators should note that, pursuant to section 6 of the Regulations, the EPP must accompany the application for an authorization but the EPP is not explicitly approved. The EPP becomes part of the suite of information that the Board considers when making its decision whether to approve the application or not, and may be linked to an authorization for compliance and enforcement purposes as determined by the Board.

4.2 Purpose and Scope of the Environmental Protection Plan

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

- 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 be both inclusive, describing what is covered, and exclusive, describing what is excluded. This scope should be consistent with the description required by Section 6(a) of the *Regulations*.

The EPP is likely to be limited by the geographic boundaries (spatial scope) of the activity, but it may also be limited in time (temporal scope) or to particular activities. The EPP should identify the specific aspects of the planned work or activities to which the EPP 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 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 management system would also be that which is applicable to the planned work or activities. However, an environmental policy may be defined for a specific activity.

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 carries forward the environmental elements of the operator's management system, including policies, plans, procedures and work instructions to the activity at the work site or installation.

As required by the *Regulations*, Section 9(a), the EPP shall include a summary of and references to the management system that demonstrates how it will be applied to the proposed 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 activities such that the following can be achieved:

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

As necessary, the EPP should refer to documents at higher or lower levels in the operator's (or contractors) 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-directions, equipment manuals, 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 activity is unique and a prudent management system requires 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 appropriate mitigation strategies.

The Regulations, Section 5(2)(c), require that the operator's management system include processes for identifying hazards and for evaluating and managing the associated risks. In accordance with Section 9(b) and (c) the EPP shall contain a summary of the studies undertaken to identify environmental hazards and to evaluate environmental risks; and a summary of the means to avoid, prevent, reduce or manage risks to the natural environment.

As applicable, an environmental assessment (EA) of exploration and production activities, including development plans, will be triggered by the Canadian Environmental Assessment Act. This assessment must be completed prior to the 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 EA as appropriate, and reflect the commitments to environmental protection contained therein.

In addition to the EA process, 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.. The EPP shall summarize and make reference to the applicable management system elements that will assure that this requirement is met.

The operator may also refer to CAN/CSA-ISO 14001:2004 Section 4.3.1.

4.5.2 Legal Requirements

The operator's management system must be responsive to legal requirements and the EPP should identify the applicable legal requirements that the planned work or activities are to comply with in respect of its environmental aspects. The specific EPP relevant portions of the *Regulations* were discussed previously in Section 2: Regulatory Framework.

4.5.3 Commitments by the Operator

The EPP should refer to and be responsive to commitments that the operator has made, in respect of environmental protection, as part of the pre-activity phase. 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
- commitments made in the application for authorization of a work or activity

Environmental protection and mitigation commitments made by an operator in environmental assessments and the application process must be addressed in the EPP.

4.5.4 Guidance and Adopted Standards

Various regulations are interpreted by the Boards in guidance and the operator may make reference in the EPP to guidance published in relation to these regulations, such as:

- Offshore Waste Treatment Guidelines¹⁰
- Offshore Chemical Selection Guidelines for Drilling & Production Activities on Frontier Lands¹¹
- Guideline for the Reporting and Investigation of Incidents¹²

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. Where the Boards feel that strict adherence to guidance is necessary they may make adherence a condition of authorization.

¹⁰ National Energy Board (A), Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board, *Offshore Waste Treatment Guidelines*, ISBN 0-921569-40-8, available from The Publications Office, National Energy Board, 444 Seventh Avenue S.W., Calgary, Alberta, T2P 0X8.

¹¹ National Energy Board (B), Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board, *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.

¹² 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

Additionally, the EPP should refer to other requirements (i.e. codes, standards, etc) that the planned work or activities are to conform with in respect of the environmental aspects. The operator should be aware that where it adopts a standard as part of the EPP, the requirements of that standard may become enforceable as a condition of authorization or approval.

4.5.5 Objectives, Targets and Limits

The EPP should describe the specific environmental objectives, targets and limits established for the planned work or activities. This expectation is consistent with Section 9(i) of the *Regulations*. The operator may also refer to Section 4.3.3 of CAN/CSA-ISO 14001:2004.

4.5.5.1 Discharge Limits

As prescribed in Sections 9(h) and(i) of the *Regulations*, the EPP shall include a discussion of the known discharges, the limits on these discharges, the conditions required for discharge, and the methods used to achieve the conditions required for discharge.

Emissions and discharges associated with offshore drilling and production are well known and the Boards have co-published guidance, the *Offshore Waste Treatment Guidelines*¹³ (OWTG) that discuss appropriate discharge limits for a variety of waste streams.

The limits in the OWTG were developed based on toxicology and potential effects of the components of the effluent, and the “best available technology” for the control of such discharges. However, the limits in the OWTG should be viewed as “minimum acceptable performance” and operators should endeavour to perform better than these guidance limits.

The measurement of discharge quantity and quality is discussed later in Section 4.7.1.

4.5.6 Contractor Selection

Where contractors are to be employed, the EPP should identify processes that describe how such contractors are selected, including the weight placed upon environmental performance and competence, and an explanation of how the Operator measures and verifies these factors.

4.6 Implementation and Operations

4.6.1 Resources, Roles, Responsibilities and Authority

In the EPP, the operator must identify individuals who are accountable to ensure that the environmental elements of the management system and the EPP are designed and implemented in an effective manner to protect the environment from the work or activity. This includes the allocation of personnel and resources as required to accomplish the objectives of the management system and EPP. The operator may also refer to CAN/CSA-ISO 14001:2004, Section 4.4.1.

The EPP must describe, at an operational level, how installation management and personnel will implement the EPP on a day-to-day basis.

¹³ National Energy Board (A), et.al.

Pursuant to Section 9(f) of the Regulations, the EPP must 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 EPP and of the person responsible for implementing it.

In identifying the person(s) accountable for the EPP, this includes the responsibility and authority for both its implementation and its ongoing maintenance. The EPP should contain organization charts showing reporting relationships for both line management roles and supporting environmental protection staff functional roles, including contractor staff when applicable. The EPP should additionally indicate that the person accountable is responsible for reporting to management on the performance of the environmental management system that is being applied to the planned work or activities, including recommendations for improvement.

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

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

An operator must provide for environmental awareness and competency assurance for all personnel. The latter includes both training and competency assessment. This is particularly relevant in respect to environmental protection. Pursuant to Section 139.1 of CNAIA and Section 143.1 of CNSOPRAIA and Sections 5, 19 and 72 of the *Regulations*, 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

4.6.3.1 Awareness

The EPP should describe or make reference to the procedure(s) in place to make persons aware of the existence of the EPP and their obligations with respect to environmental protection. This awareness should be indoctrinated in all levels of the organization:

- management
- operations personnel
- contractors and subcontractors

This communication should include:

- the organization's commitment to environmental stewardship and operating in an environmentally responsible manner;
- a general awareness of the potential environmental impact of the work and their role in controlling that impact;

- the responsibilities of each individual to meet environmental objectives and achieve conformity with environmental policies and procedures; and
- the potential consequences of departure from specified procedures.

4.6.3.2 Competence and Training

For offshore operators, the requirement for competent personnel is laid out in Section 139.1(1) (a) and (b) and 139.1(2)(a) and (b) of *Canada-Newfoundland Atlantic Accord Implementation Act*, and in Sections 143.1(1) (a) and (b) and 143.1(2) (a) and (b) of the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*. For all operators, the need for processes to ensure that personnel are trained and competent is outlined in Section 5(2)(d) of the *Regulations*. Additionally, sub-section 19(l) 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”

The EPP shall therefore make reference to the procedure(s) in place to ensure that project team members (including leaders) performing tasks that have the potential to cause environmental impact are trained and competent to perform those tasks. Competency may be evaluated on the basis of appropriate education, training, or experience. In all cases, the processes of training and of assessing competence should be traceable through records.

The EPP should also set out the minimum number of personnel needed in each environmentally critical role to complete the planned work or activity with due regard for the environment and refer to the procedures on which the determination was made

4.6.4 Communication

4.6.4.1 Internal Communication

Within the operator’s organization, the environmental risks and mitigations associated with a work or activity, environmental protection matters described in the EPP, the environmental elements of the management system, and the targets and goals, should be communicated as appropriate through all levels of the organization.

In this regard, the operator should develop policies, plans and procedures for internal communication to ensure that environmental matters are communicated to the operator’s team, its contractors and subcontractors, and others (as applicable). The EPP should refer to the appropriate policies, plans and procedures for communicating environmental matters.

The operator may refer to Section 4.4.3, CAN/CSA-ISO 14001:2004

4.6.4.2 External Communication

Various stakeholders have an interest in the environmental risks and mitigations associated with a work or activity, environmental protection matters, and environmental effects. The operator should develop policies, plans and procedures for managing communications from and to external stakeholders, including public disclosure of documents.

Where the operator has made commitments during the environmental assessment process or the development plan approval process to provide documents to the public, the manner in which this commitment will be satisfied should be described in the EPP.

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.

4.6.5 Document Control

The requirement for the operator to establish a process for document control is set out in Section 5(3) of the *Regulations*. Document control processes, among other things, ensures that documents are accurate and current, and ensures the efficient and effective dissemination of changes and revised documents to the appropriate persons. The EPP should generally describe and make reference to document control processes.

As an important component of the management system, the Boards expect the EPP to be a controlled document and that the appropriate Board will be provided with an up to date copy when the document is changed. Where the EPP consists of multiple documents, the same expectation would apply.

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

The operator may also refer to Sections 4.4.4, and 4.4.5 of CAN/CSA-ISO 14001:2004.

4.6.6 Operational Control

Section 139.1 of the CNAIA 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 describe and make reference to operating procedures, or to operating manual(s) containing such operating procedures, that are to be implemented to control situations where the absence of such could lead to a deviation from the environmental policy, or the objectives and targets. The purpose of such procedures is to ensure that such operations are carried out under specified conditions by stipulating operating criteria.

The EPP should also reference the procedures in place to manage planned environmental inspections on installations, vessels and support craft and to ensure that appropriate environmental safeguards are identified, used and maintained as appropriate during all work and activities.

4.6.6.1 Critical Structures, Facilities, Equipment and Systems

Pursuant to Section 9(e) of the *Regulations*, the EPP shall include a listing 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 this list should be referenced.

Where mitigation includes special equipment, sensors, or responsive devices, these devices are designated as pollution prevention equipment and should be described.

As the list of structures, facilities, equipment and systems critical to environmental protection may be quite lengthy and electronically controlled, it may not be practical to include it directly in the

EPP. Consequently the EPP 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 EPP shall therefore reference the processes and procedures for how fitness for purpose has been determined for such equipment and installations.

For offshore installations, Operators may rely, to an appropriate degree, on the Certificate of Fitness as third party verification of specific regulatory requirements, including the integrity assurance of structures, facilities, equipment and systems critical to environmental protection. However, these certificates do not relieve the Operator of overall accountability for their integrity. Consequently, for offshore installations, the EPP should explain how these third party certification schemes fit into the Operator’s overall due diligence process and demonstrate how Operators use third party verification to complement internal processes.

4.6.6.2 Selection and Use of Chemical Substances

The EPP shall describe or include by reference a description of the system for the selection, evaluation and use of chemical substances including process chemicals and drilling fluid ingredients, pursuant to Section 9(g) of the Regulations.

For offshore areas, The Boards have provided the *Offshore Chemical Selection Guidelines*¹⁴ in support of the operators development of a chemical management system and the operator should consult those guidelines for a detailed discussion of this matter.

Where the operator has developed a Chemical Selection Procedure, the EPP should not repeat this but should refer to that process.

4.6.6.3 Disposal of Waste Material

Pursuant to Section 9(h) of the Regulations, the EPP shall include a description of equipment and procedures for the treatment, handling and disposal of waste material.

For wastes that are discharged from the installation the EPP shall describe the equipment and procedures for the handling and disposal of waste material. The operator is directed to the applicable sections of the *Offshore Waste Treatment Guideline*¹⁵ in this regard.

For wastes not discharged from the installation, the EPP must contain a description of the management of waste materials during temporary storage on-site and during the transport of waste materials offsite for disposal. This description should include procedures for classifying and separating waste streams, and for handling wastes and storing waste at the site. The operator is directed to Sections 2.1 and 2.17 of the *Offshore Waste Treatment Guideline*¹⁶..

4.6.7 Management of Change

Change is an ongoing feature of offshore oil and gas operations. These changes may be in response to changing conditions in the field, changes in available equipment, improvements in technology, experience and learning from failures and incidents, and changes in regulatory requirements, to name a few.

¹⁴ National Energy Board (B), et.al.

¹⁵ National Energy Board (A), et.al.

¹⁶ National Energy Board (A), et.al.

In all cases, changes should be managed to ensure that environmental protection are not compromised. This is particularly relevant where environmentally critical systems are impacted.

The EPP should refer to the operator's management of change procedures. A related concern is that associated documents be revised appropriately and that changes to documents are properly controlled (see 4.6.5 above).

4.6.8 Environmental Incidents

4.6.8.1 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 Section 6 (j) of the Regulations. Plans to deal with abnormal conditions are a requirement under Section 19(h) of the Regulations. The operator may also refer to Section 4.4.7 of CAN/CSA-ISO 14001:2004.

The EPP should identify potential abnormal situations, emergency situations, incidents and accidents that could have an impact on the environment. The EPP 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.

4.6.8.2 Incident Reporting and Investigation

The EPP should describe or refer to 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 and CNSOPB jurisdictions should refer to the *Guideline for the Reporting and Investigation of Incidents*¹⁷ in this regard.

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 Sections 86(1)(b) and (2)(b) of the Regulations.

Where the operator has developed a procedure for the reporting and investigation of incidents the EPP should not repeat this but should refer to that procedure.

4.6.8.3 Spill Environmental Effects Monitoring

Operators should develop a plan to monitor the environmental effects of any spill that is of sufficient size or potential persistence, or both, to constitute an elevated risk of adverse environmental effects. This process focuses on the fate and effects of spilled hydrocarbons or

¹⁷ 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

chemicals and provides relevant information for understanding consequence severity in the context of a risk based approach to safety and environmental protection. The EPP should refer to this plan.

4.6.8.4 Liability for Spills and Debris

Operators are liable for damages caused by spilled oil or debris from their installation where there is an actual loss or damage experienced by another person. Operators should have a plan in place to deal with these loss scenarios and the EPP should refer to this plan.

4.7 Checking

4.7.1 Performance Measurement and Compliance Monitoring

Section 9 (k) of the *Regulations* requires an arrangement for monitoring compliance with the EPP and for measuring performance in relation to its objectives, which includes the targets and limits described in Section 4.5.5 above). The EPP shall identify the key characteristics of the planned work or activities for which monitoring of compliance and measurement of performance is to be implemented.

This is also linked to Sections 86(1)(b) and 2(b) of the *Regulations* requiring that an Environmental Report contain a summary of environmental protection matters.

Section 9(j) of the *Regulations* requires that the EPP contain a description of the system for monitoring compliance with the discharge limits identified for discharges to the environment, including the sampling and analytical program to determine the quality of those discharges.

For offshore operations, the *Offshore Waste Treatment Guideline* outlines the Boards' expectations for effluent quality monitoring and for sampling and analytical procedures. The sampling and analytical program must form part of the EPP, or be referenced in a separate document commonly known as an *Environmental Compliance Plan*.

Operators may refer to Sections 4.5.2 of CAN/CSA-ISO 14001:2004.

4.7.2 Environmental Effects Monitoring

Ongoing Environmental Effects Monitoring (EEM) is typically required of production operators in offshore areas. These EEM programs are intended to follow-up on the Environmental Assessment completed prior to the activity, and are important in detecting changes in the receiving environment. The EPP should make reference to such EEM programs, as applicable.

Operators should review the outcomes of their 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 continuous improvement in environmental performance.

4.7.3 Auditing

The EPP should identify the type of audits (internal and external) to be performed during the planned work or activities, the nature and extent of such audits and how the results of the audits will be used and communicated to senior management. The EPP should refer to the operator's procedures for managing and conducting their auditing program.

The outcomes of internal and external audits, and operator responses or remedial actions should also be reflected in the Environmental Report required under Section 86 of the Regulations.

Operators may also refer to Section 4.5.5, CAN/CSA-ISO 14001:2004.

4.7.3.1 Internal Audits

In compliance with Section 5(2)(i) of the *Regulations*, the operator must conduct periodic reviews or audits of their management system and its components. The environmental elements of the management system should be captured as part of this process. This is an important internal process for monitoring performance, ensuring conformance to the regulations and promoting continuous improvement of the operator's environmental performance.

4.7.3.2 External Audits

The operator may elect to have an external auditor assess the management system, the environmental management system, or the safety management system, or components of these systems. These audits may be conducted to determine conformance to the operator's internal policies/model or to an external criteria such as an ISO standard.

Board Officers also conduct audits. These audits may range from focused compliance audits to comprehensive audits of the operator's management system. In general terms, these audits assess compliance with regulatory requirements including conditions of authorization and approved plans, and conformance with the operator's own plans and procedures.

4.7.4 Managing Nonconformities

The EPP should describe, or make reference 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.

Operators may also refer to Section 4.5.3, CAN/CSA-ISO 14001:2004.

4.7.5 Control of Records

The EPP should identify records that are to be maintained to demonstrate environmental protection and conformity to the management system including the EPP. In defining such records, the operator shall 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.

Operators may also refer to Section 4.5.4 of CAN/CSA-ISO 14001:2004.

4.8 Continual Improvement

The requirements 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 environmental matters, Section 86(1)(b) of the Regulations require, as part of an annual environmental report, *"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."*

As discussed in preceding sections the operator collects or receives environmental performance information in a number of ways:

- Compliance monitoring,
- Incident Investigation reports,
- Internal and external Audits,
- Environmental Effects Monitoring

The Boards expect operators to seek opportunities for improvement in environmental protection and to report annually on their progress in that regard. In this regard, the EPP should refer to the annual environmental report, and that report should refer back to the EPP.

The EPP should describe how experience gained from operations will be reviewed and used to improve the EPP and the environmental 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 learning's, changes in industry standards, and changes in regulatory requirements.

Revisions of the EPP must be managed in accordance with Management of Change (see 4.6.7 above) and Document Control (see 4.6.5 above) processes, and submitted to the appropriate Board for review prior to implementation.

References

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 9001-09, Quality management systems – Requirements*; available from Canadian Standards Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6

National Energy Board (A), Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board, *Offshore Waste Treatment Guidelines*, ISBN 0-921569-40-8, available from The Publications Office, National Energy Board, 444 Seventh Avenue S.W., Calgary, Alberta, T2P 0X8

National Energy Board (B), Canada-Nova Scotia Offshore Petroleum Board, and Canada Newfoundland and Labrador Offshore Petroleum Board, *Guidelines Respecting the Selection of Chemicals Intended to be Used in Conjunction with Offshore Drilling & Production Activities on Frontier Lands*, January 1999, available from The Publications Office, National Energy Board, 444 Seventh Avenue S.W., Calgary, Alberta, T2P 0X8

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