Canadian Environmental Assessment Agency
Agence canadienne d'évaluation environnementale

Operational Policy Statement
Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act, 2012*

May 2013

Disclaimer

This Operational Policy Statement (OPS) is for information purposes only. It is not a substitute for the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) or its regulations. In the event of an inconsistency between this OPS and CEAA 2012 or its regulations, CEAA 2012 or its regulations, as the case may be, would prevail.

Purpose

This OPS sets out the general requirements and approach to consider cumulative environmental effects of designated projects under CEAA 2012, when the Canadian Environmental Assessment Agency (the Agency), the National Energy Board (NEB) or the Canadian Nuclear Safety Commission (CNSC) is the responsible authority.

The OPS informs the preparation of directives by the responsible authorities, such as the Environmental Impact Statement (EIS) Guidelines. The OPS also serves as core guidance to project proponents. It is referenced in the NEB filing manual and may be reflected in the CNSC regulatory framework.

It also provides direction to Agency employees in their interactions with those engaged in federal environmental assessment (EA), such as proponents, federal authorities, other jurisdictions, Aboriginal groups and the public, throughout the EA of a designated project.

In combination with EIS Guidelines, the OPS aims to ensure that the CEAA 2012 requirements on cumulative environmental effects are met in all project EAs.

Application

In the OPS, "project EA" means the EA of a designated project under CEAA 2012. Throughout the OPS, the term "environmental effects" refers to environmental effects as described in section 5 of CEAA 2012.

The OPS should be used to inform the preparation of the EIS Guidelines and EIS for a designated project. It should be used in conjunction with other Agency policy and guidance instruments. Additional technical guidance, currently in development, will present methodologies that may be useful in implementing the OPS in the context of CEAA 2012.

Canada

For application under CEAA 2012, this OPS replaces the Canadian Environmental Assessment Agency's 2007 OPS entitled, *Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act*. The 2007 OPS will continue to apply for project EAs initiated under the former *Canadian Environmental Assessment Act* that are still being conducted as comprehensive studies.

Relevant Provisions of CEAA 2012 for Assessing Cumulative Environmental Effects

CEAA 2012 aims to protect components of the environment that are within federal legislative authority from significant adverse environmental effects caused by a designated project, including cumulative environmental effects. In addition, CEAA 2012 ensures that a designated project is considered in a careful and precautionary manner to avoid significant adverse environmental effects, when the exercise of a power or performance of a duty or function by a federal authority under any Act of Parliament is required for the designated project to be carried out. Sections of CEAA 2012 that are most relevant to a cumulative environmental effects assessment can be found in the Appendix.

Section 5 of CEAA 2012 describes the environmental effects that must be considered in the implementation of the legislation, including changes to the environment and effects of changes to the environment.

Paragraph 19(1)(a) of CEAA 2012 specifies that a project EA must take into account environmental effects, including cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out.

Paragraph 19(1)(a) also requires the assessment of the environmental effects of accidents and malfunctions that may occur in relation to the designated project. Accordingly, the environmental effects of accidents and malfunctions must be considered in the assessment of cumulative environmental effects if they are likely to result from the designated project in combination with other physical activities that have been or will be carried out.

Cumulative environmental effects are assessed in relation to the other factors listed in subsection 19(1). For example, significance of environmental effects is determined taking into account cumulative environmental effects. In addition, the project EA must take into account mitigation measures and requirements of the follow-up program that would relate to cumulative environmental effects. Also mentioned as a factor in subsection 19(1), the environmental assessment of a designated project must take into account the results of any relevant regional study conducted by a committee established under CEAA 2012.

Consideration of Cumulative Environmental Effects under CEAA 2012

CEAA 2012 requires that each EA of a designated project take into account any cumulative environmental effects that are likely to result from the designated project in combination with the environmental effects of other physical activities that have been or will be carried out.

The practice of project EA calls for examining potential environmental effects of the project on valued components and considering mitigation measures. A cumulative environmental effects assessment allows for the consideration of additional mitigation measures. This is done prior to determining the significance of adverse environmental effects for the EA decisions and for the implementation of the follow-up program.

The approach and level of effort applied to assessing cumulative environmental effects in a project EA is established on a case-by-case basis taking into consideration:

- the characteristics of the project;
- the risks associated with the potential cumulative environmental effects;
- the health or status of valued components (VCs) that may be impacted by the cumulative environmental effects;
- the potential for mitigation and the extent to which mitigation measures may address potential environmental effects; and,
- the level of concern expressed by Aboriginal groups or the public.

All cumulative environmental effects assessments should include the five steps described below – initial scoping, analysis, identification of mitigation measures, determination of significance, and follow-up.

EA documentation must clearly explain and justify the methodologies that have been used to assess cumulative environmental effects.

Step 1: Initial scoping

Scoping for cumulative environmental effects assessment includes: identifying VCs for which residual environmental effects are predicted, determining spatial and temporal boundaries to capture potential cumulative environmental effects on these VCs, and examining the relationship of the residual environmental effects of the designated project with those of other physical activities.

Scoping for cumulative environmental effects assessment is an iterative process. Initial scoping addresses the direction provided by the responsible authority. As the project EA advances, information is gained, for example on valued components, potential environmental effects, environmental conditions and the environmental effects of other physical activities, that may help clarify what needs to be considered in the cumulative environmental effects assessment and to what extent. The initial scope is also adapted in light of information and comments provided by Aboriginal groups or the public.

Identifying Valued Components

Identification of VCs for the project EA is made in relation to section 5 of CEAA 2012 and takes into account direction provided by the responsible authority. Analysis is then undertaken to identify which of these VCs will be considered for the cumulative environmental effects assessment.

The cumulative environmental effects assessment should consider those VCs for which residual environmental effects are predicted after consideration of mitigation measures, regardless of whether those residual environmental effects are predicted to be significant.

The cumulative environmental effects assessment must consider other physical activities that have been carried out up to the time of the analysis or will be carried out in the future, provided that these physical activities are likely to impact the same VCs that would be affected by residual environmental effects of the designated project.

Determining Spatial and Temporal Boundaries

Spatial and temporal boundaries should be identified and justified clearly, and be set taking into account direction provided by the responsible authority.

To consider the environmental effects of current and future physical activities, the spatial boundaries need to encompass the potential environmental effects on the selected VC of the designated project in combination with other physical activities that have been or will be carried out.

Temporal boundaries for assessing a selected VC should take into account future physical activities that are certain and reasonably foreseeable, and the degree to which the environmental effects of these physical activities will overlap those predicted from the designated project.

Examining Physical Activities That Have Been Carried Out

Present-day environmental conditions reflect the cumulative environmental effects of many past and ongoing physical activities. A description of past environmental conditions can at times improve the understanding of cumulative environmental effects for a specific VC.

Information on the environmental effects of past or existing physical activities may be helpful:

- if the effects of past or existing physical activities on a specific VC will help predict the environmental effects of a designated project;
- if information on past or existing physical activities will assist in the identification of appropriate mitigation measures for the designated project; or
- if an existing physical activity will be decommissioned in the future and this decommissioning would affect the future condition of a specific VC.

Examining Physical Activities That Will Be Carried Out

A cumulative environmental effects assessment of a designated project must include future physical activities that are *certain* and should generally include physical activities that are *reasonably foreseeable*.

These concepts are defined as follows:

- *Certain*: the physical activity will proceed or there is a high probability that the physical activity will proceed, e.g. proponent has received the necessary authorizations or is in the process of obtaining those authorizations.
- *Reasonably Foreseeable*: the physical activity is expected to proceed, e.g. the proponent has publicly disclosed its intention to seek the necessary EA or other authorizations to proceed.

Step 2: Analysis

The methodologies used to predict cumulative environmental effects must be clearly described. With this information, reviewers of the EIS will be able to examine how the analysis was conducted and what rationale supports the conclusions reached. Any assumptions or conclusions based on professional judgement should be clearly identified and described.

Data collection and/or generation are important components of a cumulative environmental effects assessment. At times, it may be challenging to obtain or generate data to support the analysis. Potential cumulative environmental effects should be considered, as appropriate, in the analysis even when there is little supporting data or there is predictive uncertainty. Reviewers of the EIS should be presented with a complete picture of the potential types and scale of cumulative environmental effects. In all cases, uncertainties and assumptions underpinning an analysis should be described and information sources clearly documented.

Scientific data supporting a cumulative environmental effects assessment can often be supplemented in various ways, including the use of computer models or data from other areas with comparable conditions.

Community knowledge and Aboriginal traditional knowledge available to the proponent should be incorporated into the cumulative environmental effects assessment, in keeping with appropriate ethical standards and without breaking obligations of confidentiality, if any.

Step 3: Identification of Mitigation Measures

Taking into account direction from the responsible authority, technically and economically feasible measures must be identified that would mitigate any significant adverse cumulative environmental effects.

Mitigation of cumulative environmental effects can take two forms:

- Elimination, reduction or control of a designated project's environmental effects is preferred.
- Where this is not possible, restitution for any damage to the environment caused by the residual environmental effect should be considered, e.g., replacement, restoration, compensation.

Restitution can include activities such as restoring habitat or purchasing land to protect the habitat of a bird.

Both forms of mitigation can be considered in the decisions on whether a designated project is likely to cause significant adverse environmental effects.

Step 4: Determination of Significance

An EA must consider the significance of any cumulative environmental effects that are likely to result from a designated project in combination with other physical activities, taking into account the implementation of mitigation measures.

Significance predictions in relation to cumulative environmental effects should be clearly presented and rationalized against defined criteria consistent with the Canadian Environmental Assessment Agency's reference guide *Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects* (November 1994), or any future updates to this document.

Step 5: Follow-Up

Follow-up programs should address project-specific environmental effects and cumulative environmental effects.

Additional guidance is available through the Operational Policy Statement published by the Agency on *Follow up Programs under the Canadian Environmental Assessment Act* (December 2011), or any future updates to this document.

Publication Information

Catalogue No. En106-116/2013E-PDF

ISBN: 978-1-100-22263-9

This document has been issued in French under the title: *Évaluation des effets environnementaux cumulatifs en vertu de la Loi canadienne sur l'évaluation environnementale (2012)*

Appendix: Relevant Provisions of CEAA 2012

ENVIRONMENTAL EFFECTS

Environmental effects

5. (1) For the purposes of this Act, the environmental effects that are to be taken into account in relation to an act or thing, a physical activity, a designated project or a project are

(*a*) a change that may be caused to the following components of the environment that are within the legislative authority of Parliament:

(i) fish as defined in section 2 of the *Fisheries Act* and fish habitat as defined in subsection 34(1) of that Act,

(ii) aquatic species as defined in subsection 2(1) of the *Species at Risk Act*,

(iii) migratory birds as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*, and

(iv) any other component of the environment that is set out in Schedule 2;

(*b*) a change that may be caused to the environment that would occur

(i) on federal lands,

(ii) in a province other than the one in which the act or thing is done or where the physical activity, the designated project or the project is being carried out, or

(iii) outside Canada; and

(*c*) with respect to aboriginal peoples, an effect occurring in Canada of any change that may be caused to the environment on

(i) health and socio-economic conditions,

(ii) physical and cultural heritage,

(iii) the current use of lands and resources for traditional purposes, or

(iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

Exercise of power or performance of duty or function by federal authority

(2) However, if the carrying out of the physical activity, the designated project or the project requires a federal authority to exercise a power or perform a duty or function conferred on it under any Act of Parliament other than this Act, the following environmental effects are also to be taken into account:

(*a*) a change, other than those referred to in paragraphs (1)(*a*) and (*b*), that may be caused to the environment and that is directly linked or necessarily incidental to a federal authority's exercise of a power or performance of a duty or function that would permit the carrying out, in whole or in part, of the physical activity, the designated project or the project; and

(*b*) an effect, other than those referred to in paragraph (1)(*c*), of any change referred to in paragraph (*a*) on

(i) health and socio-economic conditions,

(ii) physical and cultural heritage, or

(iii) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance.

Schedule 2

(3) The Governor in Council may, by order, amend Schedule 2 to add or remove a component of the environment.

FACTORS TO BE CONSIDERED

Factors

19. (1) The environmental assessment of a designated project must take into account the following factors:

(*a*) the environmental effects of the designated project, including the environmental effects of malfunctions or accidents that may occur in connection with the designated project and any cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out;

(*b*) the significance of the effects referred to in paragraph (*a*);

(*c*) comments from the public — or, with respect to a designated project that requires that a certificate be issued in accordance with an order made under section 54 of the *National Energy Board Act*, any interested party — that are received in accordance with this Act;

(*d*) mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project;

(*e*) the requirements of the follow-up program in respect of the designated project;

(*f*) the purpose of the designated project;

(*g*) alternative means of carrying out the designated project that are technically and economically feasible and the environmental effects of any such alternative means;

(*h*) any change to the designated project that may be caused by the environment;

(*i*) the results of any relevant study conducted by a committee established under section 73 or 74; and

(*j*) any other matter relevant to the environmental assessment that the responsible authority, or — if the environmental assessment is referred to a review panel — the Minister, requires to be taken into account.

Scope of factors

(2) The scope of the factors to be taken into account under paragraphs (1)(*a*), (*b*), (*d*), (*e*), (*g*), (*h*) and (*j*) is determined by

(*a*) the responsible authority; or

(*b*) the Minister, if the environmental assessment is referred to a review panel.

Community knowledge and Aboriginal traditional knowledge

(3) The environmental assessment of a designated project may take into account community knowledge and Aboriginal traditional knowledge.