

Report to the Minister of Conservation

on

Public Meetings:

Draft Environmental Impact Statement
Guidelines for the Wuskwatim Generation
and Transmission Projects

Manitoba Clean Environment Commission

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Chairman's Letter

April, 2002

Honourable Oscar Lathlin
Minister of Conservation
Room 333 Legislative Building
450 Broadway Avenue
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Minister:

At your request, the Clean Environment Commission conducted public meetings on the draft *Environmental Impact Statement Guidelines* for the proposed Wuskwatim generation and transmission projects. The purpose of these meetings was to provide information to the public on the draft *Guidelines*, and to receive their concerns, comments and questions.

The following report provides an account of the public meetings, summarizes observations made and conclusions drawn, and presents recommendations to address issues raised by the public and the Commission respecting these important *Guidelines*.

Respectfully,

Terry Duguid, Chairman

Executive Summary

At the request of the Minister of Conservation, the Manitoba Clean Environment Commission (CEC) convened a series public meetings on the draft Environmental Impact Statement (EIS) guidelines for the proposed Wuskwatim Generation and Transmission projects during February 2002. The sessions were held in Thompson, Nisichawayasihk Cree Nation (Nelson House), Opaskwayak Cree Nation (The Pas) and Winnipeg, and were attended by over 220 people including First Nation organizations, environmental groups, businesses, consultants, local residents and students. The Commission received 23 written submissions and oral statements, and heard numerous questions and comments on the guidelines. Summaries were prepared after each meeting and they were posted on the Commission's Web site.

Manitoba Hydro and the Nisichawayasihk Cree Nation are proposing development of a hydroelectric generating station at Taskinigup Falls on Wuskwatim Lake located about 50 kilometres southwest of Thompson. The Wuskwatim generation station would provide approximately 200 megawatts of new electrical generating capacity. Separate Wuskwatim transmission facilities would convey power from the Wuskwatim generating station to the existing electrical transmission system. New 230 kilovolt transmission lines would connect a sub-station at Wuskwatim to other stations on the transmission system. Points of connection to the system would be at Thompson, Snow Lake and Opaskwayak.

The Wuskwatim generation and transmission projects are subject to environmental assessment requirements of the *Canadian Environmental Assessment Act* and Manitoba's *Environment Act*. Accordingly, the assessment of the projects falls under the *Canada-Manitoba Agreement on Environmental Assessment Cooperation*. A federal-provincial Project Administration Team, lead by Manitoba, was formed to manage the cooperative environmental assessment of the Wuskwatim projects. The Project Administration Team drafted the EIS guidelines for the projects based on scoping documents prepared by a joint Manitoba Hydro and Nisichawayasihk Cree Nation study team. The Project Administration Team will finalize the guidelines after consideration of recommendations from the Clean Environment Commission, advice from the Technical Advisory Committee and comments received directly from the public.

Participants at the Commission's public meetings expressed various comments and concerns about the draft EIS guidelines for the proposed Wuskwatim generation and transmission

projects. They were both supportive and critical of the guidelines, but generally supported the proactive approach taken by government to consult prior to finalizing the guidelines. First Nation representatives spoke about how past hydroelectric projects in northern Manitoba have affected their lands, resources, and way of life, and of the importance of including Aboriginal traditional knowledge in the conduct of environmental assessments. They asked that the geographic scope of the assessment be expanded to include areas affected by previous hydroelectric projects as well as areas potentially affected by the Wuskwatim projects. First Nation representatives also commented on the importance of baseline information and environmental monitoring.

Environmental organizations requested that the EIS guidelines outline the environmental policy framework for the environmental assessment, establish standards of practice to be achieved and require that the effects of climate change be addressed. They questioned the need and purpose for the projects and suggested that alternatives to the projects and demand side management be considered during the environmental assessment. Several of the participants also commented that the guidelines did not provide specific direction in areas such as environmental assessment methods, cumulative effects assessment and public consultation requirements.

The observations and recommendations outlined in this report serve as advice from the Clean Environment Commission to the Minister of Conservation and the Project Administration Team regarding the EIS guidelines for the Wuskwatim generation and transmission projects. In total, nineteen separate recommendations are provided on the guidelines, which include the following:

- Improved comprehension, greater level of specification and enhanced definition of Manitoba's environmental policy framework.
- Assessment of the Wuskwatim projects in relation to other hydroelectric developments in northern Manitoba and provision of more descriptive information on the proposed projects.
- Broader geographic scope of the environmental assessment, establishment of baseline conditions, assessment of both direct and indirect effects, support of environmental monitoring programs, use of Aboriginal traditional knowledge and adoption of best practice standards.
- Consideration of the effects of the project on climate change, and the effects of climate change on the project's operation over the longer term.

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Introduction

Proposed Projects

Manitoba Hydro and the Nisichawayasihk Cree Nation (NCN) are considering development of the Wuskwatim generation project and associated infrastructure in the Nelson House Resource Management Area located in north-central Manitoba. The Wuskwatim generation station would be located at Taskinigup Falls on Wuskwatim Lake, which is about 50 km southwest of the City of Thompson. The generation station would provide approximately 200 megawatts of new electrical generating capacity to Manitoba Hydro's system.

The Wuskwatim transmission project facilities would convey power from the proposed Wuskwatim hydroelectric generating station to the existing Manitoba Hydro electrical transmission system. New 230 kilovolt transmission lines would connect a sub-station at the Wuskwatim site to other stations on Manitoba Hydro's transmission system. Points of connection to the existing system would be at Thompson, Snow Lake and Opaskwayak. Transmission facilities would be located both in and beyond the Nelson House Resource Management Area.

Environmental Assessment Process

The Wuskwatim generation project will require a comprehensive study environmental assessment under the *Canadian Environmental Assessment Act*. The generation station is also a Class 3 development according to the *Classes of Development Regulations* under Manitoba's *Environment Act*. The Wuskwatim transmission project is listed as a Class 2 development in the *Classes of Development Regulations* and it may require a screening or be part of a comprehensive study environmental assessment.

Under the *Canada-Manitoba Agreement on Environmental Assessment Cooperation* the parties have agreed that a cooperative environmental assessment will be undertaken for the Wuskwatim generation and transmission projects. Manitoba has been designated as lead party for the environmental assessment and a federal-provincial Project Administration Team has been formed to manage the assessment of the projects.

A Manitoba Hydro and Nisichawayasihk Cree Nation study team drafted scoping documents that provided background information for the Project Administration Team in the preparation of draft

Environmental Impact Statement (EIS) guidelines for the projects. The guidelines identify specific items that both Manitoba and Canada require in a cooperative environmental assessment. They also outline reporting and other requirements. The Project Administration Team will finalize the guidelines after receiving recommendations from the Clean Environment Commission, advice from the Technical Advisory Committee and comments they receive directly from the public.

The Minister of Conservation is expected to approve the final EIS guidelines for the Wuskwatim projects in the spring of 2002. Manitoba Hydro proposes to complete environmental and other studies and prepare the EIS for the hydroelectric projects by the fall of 2002. Public hearings on the projects are scheduled for the Public Utilities Board over the winter of 2002-03 and for the Clean Environment Commission in the spring or early summer of 2003.

Public Meetings

In January 2002, the Minister of Conservation asked the Clean Environment Commission (CEC) to assist with the development of guidelines for the preparation of an EIS for both the Wuskwatim generation station and transmission projects. A panel of Commissioners, consisting of Terry Duguid (Chair), Archie Phillips and Connie Pringle was struck to conduct public meetings and prepare a report on the draft EIS guidelines. Archie Phillips withdrew from the panel after the public meetings and did not contribute to the preparation of the report.

Public meetings were held in Thompson, Nisichawayasihk Cree Nation (NCN), Winnipeg and Opaskwayak Cree Nation (OCN) on February 11, 12, 18 and 19, 2002, respectively. The objectives of the public meetings were to provide information to the public on the draft EIS guidelines, receive comments and questions on the guidelines, and to enable preparation of a report with recommendations to the Minister of Conservation.

Purpose of Report

The purpose of this report is to provide an accurate summary of the comments and concerns received by the Commission from the public on the draft EIS guidelines, and to provide observations and recommendations to the Minister of Conservation based on that information. Public comments on other matters such as the federal-provincial environmental assessment process and administrative procedures were determined to be beyond the scope of this the report and were therefore not included.

Wuskwatim Projects

The Wuskwatim projects comprise a generating station and associated infrastructure, a transformer/switching station and transmission lines to link the new generator at Wuskwatim to the existing transmission system. The proposed Wuskwatim hydroelectric projects would bring electricity to market in late 2009. Since Manitoba customers would not need this power until about 2018, energy from the projects would be initially sold to export markets outside Manitoba.

Wuskwatim Generation Project

The Wuskwatim generating station and dam would be located at Taskinigup Falls where Wuskwatim Lake flows into the Burntwood River (Manitoba Hydro – NCN Newsletter No. 1, 1999). The proposed low head generating station would produce about 200 megawatts of electricity. Manitoba Hydro reports that the reservoir would flood less than 0.5 km² of land between Wuskwatim Lake and Taskinigup Falls, and the flooded area would be cleared prior to operation of the generation station. Water levels on Wuskwatim Lake are to be stabilized at or slightly below 234 m above sea level. Manitoba Hydro predicts that water level changes would extend upstream to near Early Morning Rapids and downstream to Opegano Lake under most flow conditions.

The Wuskwatim generating station would also require a camp for construction workers, an access road to the site and construction power. The construction workforce for the Wuskwatim generation station is expected to peak at about 350 seasonal jobs and to extend over six years.

Wuskwatim Transmission Project

The Wuskwatim transmission project facilities would provide for the transmission of power from the proposed Wuskwatim generating station to the existing Manitoba Hydro electrical transmission system (Manitoba Hydro – NCN Newsletter No. 1, 1999). At the same time, the project would provide transmission system improvements that are independent of the requirements of the proposed generating station.

Manitoba Hydro proposes development of new transmission lines and a transformer/switching station to link the proposed electronic generator to the existing transmission system. A new transmission sub-station would be required at the Wuskwatim site to provide for voltage transformation and switching. Electricity would be received from the generators and transformed

at the sub-station to higher voltages that are necessary for transmission into the existing Manitoba Hydro system.

Proposed 230 kV transmission lines would connect the sub-station at the Wuskwatim site to other stations on Manitoba Hydro's transmission system. Manitoba Hydro is proposing to connect to the existing system at Thompson, at a proposed new transformer/switching station south of the city to be called Birchtree Station, near Snow Lake, at the existing Herblet Lake Station on the north side of the community, and at Opaskwayak, at the existing Rall's Island Station. Manitoba Hydro advises that the transmission line connections between Herblet Lake Station and Rall's Island Station would be required in the future, independent of development of the Wuskwatim generation project, to improve the existing regional electrical-transmission system.

Manitoba Hydro is conducting a site selection and environmental assessment process for the transmission lines. The process includes discussions with affected communities, resource users, interest groups and government at key junctures. Alternative transmission line routes are selected and compared based on the avoidance of sensitive areas. A preferred route will be chosen, which minimizes the effects on regional and locally sensitive features and maximizes benefits.

Employment opportunities will also be available for construction of the transmission facilities. The number of winter jobs would range between 25 and peaking possibly at 200 in other years.

Draft Environmental Impact Statement Guidelines

In October 2001, the Nisichawayasihk Cree Nation – Manitoba Hydro joint study team drafted scoping documents for the proposed Wuskwatim generation and transmission projects. The scoping documents provided background information for consideration by the federal-provincial Project Administration Team in the preparation of draft EIS guidelines for the proposed projects.

The draft EIS guidelines outline the intent, scope and requirements for the EIS of the proposed Wuskwatim projects. Copies of the guidelines are provided in Appendix A.

Public Meetings

Notification

Manitoba Conservation announced commencement of the environmental assessment and review process on proposals received from Manitoba Hydro to construct and operate the Wuskwatim generation station and transmission projects on December 11, 2001. The notice also stated that the Manitoba Clean Environment Commission would hold public hearings on the proposals. Subsequently, the Minister of Conservation asked the Clean Environment Commission to assist in the development of guidelines for the preparation of an EIS for the both the generation station and the transmission projects. Manitoba Conservation also provided public notice of the Wuskwatim generation (File 4724.00) and transmission (File 4725.00) projects.

The Clean Environment Commission placed public meeting notices in Winnipeg and northern newspapers during January 2002. These notices appeared in the *Winnipeg Free Press*, *Thompson Nickel Belt News*, *The Pas Opasquia Times*, *Flin Flon Northern Visions*, *Snow Lake News*, *Leaf Rapids Star*, *"Weetamah"*, *"Drum"* and *"Grass Roots"*. In addition, about 325 notices were mailed directly to government offices, businesses, organizations and individuals. Notification of the meetings and links to download the draft EIS guidelines was also provided on the Manitoba Conservation and Clean Environment Commission Web sites.

Schedule and Format

Public meetings were held in Thompson, Nisichawayasihk Cree Nation, Winnipeg and Opaskwayak Cree Nation on February 11, 12, 18 and 19, respectively. The Thompson, Nisichawayasihk Cree Nation and Opaskwayak Cree Nation meetings were held in the afternoon while the Winnipeg meeting included both afternoon and evening sessions.

The format for the public meetings consisted of introductory remarks by the Chair of the Clean Environment Commission followed by presentations on the Wuskwatim projects and the environmental assessment process by Manitoba Conservation, and submissions, statements and questions by those attending. The structure of the meetings was kept informal to encourage questions and comments from presenters and the audience.

The Thompson, Winnipeg and Opaskwayak Cree Nation public meetings were taped and a written transcript of the proceedings will be produced for placement in the Manitoba Conservation public registry. Cree language translation was provided at the Nisichawayasihk Cree Nation meeting. Audio equipment could not be arranged for the Nisichawayasihk Cree Nation meeting. Written summaries of each meeting were prepared within three days of each meeting and were posted on the Clean Environment Commission Web site.

Attendance

Over 220 individuals representing a wide range of interests including First Nations, environmental organizations, environmental consultants, businesses, government employees and students attended the public meetings. Attendance at the meetings was estimated as follows: Thompson (45 or 21%), Nisichawayasihk Cree Nation (45 or 21%), Opaskwayak Cree Nation (50 or 23%) and Winnipeg (80 or 35%) (Table 1).

LOCATION	NUMBER
Thompson	45
Nisichawayasihk Cree Nation	45
Winnipeg	80
Opaskwayak Cree Nation	50
Total	220

Of the estimated 220 attendees, 147 people registered with their name and address, and/or requested a copy of the summary report. The majority of the registrants were from Winnipeg (40%), Nisichawayasihk Cree Nation (23%), Opaskwayak Cree Nation (14%), South Indian Lake (7%), Thompson (5%) and Moose Lake (4%), and 7% were undeclared. Some of the attendees were present at more than one meeting and several attended all of the meetings.

First Nation representation included Nisichawayasihk Cree Nation, Opaskwayak Cree Nation, Mosakahiken Cree Nation, Tataskweyak Cree Nation, O-Pipon-Na-Piwin Cree Nation and York Factory First Nation.

Public Comments

A total of 23 written submissions and oral statements were either recorded from the four public meeting locations or were received by mail, fax or e-mail (Table 2). A list of the submissions and statements is provided in Appendix B. The issues raised, points discussed and comments made in the submissions and statements are summarized below. Summaries of the public meetings are available on the Manitoba Clean Environment Web site (www.cecmanitoba.ca).

Table 2 – Submissions and statements received			
LOCATION	WRITTEN SUBMISSIONS	ORAL STATEMENTS	TOTAL
Thompson	1	0	1
Nisichawayasihk Cree Nation	4	3	7
Winnipeg	3	4	7
Opaskwayak Cree Nation	1	2	3
Other (mail, fax or e-mail)	5	-	5
Total	14	9	23

Thompson

There was only one written submission at the Thompson public meeting, which was presented by the South Indian Lake Community Council. The Council's submission identified several issues including the impact of past hydroelectric development on Southern Indian Lake, the need to conduct meaningful consultations with First Nations and expanding the scope of the environmental assessment to include the Churchill River Diversion and Southern Indian Lake. The submission also mentioned including the *Consultation on Sustainable Development Implementation Report* recommendations, Manitoba's water policies and proposed *Environment Act* amendments in the guidelines. Recommendations addressing these issues were presented as part of the submission.

Questions and comments raised during the public meeting addressed the perceived narrow geographic scope of the draft EIS guidelines, the nature of First Nation participation in drafting the guidelines, the public consultations during the environmental assessment process, the

people who would provide Aboriginal traditional knowledge and the methods to be used for the cumulative effects assessment.

Nisichawayasihk Cree Nation

There were four written submissions and three oral statements presented at the Nisichawayasihk Cree Nation public meeting. The written submissions were from the Nisichawayasihk Cree Nation Chief and Council and included information on the Manitoba Hydro-NCN Agreement-in-Principle, Nisichawayasihk Cree Nation concerns about developments and respect for the environment, benefits of the projects to the community, particularly the need to create jobs and economic development opportunities. Discussion centred on the use of Aboriginal traditional knowledge in the planning and assessment of the project. Traditional ecological knowledge was defined as a sub-set of Aboriginal traditional knowledge. The oral statements addressed the use of Aboriginal knowledge in the conduct of surveys, positive attitude of the community towards the future, importance of community members attending the public meetings and the large amount of work that remains to be carried out. Concern was expressed about sickness in the community, poor drinking water quality and the high cost of electricity.

Questions asked and comments made during the public meeting related to the understandability of the EIS guidelines, Nisichawayasihk Cree Nation involvement in preparing the draft guidelines, definitions of Aboriginal traditional knowledge, incorporating traditional knowledge into the guidelines and use of modern tools to map traditional sites.

Winnipeg

Three written submissions and four oral statements were presented at the Winnipeg public meeting. The written submissions were from the Canadian Nature Federation, O-Pipon-Na-Piwin Cree Nation and Tataskweyak Cree Nation while the York Factory First Nation, Manitoba's Future Forest Alliance and the Canadian Parks and Wilderness Society provided oral statements.

The Canadian Nature Federation presentation commented on the utility of the Clean Environment Commission meetings, access to information/public registry contents, lack of a policy context and framework in the guidelines, Manitoba government procedures, extension of the review period, Aboriginal and First Nation rights, reference to protected areas in the guidelines, need for a federal review panel and the general scope of the environmental assessment. A series of recommendations were provided on each of these topics.

The O-Pipon-Na-Piwin Cree Nation representative commented on the importance of recognizing South Indian Lake as a First Nation, respecting the Cree world view, observing the importance of Aboriginal traditional knowledge and including both physical and cultural heritage in the guidelines. Also mentioned were expanding the geographic scope to include Southern Indian Lake, adequacy of baseline studies and environmental monitoring, importance of the cumulative effects assessment and the application of proposed amendments to Manitoba's *Environment Act*.

The Tataskweyak First Nation representative discussed the effects of hydroelectric developments on the Nelson River and provided a series of recommendations dealing with provisions of the Northern Flood Agreement, full application of Aboriginal traditional knowledge, consideration of tangible and intangible aspects of cultural heritage, adherence to *Canadian Environmental Assessment Act* requirements and the need to take a holistic ecosystem approach. It was stressed that scientific or technical knowledge should not be used to invalidate Aboriginal traditional knowledge

The Manitoba's Future Forest Alliance statement called for an examination of the EIS guidelines in relation to the principles and guidelines of sustainable development, and recommendations of the *Consultation on Sustainable Development Implementation Report*, particularly relating to the topics of development assessment and review, public participation and federal-provincial relations. Requirements for an economic needs analysis and full cost accounting of the generating station project as well as Manitoba Hydro's fiduciary responsibility for meaningful consultation with First Nations were also mentioned.

The York Factory First Nation representative commented on traditional ecological knowledge, cumulative effects of other hydroelectric projects in the watershed, future decommissioning and rehabilitation of the projects, impact of past hydroelectric developments on water quality, and the effects of the Wuskwatim projects on traditional resources as well as treaty and negotiated rights.

The Canadian Parks and Wilderness Society proposed referral of the projects to a federal review panel, combining the generation and transmission proposals into one project and addressing Pimicikamak Cree Nation's concerns. The Society member identified a number of specific concerns including defining the need for the project, considering alternative means of achieving the need, determining the total cost of the projects including externalities and conducting demand side management analysis. Other concerns expressed were consideration of the principles and

guidelines of sustainable development, assessment of climate change effects, expansion of the scope of the cumulative effects assessment and reference to the potential effects of mercury.

Questions asked and comments made during the public meeting included requests for examples of good Environmental Impact Statements from other projects, possible additions to scope of the assessment and recognition of South Indian Lake as a First Nation. The discussion topics included the application of Aboriginal traditional knowledge, and referencing provincial sustainability indicators and principles and guidelines of sustainable development in the EIS guidelines.

Opaskwayak Cree Nation

There were two oral statements and one written submission presented at the Opaskwayak Cree Nation public meeting. Mosakahiken First Nation representatives provided oral statements in which a number of questions and concerns were raised about the proposed projects. Questions related to why the generation project is being proposed, effects of the projects on First Nation lands, stewardship of the land, licencing the projects if the effects are significant, compensation to Tolko Manitoba for loss of cutting areas, location of the transmission lines, and the type of equipment that will be used to clear trees. It was noted that the loss of cutting areas could affect Mosakahiken First Nation contractors if replacement areas are not accessible to their members.

A Nisichawayasihk Cree Nation representative presented a written submission, which addressed comments made at the Thompson and Winnipeg meetings on South Indian Lake concerns, Tataskweyak Cree Nation statements regarding the Northern Flood Agreement, a possible joint federal-provincial panel review of the Wuskwatim projects and the draft EIS guidelines for the Conawapa project.

During the Opaskwayak Cree Nation public meeting a number of questions and comments were raised related to location of Moose Lake lands relative to the transmission line, effects of the transmission line on forestry operations, impact of past hydroelectric developments on Moose Lake, translation of public consultation materials into Cree, a proposed public consultation program, scope of the environmental assessment, a potential diversion of water south from the generation project, geographic extent of the study area and ability of First Nations to stop the project.

Other Submissions

Five other submissions were received by mail, fax or e-mail from Manitoba Hydro and Nisichawayasihk Cree Nation, Time to Respect Earth's Ecosystems (T.R.E.E.), Manitoba's Future Forest Alliance, the Town of Snow Lake and the City of Thompson.

The Manitoba Hydro and Nisichawayasihk Cree Nation submission commented on traditional ecological knowledge and traditional knowledge, land and resource-related agreements, geographic scope of the EIS and scoping in relation to the *Canadian Environmental Assessment Act*. The submission also noted a number of specific wording and other detailed comments.

The T.R.E.E. submission proposed a review of the environmental assessment on the Wuskwatim projects by a federally appointed panel, inclusion of all topics identified for the scoping phase of the Conawapa and Bipole III projects, and consideration of the need for and alternatives to the Wuskwatim generation and transmission projects.

The submission by Manitoba's Future Forest Alliance recommended that the federal government conduct a full panel review of the Wuskwatim projects. The Alliance also recommended that the EIS guidelines include issues identified in the draft Conawapa guidelines, examine the need and justification for the projects in relation to Manitoba's draft sustainable development energy strategy and consider Manitoba's *Sustainable Development Act* requirements. An in-depth analysis of potential effects of climate change on the projects and provision of participant funding to participants were also recommended.

The Town of Snow Lake submission provided information on natural features, protected pictographs and developments in the region south of Snow Lake. The Town noted that the most opportune and direct route for the Wuskwatim transmission line is across the Grass River, west of the Wekusko Falls Lodge and east of Trampling Lake.

The City of Thompson submission posed questions on the impact that the Wuskwatim generation station would have on the flows (e.g. maximum daily fluctuations) of the Burntwood River near Thompson, and the effects of fluctuations on soil erosion and riverbank stability. Concern was also expressed with respect to public safety along the Burntwood River during the summer and winter related to water level fluctuations.

Observations and Conclusions

General

During the public meetings on the draft EIS guidelines on the Wuskwatim projects the Clean Environment Commission heard the comments and concerns of First Nation communities, environmental organizations, municipal governments and individuals. Many of these comments and concerns are documented in the written submissions and are noted in the meeting summaries. For the most part, the comments and concerns dealt specifically with the draft guidelines and are reflected in the following observations and conclusions.

There were also a number of issues raised that did not fall within the Clean Environment Commission's mandate to review the guidelines. These included existing agreements such as the Northern Flood Agreement and the Manitoba Hydro - Nisichawayasihk Cree Nation Agreement-in-Principle, the environmental assessment process established by federal and provincial legislation and agreement, improvements to Manitoba Conservation's public registry and ongoing negotiations between First Nations and the governments. Comments and concerns expressed on these issues are documented in the submissions received and are reported on in the meeting summaries.

Participant groups generally viewed the public meetings on the draft EIS guidelines for the Wuskwatim projects as a positive step in the overall environmental assessment process. They commented that public input to the guidelines early in the process is important. Both the provincial and federal levels of government are to be congratulated for their cooperative efforts in this regard.

The following observations and conclusions reflect the comments and concerns expressed by First Nations, environmental groups, municipal governments, individuals and others received during the public review period. The observations and subsequent recommendations on the EIS guidelines are provided to enhance the comprehensiveness and effectiveness of the resulting environmental assessment, and to foster a sustainable environment and economy in northern Manitoba.

The following observations and conclusions are presented in a logical sequence from general to specific aspects of the draft EIS guidelines. The order of presentation does not imply any relative importance or ranking of the issues.

Understandability

The draft EIS guidelines for the Wuskwatim projects deal with a variety of technical matters related to the developments and the environment, and a complex environmental assessment process. A common concern expressed about the guidelines was that they were difficult to understand. Not all participants understood the overall purpose or intent of the guidelines, the technical nature of the content or the meaning of the “new” words. Environmental assessment terminology (e.g. scope, mitigation, cumulative effects, residual effects and environmental protection plan) was not understood by many people and was subject to various interpretations. Furthermore, terms such as “traditional ecological knowledge” are interpreted differently by various organizations and individuals, and need to be defined.

The description of the Wuskwatim projects, while likely adequate for the consultants undertaking the environmental assessment, was not sufficient for the participants to determine whether the guidelines addressed the environmental assessment requirements satisfactorily. The regulatory requirements and process descriptions were not clearly understood by the participants and this requires further explanation in the guidelines.

Historically, draft EIS guidelines have been prepared for a technical audience and not for public review. Use of a more informative writing style and inclusion of a list of definitions or a glossary of terms for future EIS guidelines will likely address many of the public concerns about understandability. The definitions should be consistent with established federal and provincial legislation and policies, and should also be stated in a clearly understandable manner. Inclusion of maps and diagrams would assist in the understanding of the projects and the environmental assessment process.

Translation of the guidelines into Cree and provision of a toll-free number or e-mail contact for interested parties to ask questions about the guidelines would also assist in their understandability, particularly by community elders and lay people.

Prescriptiveness

The degree to which the draft EIS guidelines for the Wuskwatim projects prescribe exactly what the proponent must do to carry out the required studies, conduct the environmental assessment and prepare the EIS report was subject to considerable discussion during the public meetings. It was explained that being overly prescriptive could either limit the studies and the assessment to a minimum level required by the guidelines or expand the scope of the studies and assessment beyond what is reasonable or effective in terms of level of detail, cost and time. The approach taken for the Wuskwatim projects is understood to involve the provision of sufficient direction to ensure that the proponent conducts studies and carries out the environmental assessment based on the predicted effects of the project.

The Commission appreciates this explanation but believes that a greater degree of prescriptiveness is required to address the concerns expressed at the public meetings. These concerns would be addressed by defining the spatial scope of the assessment to include the Churchill-Nelson Rivers watershed in Manitoba or other physically or ecologically definable boundaries, and the effects of past hydroelectric developments in that region. The guidelines need to be written with greater clarity and certainty in terms of what is required by consistently using the words “shall”, “must” and “will” and limiting use of the words “could” and “may”. In addition, the use of qualifiers such as “to the extent that they are definable” and “where possible” should be avoided as these terms tend to limit innovation and advancement of the practice of environmental assessment.

The EIS guidelines should be more definitive when requiring the proponent to describe or provide information on the project, the environment and the environmental effects. In some cases, descriptive lists are provided and no direction is given on the use or application of the information. To be effective both qualitative and quantitative information is required on the project and the environment.

Environmental Policy Framework

Manitoba has a comprehensive environmental policy framework, which is founded in the *Sustainable Development Act* and is manifested in numerous policy and strategy documents. The framework also includes the recent *Consultation on Sustainable Development Implementation (COSDI) Report* and its recommendations. A consistent message from environmental and First Nation organizations, as well as other concerned parties, was the need

to define Manitoba's environmental policy framework in the EIS guidelines. The framework is required to establish the context for the guidelines, define how the environmental assessment will be carried out and provide a basis for evaluating the EIS report. The following is a list of policy and related documents that were mentioned during the public meetings and/or were presented in the submissions:

- *Consultation on Sustainable Development Implementation (COSDI) Report*
- *Manitoba's Sustainable Development Act*
- *Manitoba's Principles and Guidelines of/for Sustainable Development*
- *Manitoba's Sustainable Development Financial Management Guidelines*
- *Manitoba's Sustainable Development Code of Practice*
- *Manitoba's Sustainable Development Strategy*
- *Manitoba's Sustainability Indicators*
- *Manitoba's Action Plan for a Network of Protected Areas*
- *Manitoba's Sustainable Development Energy Strategy (draft)*
- *Manitoba's Land and Water Strategy*
- *Manitoba's Water Policies*
- *Manitoba's Caribou Strategy*
- *Report of the Manitoba Climate Change Task Force*
- *Canadian Biodiversity Strategy*
- *North American Waterfowl Management Plan*
- *Policy of Fish Habitat Management*
- *Canadian Environmental Assessment Agency Comprehensive Study Guide*
- *Canada-Manitoba Agreement on Environmental Assessment Cooperation*
- *Proposed amendments to Manitoba's Environment Act*
- *Act to Amend the Canadian Environmental Assessment Act (Bill C-19)*

Specific reference to these documents in the EIS guidelines will provide implicit guidance to the proponent on describing the biophysical, socio-economic, cultural other aspects of the environment, and identifying, describing and qualifying effects of the Wuskwatim projects on the environment. Assessment of the projects in relation to Manitoba's principles and guidelines of sustainable development, and the use of provincial sustainability indicators will also increase the likelihood of achieving sustainable projects over the longer term.

Hydroelectric Development in Northern Manitoba

How the proposed Wuskwatim projects relate to overall hydroelectric development in northern Manitoba was discussed at each of the public meetings. There is a general absence of information in the guidelines on existing and proposed hydroelectric developments in the region including generation stations, transmission lines and other related infrastructure. While not essential for the environmental assessment, this lack of information on hydroelectric development appeared to contribute to public mistrust concerning the proposed projects. For example, one group suggested that the generation project would justify construction of Bipole III, while another group believed that dams on the Burntwood River would be used to divert water to the south.

An informative description of current hydroelectric developments in northern Manitoba, role of the Wuskwatim projects within this scenario and plans for additional developments over the reasonably foreseeable future would improve the general level of public understanding. Maps, diagrams and other graphic aids would be beneficial in interpreting the descriptions. The information is also required for the effective identification, assessment and evaluation of cumulative environmental effects of the proposed Wuskwatim projects in combination with other projects and activities in the region.

Wuskwatim Project Description

The description of the Wuskwatim projects in the draft EIS guidelines was criticized at the public meetings in terms of the nature of the information and level of detail provided. Common concerns were the lack of descriptive information on the projects and the absence of maps and diagrams illustrating their location and the areas potentially affected. Individuals noted that it was not possible to make specific comments without knowing the location of First Nation lands, existing developments, protected areas and other land use activities. Provision of descriptive and explanatory information on the project and the environmental setting along with the EIS guidelines would help to alleviate these concerns in the future.

The requirement to clearly define and describe the “need”, “purpose” and “alternatives” to the proposed projects in the EIS guidelines was voiced strongly at the public meetings and in the written submissions. Environmental organizations also recommended that demand side management and full cost accounting be addressed in the guidelines. They further specified that the benefit/cost analysis should include externalities such as environmental values and costs.

One Project – One Assessment

Several of the presentations suggested that the two Wuskwatim projects should be combined into a single project and the environmental assessment be carried out on the combined generation/transmission project. It was argued that the transmission line is an undertaking in relation to the generating station, which is defined as a physical work under the *Canadian Environmental Assessment Act*. The concept of “one project – one assessment” which is supported under that *Act* as good environmental assessment practice was also mentioned. The matter was discussed further in connection with the Canada-Manitoba Agreement on Environmental Assessment Cooperation, which promotes the effective and efficient use of public resources and provides for a cooperative environmental assessment that satisfies the legal requirements of both parties.

The suggestion to combine the Wuskwatim projects into one for the purposes of the environmental assessment being carried out through the cooperative efforts of Canada and Manitoba is fully supported by the Clean Environment Commission.

Scope of the Environmental Assessment

A significant level of concern was expressed at the public meetings about the geographic scope and timeframe for the environmental assessment described in the draft EIS guidelines. Presently, the geographic scope is defined as “those local areas directly impacted by the undertakings associated with the ... Wuskwatim ... projects and also the zones within which there may be environmental effects that are regional or global in their nature”.

There appeared to be general support for a defined study area that included the Churchill-Nelson Rivers watershed in northern Manitoba and associated ecological (e.g. caribou range) and administrative (e.g. resource management areas) zones that are directly and indirectly affected by the proposed projects. Limiting the intent and scope of the EIS guidelines to direct effects of the project restricts the spatial and temporal scope of the environmental assessment. Indirect (e.g. secondary, tertiary, etc.) effects can have far-reaching and long-lasting effects, and tend to have broader spatial and temporal boundaries.

The Clean Environment Commission appreciates the requirement for federal interests to define the scope of the project and the assessment in terms of the *Canadian Environmental Assessment Act*, but encourages that a broader scope be considered for the Wuskwatim projects.

Environmental Assessment Standards

Another topic that received significant attention at the public meetings was the standard to which the EIS for the Wuskwatim projects should be carried out. It was strongly recommended by environmental organizations that the final EIS guidelines for the Conawapa hydroelectric project become the base reference point for the Wuskwatim EIS. Environmental assessments of the Voisey's Bay mine and mill in Newfoundland and Labrador, and the proposed decommissioning of the Whiteshell Laboratories in Manitoba were also mentioned as reference standards.

Submissions by First Nation and environmental organizations recommended that the EIS guidelines should contain sufficient direction to ensure that the Wuskwatim environmental assessment is at least consistent with other environmental assessments in Manitoba and compatible with best practices for environmental assessment. Several participants noted that dams are significant projects and the environmental assessment of Wuskwatim projects should be carried out accordingly. In this regard the guidelines should contain reference to the Ontario Ministry of the Environment *Guide to Environmental Assessment Requirements for Electricity Projects* (2001) and to the *Report on the World Commission on Dams* (2000) by the United Nations Environmental Program.

Environmental Assessment Methods

Several of the submissions presented at the public meetings mentioned the use of Geographic Information System (GIS) technology, overlay mapping and other methods used in environmental assessment. The draft EIS guidelines do not specify the use of such methods in relation to the Wuskwatim projects. The methods are commonly employed to identify and assess environmental effects and are also applied in conjunction with Aboriginal traditional knowledge approaches.

Accordingly, the Commission believes that the draft EIS guidelines would benefit from reference to standard environmental assessment methods to identify and assess project and cumulative environmental effects, compare among alternatives and evaluate the significance of residual effects. Such methods should include but not be limited to Aboriginal traditional knowledge, GIS, computer modelling, overlay mapping, matrices and linkage or network diagrams.

Aboriginal Traditional Knowledge

The term Aboriginal traditional knowledge (also traditional knowledge, traditional ecological knowledge and Aboriginal knowledge) was the subject of significant discussion during the public

meetings. The matter was also mentioned in many of submissions presented to the Clean Environmental Commission by First Nation and environmental organizations and others. There were several related concerns with respect to the definition, application and acceptance of Aboriginal traditional knowledge or traditional ecological knowledge.

Firstly, there were several definitions provided during the public meetings for Aboriginal traditional knowledge and traditional ecological knowledge:

1. The Nisichawayasihk Cree Nation (NCN) considers traditional knowledge to be:

- the observation and experience of the land;
- Aboriginal law regarding how the environment works;
- the understanding of NCN's place in the world – how things are connected, including spirituality;
- the relationship to the land;
- the goals and aspirations of NCN;
- the outlook on the proposed project – concerns, acceptability;
- NCN's identity and culture;
- the stewardship of the land; and
- a base for natural resource management.

Nisichawayasihk Cree Nation feels that traditional knowledge comes from Elders and others, both traditional and modern.

2. The Tataskweyak Cree Nation define Aboriginal traditional knowledge as:

“a body of knowledge possessed by Aboriginal people reflecting their experience, understanding, wisdom, values, beliefs, norms and priorities governing their relationship with Mother Earth”.

3. The O-Pipon-Na-Piwin Cree Nation provided the following definition of Aboriginal traditional knowledge as defined in the Voisey's Bay Environmental Assessment Panel Report (1999):

“the knowledge, understanding and values held by Aboriginal people that bear on the impacts and of the undertaking and their mitigation. This knowledge is based on personal observation, collective experience and oral transmission over generations”.

Secondly, First Nation representatives emphasized that traditional ecological knowledge is one part of Aboriginal traditional knowledge, which has a broader or more holistic approach. The sole use of traditional ecological knowledge was viewed as a narrow approach and that its use would ignore other aspects of Aboriginal knowledge.

Thirdly, positions were expressed with respect to the application of traditional ecological knowledge in the context of the EIS guidelines in particular and the environmental assessment in general. First Nation representatives recommended giving traditional ecological knowledge the same value as scientific or engineering knowledge. The representatives suggested that Aboriginal traditional knowledge be used to identify environmental effects, evaluate significance and make decisions. They also noted that statements in the guidelines that require conclusions including those relating to Aboriginal knowledge to be backed up by credible technical information are not acceptable to them.

The Clean Environment Commission believes that definitions of Aboriginal traditional knowledge, traditional ecological knowledge and other variations and the proper use of these terms in the EIS guidelines will alleviate most of the concerns expressed. This may be assured by consulting with First Nation organizations to confirm that the definitions and applications are acceptable.

Public Consultation

Concerns about the public consultation process were a common thread at the public meetings and in the submissions received. Notwithstanding the proactive approach to consultations on the draft EIS guidelines, the public, including First Nations, environmental groups, businesses, municipal governments and individuals all expressed their desire to be consulted further about the proposed projects and be informed on how they might be affected. The geographic scope of public consultations was of particular concern to residents of South Indian Lake, Moose Lake, York Factory and other northern communities.

The draft EIS guidelines includes reference to a public consultation and involvement plan but the guidelines do not specify the scope of the plan, what the plan is to contain, or the strategies, tools or techniques to be employed. To be effective, the plan should be prepared to the standard defined by the Canadian Environmental Assessment Agency *Guide to the Preparation of a Comprehensive Study* (1997). Reference to the Canadian Standards Association *Guide to Public Involvement* (1996) should also be included. The public consultation and involvement plan

should also be provided to the Project Administration Team for review as soon as practical to ensure that an acceptable level of public consultation has been and will be carried out.

It is understood that the project proponents, and the federal and provincial governments are fully aware of their fiduciary responsibility to consult with First Nations and others who may be affected by the proposed Wuskwatim projects. Further, the fact that Manitoba Hydro and a First Nation may be partners does not preclude that responsibility.

Past Hydroelectric Development Impacts

The Clean Environment Commission heard many strongly worded statements regarding the effects of past hydroelectric developments on the Churchill-Nelson Rivers and Saskatchewan River systems. The effects of these developments on area residents, lands and resources and quality of life were expressed at the public meetings and in the submissions. Residents of South Indian Lake, Moose Lake and Nisichawayasihk Cree Nation, in particular, commented on how hydroelectric developments affected water quality, caused shorelines to erode, decimated the commercial fishery, forced evacuations and changed their way of life. They were sceptical about promises about the future based on their experiences in the past. It was also mentioned at the meetings that the proposed Wuskwatim projects provide an opportunity to rectify some of the ongoing effects of past developments such as shoreline erosion.

The effects of past hydroelectric developments need to be documented as a reference point for identifying and assessing the effects of the proposed Wuskwatim projects. The impact of existing projects and activities is also a prerequisite for the identification and assessment of cumulative environmental effects associated with the Wuskwatim projects and other projects and activities in the region. These requirements are also discussed in the following sections on environmental and cumulative effects.

Baseline Conditions

The term “baseline conditions” does not appear in the draft EIS guidelines for the Wuskwatim projects. This observation was made by several of the participants at the public meetings as well as by the Commission. An initial step in most environmental assessments is the establishment of baseline conditions including the effects of existing developments. The effects of the proposed development activities can then be identified and measured relative to baseline conditions. Since environmental conditions change over time for a variety of reasons, environmental, socio-

economic and other indicators are monitored over time so that effects of the project can be determined on a comparative basis.

The EIS guidelines for the Wuskwatim projects should require that the proponent define baseline conditions in the area affected, identify environmental, socio-economic and other indicators of change, describe the effects of the project using these indicators, and prescribe follow-up programs to monitor changes over the longer term. The indicators should be simple and measurable, and they should represent important environmental, social, economic, cultural or other relevant components (e.g. Valued Ecosystem Components). Reference should be made in the guidelines to the Final Report of the Federal Ecological Monitoring Program (1992) concerning the effects of past hydroelectric developments in the region.

The EIS guidelines should also require that an evaluation be carried out on the biophysical, socio-economic and cultural information base in terms to determine if there are any critical gaps or deficiencies that would limit the effectiveness of the environmental assessment. Any information gaps or deficiencies should be addressed as part of the environmental assessment and not through environmental monitoring as suggested in the draft guidelines.

Environmental Effects

The draft EIS guidelines specify the identification of potential biophysical and socio-economic effects directly related to the Wuskwatim projects. It was noted by several participants that this requirement limits the scope of the assessment to those effects directly resulting from the project. To be effective, the guidelines should also require consideration of the indirect biophysical, socio-economic and cultural effects of the projects. The guidelines would also benefit from a definition of environmental effect that is consistent with the *Canadian Environmental Assessment Act*, the *Consultation on Sustainable Development Implementation Report* and the proposed amendments to Manitoba's *Environment Act*.

The direct effects of the Wuskwatim generation project on mobilizing mercury into the food chain and the indirect effects on fish, fisheries, economic conditions and human health is an example of how direct and indirect effects may be manifested. Other indirect effects that should be identified based on comments made at the public meetings include effects of the project on social conditions (i.e. employment, health, housing, culture) in the Aboriginal communities.

The draft guidelines require that the proponent assess the effects of the project on the current use of lands and resources for traditional purposes by Aboriginal people. The guidelines should also require an assessment of the effects on the use of lands and resources for all purposes by both Aboriginal and non-Aboriginal persons.

Several participants at the public meetings commented that the draft guidelines do not consider the effects of the developments on physical and cultural heritage in a manner that is consistent with the *Canadian Environmental Assessment Act* and the Canadian Environmental Assessment Agency *Reference Guide on Physical and Cultural Heritage Resources* (1996). It was also suggested that the guidelines should include reference to tangible and intangible cultural resources including spiritual values.

The draft guidelines presently require that actions to be taken to mitigate, eliminate or compensate for residual adverse environmental effects. This requirement should be consistent with accepted environmental assessment practices where a residual effect is the effect remaining after the application of mitigation measures. The residual effect is then used to evaluate significance.

Cumulative Environmental Effects

The Clean Environment Commission commends the government for including consideration of cumulative effects of the Wuskwatim projects in the draft EIS guidelines. Several participants at the public meetings also commented favourably in this regard. In support of this requirement the guidelines should contain guidance on how the cumulative effects assessment is to be carried out and reported upon. Such guidance is provided in the Canadian Environmental Assessment Agency's *Operational Policy Statement on Cumulative Environmental Effects* (1999) and *Cumulative Effects Assessment Practitioner's Guide* (1997).

The Commission also believes that the guidelines should define what is meant by cumulative environmental effects, identify methods to identify and assess cumulative effects and describe how cumulative effects are to be considered and reported on in the EIS. Reference should also be provided to cumulative effects assessment requirements identified in the *Canadian Environmental Assessment Act, Consultation on Sustainable Development Implementation Report* and proposed amendments to Manitoba's *Environment Act*.

Climate Change

The recent *Report by the Manitoba Climate Change Task Force* (2001) provides recommendations to the Government of Manitoba and Manitoba Hydro to lead by public policy and practice in reducing greenhouse gas emissions. This recommendation should be addressed in the EIS guidelines with specific requirements to identify and assess the effects of the project on climate change and the effects of climate change on the project, such as the potential for decreased water levels in reservoirs.

Environmental Monitoring

Several of the submissions received at the public meetings included reference to the importance of environmental monitoring during and after construction of the Wuskwatim projects. Various concerns were mentioned relating to follow-up monitoring and what it entailed. Monitoring is understood to include evaluation of the effectiveness of the environmental assessment in identifying and mitigating adverse effects, assuring that mitigation is implemented and effective, and providing for the identification of unforeseen environmental effects.

There is an opportunity to involve First Nations in the proposed monitoring program for the Wuskwatim projects. In this regard, consideration should be given to the formation of an independent monitoring structure with First Nation leadership or involvement to conduct and report on environmental monitoring programs for the Wuskwatim and other hydroelectric projects in the region. Such structures have been put in place for other large projects (e.g. Diavik Diamonds Project)

The Clean Environment Commission fully supports the requirement for Environmental Protection Plans to ensure implementation of the mitigation measures, environmental monitoring, licence terms and conditions, and other follow-up requirements.

Recommendations

The recommendations listed below are provided to the Minister of Conservation for consideration by the Project Administration Team in finalizing the EIS guidelines for the Wuskwatim generation and transmission projects.

1. General

The Clean Environment Commission congratulates Manitoba and Canada for providing the public with an opportunity to review the draft EIS guidelines for the Wuskwatim projects through a process that included a Commission sponsored public meeting component, and recommends that the practice be adopted as an integral part of the environmental assessment process for future development projects of this nature in Manitoba.

2. Understandability

Draft EIS guidelines that are submitted for public review should be written in a style that is understandable by all parties, particularly by people not familiar with environmental assessment terminology. In addition, the guidelines should include a list of definitions or glossary of terms. The definitions or terms must be consistent with Canada's and Manitoba's environmental assessment legislation and policies, as well as best environmental assessment practice.

The Clean Environment Commission supports the suggestion that public consultation materials such as the draft guidelines be made available in Cree and other Aboriginal languages as necessary. In addition, a toll free number or e-mail should be provided to answer questions concerning the guidelines.

3. Prescriptiveness

The EIS guidelines should provide a balance between being overly prescriptive and not prescriptive enough. The guidelines should give clear direction and outline the results and level of detail expected of the proponent. At the same time, the guidelines should allow the proponent to be adaptive and innovative in the identification, assessment, mitigation and evaluation of environmental effects.

The Clean Environment Commission believes that a greater degree of prescriptiveness is required to address the concerns expressed by those parties potentially affected by the proposed

projects. In this regard, the guidelines need to be written with greater clarity and certainty in terms of what is required by consistently using the words “shall”, “must” and “will”.

4. Environmental Policy Framework – The EIS guidelines

The EIS guidelines should clearly outline the environmental policy framework for Manitoba. The framework should include applicable legislation, policies, guidelines and other documents that must be considered in the environmental assessment of the Wuskwatim projects. At a minimum the proponent should be requested to consider requirements of Manitoba’s *Sustainable Development Act*, the principles and guideline of sustainable development, recommendations outlined in the *Consultation on Sustainable Development Implementation Report* and proposed amendments to Manitoba’s *Environment Act* concerning requirements for an effects assessment, which significantly broaden the assessment.

5. Hydroelectric Development in Northern Manitoba

The Clean Environment Commission recommends that the EIS guidelines for the Wuskwatim projects include a requirement to describe the history, present status and future direction of hydroelectric development in Manitoba. This is necessary for the public to understand the context of the proposed projects and for the proponent to complete the assessment of cumulative environmental effects.

6. Wuskwatim Project Description

The EIS guidelines should require that the proposed Wuskwatim generation and transmission projects be described in sufficient detail with maps and illustrations so that the public can understand the nature of the proposals and appreciate the areas potentially affected.

The EIS guidelines should also specify that the “need”, “purpose” and “alternatives” to the projects must be provided in a manner consistent with requirements under the *Canadian Environmental Assessment Act*.

7. One Project – One Assessment

The Clean Environment Commission strongly recommends that the Wuskwatim generation and transmission projects be assessed as one project and that the EIS guidelines be revised accordingly.

8. Scope of the Environmental Assessment

The scope of the environmental assessment should be defined in the EIS guidelines to include the geographic area directly and indirectly affected by the generation and transmission projects. The Churchill-Nelson Rivers watershed in northern Manitoba and associated ecological and administrative boundaries that are directly and indirectly affected by the proposed projects may define this area. Furthermore, the guidelines should include reference to both direct and indirect effects of the Wuskwatim projects, both positive and negative.

9. Environmental Assessment Standards

The EIS guidelines for the Wuskwatim projects should contain sufficient direction to ensure that the environmental assessment is at least consistent with best practice for environmental assessment. The guidelines should also provide for the continual improvement of environmental assessment practice by incorporating the knowledge and experience from previous similar assessments from across Canada and other countries.

10. Environmental Assessment Methods

The EIS guidelines should specify the methodology to be used for the environmental assessment of the Wuskwatim projects. The methodology specified should include a balance of both scientific and Aboriginal traditional knowledge approaches.

11. Aboriginal Traditional Knowledge

The Clean Environment Commission strongly recommends that the terms Aboriginal traditional knowledge, traditional ecological knowledge, traditional knowledge, Aboriginal knowledge and other variations be defined in the EIS guidelines and that the terms be used appropriately. The definitions should also recognize the Cree world view. First Nation organizations should be consulted to confirm that the definitions are acceptable.

It is further recommended that the EIS guidelines consider both Aboriginal traditional knowledge and scientific knowledge in the conduct of the environmental assessment, particularly in the identification and assessment of environmental effects and the evaluation of significance.

12. Public Consultation

The Clean Environment Commission recommends that the public consultation and involvement plan identified in the EIS guidelines be prepared to specifications in the *Guide to the Preparation of a Comprehensive Study* (1997) as provided by the Canadian Environmental Assessment Agency, and that the plan be approved by the Project Administration Team before implementation.

13. Past Hydroelectric Development Impacts

The EIS guidelines should require documentation of the effects from past hydroelectric developments as a reference point for identifying and assessing the effects of the proposed Wuskwatim projects and for the assessment of cumulative environmental effects. The documentation used should be in the domain and readily available to the proponent.

14. Baseline Conditions

The EIS guidelines should direct the proponent to define baseline conditions in the area affected, identify environmental, socio-economic, cultural and other indicators of change, describe the effects of the project using these indicators, and prescribe follow-up programs to monitor and document changes over the longer term.

15. Environmental Effects

Environmental effects should be defined in the EIS guidelines consistent with the *Canadian Environmental Assessment Act*, the *Consultation on Sustainable Development Implementation Report* and the proposed amendments to Manitoba's *Environment Act*, particularly as it relates to effects assessment. Both direct and indirect biophysical, socio-economic, cultural and other relevant effects of the projects should be identified, assessed and mitigated in the environmental assessment of the Wuskwatim projects. Indirect effects of the projects including those on health, housing and culture in the Aboriginal communities should be assessed.

16. Physical and Cultural Heritage Effects

The EIS guidelines should ensure that the effects of the projects on physical and cultural heritage (including both tangible and intangible aspects) are assessed according to guidance in the Canadian Environmental Assessment Agency *Reference Guide on Physical and Cultural Heritage Resources* (1996).

17. Cumulative Environmental Effects

The Clean Environment Commission recommends that the EIS guidelines should define cumulative environmental effects, identify methods to assess cumulative effects and describe how cumulative effects are to be considered and reported on in the environmental assessment.

18. Climate Change

The Clean Environment Commission strongly recommends that the EIS guidelines include requirements for the proponent to consider the effects of the proposed Wuskwatim projects on climate change as well as the effects of climate change on the projects.

19. Environmental Monitoring

Consideration should be given to the formation of an independent monitoring body to conduct and report on environmental monitoring programs for the Wuskwatim and other hydroelectric projects in the region.

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