

**From:** The Chaulk's []  
**Sent:** 27 janvier 2008 12:26  
**To:** Pineau, Maryse [CEAA]  
**Subject:** Lower Churchill Project

To whom it may concern:

I am writing to voice my concerns over the proposed hydro development on the lower Churchill (Grand) River. I have many environmental concerns regarding said project. In my opinion, one mega project (The Upper Churchill) has created more than enough damage to this beautiful waterway. Many years after that project we are still feeling the negative impacts such as elevated amounts of methyl mercury which finds its way up the food chain to fish and ultimately animals and humans who consume them. The huge reservoir which was created (The Smallwood Reservoir) has become a significant source of greenhouse gases. I live in the little community of Mud Lake which is located near the mouth of the Churchill River. I am 47 years old and I have seen in my lifetime a much reduced flow to the once mighty river. Sandbars are much more prevalent now than they were prior to the upper Churchill development. We (the residents of Mud Lake) traverse the river daily and we therefore see the effects of projects such as the upper Churchill and more recently the causeway which blocks around 65% of the river's flow just upstream from our community.

From the information I have gathered, I am of the opinion that a second major hydro project will completely obliterate what's left of this "Grand" river. According to renowned scientist Dr. R. John Gibson, the 285 km. stretch of river between the proposed site and Churchill Falls will no longer have the characteristics of a healthy living river. It would be more like a huge lake and this would have serious consequences on the ecosystem and all creatures that depend on it. Another major fear is the possibility of such toxins as PCBs which are used to cool the giant transformers used in hydro facilities, accidentally leaking into the waterway. I was informed by a former resident of Churchill Falls that such accidents occur quite commonly and are never publicized. Pcb's have been linked to cancer and I fear that such events could have a catastrophic impact on wildlife and ultimately humans who harvest fish and waterfowl from the rivers' habitat.

In my opinion, a second major hydro project on this river would significantly increase the risks of such occurrences.

On the economical side of this proposed development/destruction, I think there will be minimal (if any) benefit to Labrador. Even if Labrador were the prime beneficiary I would adamantly oppose the project due to the high environmental costs. The province is in a better financial state now than it has ever been in its entire history. Therefore, on an economical basis, there is no urgency to develop the lower Churchill at this point in time. It is my belief that Premier Williams inspires to grace the history books as the man who accomplished what former premiers have failed to do. Mr. Williams I implore you to rethink your course of action, demonstrate the attributes of a compassionate and caring person who can see beyond the dollar signs and do what is morally and environmentally correct. If you choose to let the river recover from past follies, knowing now what we do about environmental impacts of "progress", the rewards to this province in the foreseeable future could be astronomical and the history books will hold you in high esteem!

Thank You  
Craig Chaulk

FROM: FELSBERG ENTERPRISE

PHONE NO.: 709 896 3559

Jan. 27 2008 06:15PM P1

CIMFP Exhibit P-00352 - Tab 16

Page 2

## LOWER CHURCHILL HYDROELECTRIC GENERATION PROJECT

### DRAFT GUIDELINE COMMENTS submitted on January 28 2008

**P.12 2.1 Study Areas:** "The Proponent shall determine how far in the past the study should begin, and how far into the future it should be carried".

**Comment:** Considering that the downstream community of Mud Lake dates back to the mid 1800s, including especially trapping history up the river as far as the Height of Land, which contributed significantly to the affidavits for the 1927 Canada/Newfoundland Boundary Decision, and the Innu component goes much further back, WHY should the Proponent be determining the time span for the study? Shouldn't the Fed/Prov Governments be determining those limits?

**P.13 2.1 Study Areas:** "This description may include the following information: a)b)c) and d)"  
I suggest that this really should be saying MUST include, not may.

**P.33 7.0 Consultation with Aboriginal Groups and Communities.**

**Comment:** This title reads ambiguously. Are only aboriginal groups and communities to be addressed, or hopefully is everyone to be included? Perhaps, if clarified, the draft folk really do exclusively mean 'aboriginal'? If so, justification is required. And the same sentence appears to be incomplete: "The Proponent is to present...interests and concerns... with what? I suggest that the Proponent is to MAKE RESPONSES TO (...) Governments".

**P.34 8.0 Public Participation:** "As a minimum, public consultation meetings must be held in the communities of HVGB, NWR, Sheshashlu, Natuashish, ChF, and Lab West" Additional references throughout the text to Upper Lake Melville do not precisely define that district's communities re health, economics, etc.etc.

**Comment:** It is to be hoped that the above really is a minimum, as it omits Mud Lake, which MUST be included, because:-

- a) It is the oldest established community of all in the river valley, predating everyone else;
- b) It is the only one on the south side of the river;
- c) The residents travel and commute on the river, by boat and snowmobile 365/12/24/7 as absolutely no other community does;
- d) It is the community most impacted by steady erosion and sandbank development. How far will the drastic erosion from the Upper Churchill be assessed and analysed? What are the implications for seasonal dam release/water level controls/winter ice formation and safety? etc.
- e) The Public Hearings exercise MUST be demonstrated in the community, so that the Proponent and full-time can be fully aware of the geography and physical impact of commuter logistics, and implications for the impossibility of certain mitigation measures in the future - when the erosion occurs, no one is going to be able to put damaged shoreline back again.
- f) If inappropriately scheduled, it is possible that Mud Lakers will not be able to commute into HVGB for the Hearings, depending on the seasonal river/ice conditions, or adverse weather. The Proponent can reach the community by helicopter if absolutely necessary, though not acceptable, as the education level will thereby be sadly reduced.

In conclusion re the above points, I notice that although study parameters are to be established, nowhere is the actual word DOWNSTREAM mentioned, where physical impact will be very substantial - possibly overwhelming.

Susan Felsberg.

Thank you for your attention to the above remarks.

Jan 28 2008

February 9, 2008

Maryse Pineau  
Panel Manager  
Canadian Environmental Assessment Agency  
160 Elgin Street, 22<sup>nd</sup> Floor, Place Bell Canada  
Ottawa, ON K1A 0H3  
Email: maryse.pineau@ceaa-acee.gc.ca

**AND**

Paul Carter  
Chairperson  
Environmental Assessment Division  
Department of Environment and Conservation  
4<sup>th</sup> Floor, West Block, Confederation Complex  
PO Box 8700  
St. John's, NL A1B 4J6  
Email: pcarter@gov.nl.ca

**Re:** Draft Environmental Impact Statement Guidelines  
Lower Churchill Hydroelectric Generation Project  
Newfoundland and Labrador Hydro

Dear Maryse Pineau and Paul Carter,

I have reviewed on the above mentioned draft and would like you to consider my following comments. As a member of the Labrador Métis Nation, I believe I have an expertise about the area that is unprecedented.

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Preface: clarification regarding what the review panel intends to accomplish is needed and what will be done with the information gathered should be provided.

Preface: Who appointed the team and what guidelines are they following?

Section 1 - Background, purpose: Damning the river valley cannot be mitigated, if it is damned then it will be killed.

Section 1 - Background, proposed project: It appears from the statement "The lines between Muskrat Falls and Gull Island may be on separate towers, or combined on double-circuit structures" that existing Quebec transmission lines will be used to carry additional power to southern markets. This is no benefit for Labrador.

Section 1 - Background, environmental assessment process: The paragraph starting with "The responsible authorities..." put the ecosystem in second place to the project. No one should ever suggest a Valued Ecosystem, or its components, be developed if in fact it effectively kills the ecosystem which this damning proposal will do.

Section 1 - Background, environmental assessment process: By publically promoting this project the Premier of NL is in a conflict of interest as he cannot both promote and judge (say no to) the same authority. This particular section reads that the project is being fast-tracked so the goals of approval are met in an "effective and timely manner" which indicates the green light has been given and the government is only going through the motions so the boxes can be ticked.

Section 2 - Guiding Principles, environmental assessment: a planning tool: The river systems within the valley will be severed from one another, essentially leaving them stagnant, which will kill them. You cannot mitigate this water volume increase and it will have an overall effect on temperature.

Section 2 - Guiding Principles, public participation: The overall impact on climate change will have a greater impact than just on local communities. There are very few fresh water supplies in the world.

Section 2 - Guiding Principles, local knowledge: The Innu have been compromised at the Executive level and the Métis have been excluded from the process and deemed a non-entity. The Government of Newfoundland and Labrador are manipulating these issues to their benefit.

Section 2 - Guiding Principles, sustainable development: The objectives of sustainable development do not apply if local communities are excluded from the benefits of the power produced.

Section 2 - Guiding Principles, precautionary principle: Regardless of the results of the environmental impact assessment, the destruction of the river systems will have significant negative environmental impact. If the impact assessment concludes otherwise it is faulty.

This project defies the precautionary principle in that the project cannot be carried out to its conclusion without effectively killing the major river, and seriously compromising the other (seven) major rivers flowing into this valley, nor mention many brooks and streams within the major river valley. The only question that is really on the table is whether or not the government has determined that the destruction of the land (water and dirt) and its people are worth the benefits (monetary and otherwise)? An entire ecosystem is being threatened by this project, including altering weather patterns; without a doubt there will be total environmental degradation.

Section 3 - Presentation and preparation of EIS: Processes can be transparent, substantiated and balanced and still not be accessible. There is no indication of where

transfer of knowledge will take place except in the making of paper and electronic copies which is ridiculous and highly short-sighted in this day and age.

Section 4 - Outline of the environmental impact statement, identification of proponent: No work should be done in Newfoundland and Labrador until the governing majority government completes its work on the Sustainability Act - for instance, addressing the issue of harnessing the Newfoundland Humber River instead of the Labrador river valley or entirely moving towards other 'green' energies such as wind and wave developments.

Section 4 - Outline of the environmental impact statement, 1.6 Other Registrations: To what extent and degree have other river systems, such as the Humber, Exploits or Gander Rivers, been proposed to satisfy the replacement of the Holyrood dirty generating station?

Section 4 - Outline of the environmental impact statement, 2.3.1 Alternatives to the Project: Wind power and small community hydro projects should be considered to meet the needs of local Labrador communities. Direction can be taken from communities in British Columbia with similar geographical considerations.

Section 4 - Outline of the environmental impact statement, 2.3.2 Alternative means of carrying out the Project: Discussing less harmful and destructive methods of harnessing power shows a lack of commitment. Throughout this section of the draft paper, the issue clearly reads that the assessment's responsibility is to find evidence to support this project and not to find alternatives that will minimize the destruction of the ecosystem and culture.

Section 4 - Outline of the environmental impact statement, 2.3.1 Alternatives to the Project, a) reservoir preparation: At the very least to mitigate inundation, trees should be removed prior to flooding.

Section 4 - Outline of the environmental impact statement, 2.3.1 Alternatives to the Project, b) transmission line route selection: Attention must be given and issues discussed to the transmission of power to the south, beyond the Churchill Falls Terminal prior to the beginning of this project.

Section 4 - Outline of the environmental impact statement, 2.3.1 Alternatives to the Project, e) construction labour force accommodation: Sewage treatment is a serious issue that must be considered before any construction begins. Using the river system as a dumping ground is not feasible.

Section 4 - Outline of the environmental impact statement, 2.5, Project description:

- The total cost of decommissioning the facilities is required (or at least projected) with inflation rates calculated.
- New transmission lines are not mentioned.
- Costs of added policing with regards to the issues brought in by a transient working population are not considered.

- Costs of added health and medical services in communities effected by the transient working population are not identified.

Section 4 - Outline of the environmental impact statement, 2.6, Construction:

- Mention has not been made of the environmental clean-up that must be done at the Muskrat site to deal with the uranium deposits.
- The number of fault lines in the valley is neglected mention.
- Fish habitat maintenance is an erroneous mention - nothing will live in the altered waterways. The known species of fish in this area will not be able to adapt and survive.
- The impact on the Elizabeth, Figiminipi, Cache, Penas and Thomas Rivers will be direct. Fish spawning and hatching will be silted at the mouth of each river and the extinction in these grounds will be forthcoming.

Section 4 - Outline of the environmental impact statement, 2.7, Operation and maintenance: Scraping top soils in this region causes long-term (living history of 60 years with Air Force involvement) degradation of scaring of land and run-off becomes a serious problem especially close to the river.

Section 4 - Outline of the environmental impact statement, 3.2, Description of relevant components: Networking with leading research institutes in Canada, North America and throughout the world is imperative in tracking the long-term environmental impacts on weather patterns and water flow issues. This research should be funded through the entire life of the project and begin immediately to start collecting baseline data. This was never done in the 1960s and must be done now. The research should also be done by independent bodies that demonstrate no conflict of interest.

Section 4 - Outline of the environmental impact statement, 3.4.3, Terrestrial environment: All of the species listed in this section will be impacted along the flood area and the fish will be killed. The loss of land-locked salmon will be total as will the loss of many bug species that support the bird population, etc. Further, song-birds must be added to the list of key-indicators.

Section 4 - Outline of the environmental impact statement, 3.4.4, Land and resource use: Trapping and eco-tourism must be added to the list of determined land use losses.

Section 4 - Outline of the environmental impact statement, 3.4.5, Heritage resources: Trapper memorials along the river will be destroyed.

Section 4 - Outline of the environmental impact statement, 3.4.7, Economy, employment and business: Local community colleges (not just those in Labrador City and on the Island) should be supported to develop and implement training programs for local workers so they can join the construction employment opportunities that will come with this project.

Section 4 - Outline of the environmental impact statement, 3.5, Component studies:

- The effect of changing the shoreline will be significant on all the species listed. Some will be totally killed.
- Given the boreal forest ecosystem is both one of the most important and also one of the most fragile ecosystems in the world it must be given very careful consideration.
- The methodology should not be established solely by the Proponent but established and reviewed by an international inter-disciplinary body of experts to ensure a strict adherence to a code of ethics.

Section 4 - Outline of the environmental impact statement, 3.7, Future environment: There is a sense of 'white man's burden' in this particular part of the proposal. Although this area does suffer from lower economic status in general, it will survive and adapt to changing times as always. Creating employment opportunities at the expense of the land is ludicrous. History has shown that most opportunities are given to outsiders and those created at the local level are short-term and do not result in long-term change.

Section 4 - Outline of the environmental impact statement, 4.0, Environmental effects: History has shown that the damage done by damming projects is permanent and devastating. Of significant consideration here is the fact that this project is not stand-alone but will be contributing to the damage already done by the Upper Churchill damming. There is a cumulative effect that has not been addressed specifically in the assessment outline or research recommendations.

Section 4 - Outline of the environmental impact statement, 5.0, Environmental protection:

- Given the massive undertaking of this project there is no conceivable way that enough contingency plans and procedures can be developed and implemented in a safe and responsive manner to ensure the safety of locals and workers.
- Loss of generational transmission of cultural activities cannot be compensated for. When trapping lines, fishing and hunting grounds are decimated the cultural exchange is forever lost. On-going traditional river running will be lost forever to future generations.
- Compensation packages are generally given to those currently active they do not provide for those who haven't even been given the opportunity to work and develop in a normal pattern. How does one 'pay-off' the grandchild who never had the opportunity because the land was destroyed?
- The benefits of eco-tourism should be costed and a total of all potential operators should be allowed for and then costed against the years of the life of the dam.

In closing, I want to state very clearly that I do not approve of this project. If I may summarize my main objections:

- The project will decimate the land and kill all the wildlife that is dependent on it.
- The impact of the project neglects the cultural component.
- Clearly there is a lack of inter-disciplinary understanding; the environmental impact statement must consider both cultural and physical issues.
- Transfer of knowledge is neglected.
- Regulatory bodies are not mentioned.

- Research institutes from around the world should be on-board and actively involved in the initial evaluation of the project and the on-going assessment of its impact.
- Partnership with locals and how to bring benefit to the communities that will be hugely impacted by this project are not highlighted.
- No work should begin until the Government of Newfoundland and Labrador have finalized its Sustainability Act and addressed all the issues involved with that.
- Efforts should be exhausted in the seeking of the least intrusive energy resources in order to keep Labrador as green as possible.

What we are talking about is the last frontier of wilderness being altered permanently. Doing so without considering all other options is irresponsible and short-sighted. Thank you for your consideration of my comments.

Sincerely,

James G. Learning

From: Robin Goodfellow-Baikie < >  
To: Pineau, Maryse [CEAA]  
Cc: pcarter@gov.nl.ca <pcarter@gov.nl.ca>  
Sent: Mon Feb 25 13:50:40 2008  
Subject: Response to Draft EIS Guidelines on Lower Churchill Hydro Project Proposal

> To: Maryse Pineau Panel Manager Canadian Environmental Assessment  
> Agency 160 Elgin Street, 22 nd Floor, Place Bell Canada Ottawa, ON  
> K1A 0H3 and Paul Carter Chairperson Environmental Assessment  
> Division Department of Environment and Conservation 4 th Floor, West  
> Block, Confederation Complex P.O. Box 8700, St. John's, NL A1B 4J6

> From: Robin Goodfellow-Baikie

>

>

> Re: Response to Draft EIS Guidelines on Lower Churchill Hydro Project  
> Proposal

>

> Message: In response, I make the following points

>

> 1. In area 2.2 - The need for and purpose of the project, I feel  
that

> this has to be expanded, addressing the following points

> -Why not a nuclear plant at Holyrood for half the cost and the  
same

> amount of power?

> -What about the principle of adjacency, for in this project as  
proposed, there is no real benefit in power, and a detraction  
economically in the boom and bust cycle it creates?

> -Why not a wind power development at Churchill Falls? It would  
create 200 permanent jobs ( and 2,000 for the set-up period),  
compared

> to less than a handful of permanent jobs with the hydro project.

> -Why not create an integrated power plan for the island of  
Newfoundland sourced from a combination of wind, solar and tidal?

> -If the purpose is for the generation of revenue only, what  
proof is

> there that it will make money, (as it is costly)? and for whose  
benefit? ( not Labrador's). Where are the markets? What makes this  
different from the previous Upper Churchill deal in terms of  
guaranteed benefits?

>

> 2. The need for greater definition of how tree harvest in the  
reservoir areas will be approached: - how much timber is there -  
what

> percentage of that will be harvested in what manner and over what  
period of time.

> As an added note, there is some question as to whether the dams could  
be reduced by 10% in height, thus making a large difference to how  
much flooding ( and therefore tree damage) occurs.

>

> 3. How does this project reflect community values? Specifically:  
> -in a world context, large hydro projects such as these are  
considered

> passe - an out-of-date manner of power production, due to the

> accompanying destruction of rivers; in fact, some projects are now

> being de-commissioned, even though so much damage has been done.

Case

> in point is the Churchill and Nelson rivers of northern Manitoba.

> -how can the Innu, who have LAND claims on either side of the river,

> be able to also control THE RIVER - whose river is it? It is

> important to community beyond the Innu in Central Labrador, but this

> seemingly is not addressed.

> - personally it would sicken all my sensibilities to see this project

> go ahead, due to the ensuing loss of a wild river plus the

> environmental and cultural destruction that accompanies such a

> project.

>

> Robin Goodfellow-Baikie

GRAND RIVERKEEPER LABRADOR INC.

# COMMENTS ON DRAFT EIS GUIDELINES, LOWER CHURCHILL HYDROELECTRIC GENERATION PROJECT

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**Clarice Blake Rudkowski and Roberta Frampton Benefiel**

**February 27, 2008**

The comments contained herein (highlighted in red) have been garnered during public information sessions held in Happy Valley-Goose Bay, Northwest River and Mud Lake, Labrador on January 19, 20 & 21, 2008. Further consultation with our Board and various experts cemented the conclusions.

GRAND RIVERKEEPER®LABRADOR INC.

P.O. Box 569, Station B, Happy Valley-Goose Bay, Labrador A0P 1E0

27 February 2008

TO:

Ms. Maryse Pineau, Panel Manager

Canadian Environmental Assessment Agency

160 Elgin Street, 22<sup>nd</sup> Floor

Ottawa, Ontario K1A 0H3 e-mail: [maryse.pineau@ceaa-acee.gc.ca](mailto:maryse.pineau@ceaa-acee.gc.ca)

AND

Paul Carter, Chairperson

Environmental Assessment Division, Dept. of Environment and Conservation

Government of Newfoundland and Labrador

4<sup>th</sup> Floor, West Block, Confederation Complex

P.O. Box 8700

St. John's, NL A1B 4J6 e-mail: [pcarter@gov.nl.ca](mailto:pcarter@gov.nl.ca)

Dear Ms. Pineau and Mr. Carter:

Grand Riverkeeper Labrador Inc. [www.grandriverkeeperlabrador.org](http://www.grandriverkeeperlabrador.org) is an affiliate of Waterkeeper Alliance [www.waterkeeper.org](http://www.waterkeeper.org) which is the fastest growing and most effective protector of clean water because we act locally and organize globally – now more than 170

programs worldwide. Hydroelectric development is not green, it is not clean and it is not cheap and it is from this lense that Grand Riverkeeper Labrador firmly believes we should be actively promoting sustainable alternatives that are less damaging to the environment. When speaking with the youth of Northwest River, many couldn't understand why this proposal could be called development when, if all this damage occurred naturally, it would be called a disaster, NOT a development. While it is our wish not to have any dams at all, we offer the enclosed comments in the hopes that we get the best environmental assessment process possible.

It is promising that the guidelines are looking at the first (Upper Churchill) project and recognizes that mitigation may have not been successful. This is critically important when looking at cumulative effects.

The language used in these draft guidelines, particularly in the earlier parts, seems biased in that it seems to suggest that approval of the project is a foregone conclusion and that all that is considered is how to mitigate the environmental impacts.

Having said that, we must also say that we were surprised that the draft guidelines were issued before a Panel is struck and further surprised that the consultation is so limited:

1. Time period: just 5 calendar weeks
2. Given that the draft was released December 19, subtract 2 weeks for Christmas & New Years, communities in practice had just three weeks (later extended).
3. We must point out that we received an e-mail advising that the deadline was extended to February 27, 2008. The e-mail was dated Friday, Jan. 25 at 3:59 pm. While we certainly appreciate the extra time, it did appear to be hastily thought out and gives the appearance of a blatant disregard for those of us who have to dance to your tune.
4. THERE WERE NO HEARINGS: consider Eastmain 1A/Eastmain Division Panel Review where Panel held public information/comment sessions of the draft guidelines. In the case of Voisey's Bay "The Panel then held public meetings (scoping sessions) in communities in Labrador and St. John's, during April and May 1997 to hear comments and suggestions from the public and the signatories to the MOU." No hearings for the Lower Churchill Hydroelectric Project is contrary to CEAA's own rules, as posted on their web site, where a minimum of 46 days is allotted from the time of release of draft guidelines, with a Panel review and public consultation in between, before the public comment period ends.

5. The Draft Guidelines were issued without due consideration for the two aboriginal languages in Labrador – Inuktitut and Innueimun.

We presume that final guidelines will not be issued before the Panel is struck. Panel members have to make up their own minds about what information is required. Once named, they will need to read all available documentation, visit site, visit Upper Churchill project and visit communities, before making up their mind about what information the Proponent will need to provide. Issuing final Guidelines before the Panel is struck would compromise the integrity of the entire process, as would obliging a newly struck Panel to sign off on Guidelines before it has had time to fully develop its own informed opinion. This could even open the door to a legal challenge regarding the validity and legality of the process. This would create delays far greater than the time it would take to do it right.

Susan Felsberg of Mud Lake, notes *“that although study parameters are to be established, nowhere is the word DOWNSTREAM (where physical impact will be very substantial – possibly overwhelming, mentioned.”* We concur with that observation and believe that DOWNSTREAM should mean to the mouth of Grand (Churchill) River, on into Lake Melville and out to and including Groswater Bay. Local knowledge insists that these DOWNSTREAM areas were impacted by the first hydro electric project (Upper Churchill) and must be studied in preparation for the proposed Lower Churchill Project.

Wendy Hillier writes on behalf of the concerned citizens of Northwest River: “I ask you to kindly review what you define as sustainable development, and to reconsider the urgency and *real* necessity to destroy what might be the world’s greatest resource in the near future...peaceful space, clean water, and fresh air!”

AMEN



# **DRAFT ENVIRONMENTAL IMPACT STATEMENT GUIDELINES**

**Lower Churchill**

**Hydroelectric Generation Project**

**Newfoundland and Labrador Hydro**

Issued by the Government of Canada and the Government of Newfoundland and Labrador

December 2007

## PREFACE

On November 30, 2006, Newfoundland and Labrador Hydro (the Proponent) submitted a project registration/project description for the Lower Churchill Hydroelectric Generation Project (the Project), in Labrador. The proposal is to develop hydroelectric generating facilities with interconnecting transmission lines on the lower section of the Churchill River. **(Grand River-a.k.a Churchill)** Generation facilities with a combined capacity of approximately 2,800 MW are proposed at Gull Island and Muskrat Falls which are approximately 100 km and 30 km southwest of Happy Valley-Goose Bay, respectively. Interconnecting transmission lines are proposed between these generating sites and Churchill Falls.

On January 26, 2007, the Proponent was advised by the Minister of Environment and Conservation that an Environmental Impact Statement (EIS) is required for the Project under the Newfoundland and Labrador Environmental Protection Act (EPA). The Project is also subject to the Canadian Environmental Assessment Act (CEAA). On June 5, 2007 the Honourable John Baird, Minister of the Environment, announced that the Project will undergo a federal environmental assessment by an independent review panel.

Canada and Newfoundland and Labrador are discussing the possibility of a joint environmental assessment to ensure that the respective requirements of the EPA and the CEAA that apply to the Project are met in an effective and timely manner. As a first step toward that objective, the two governments have agreed that a single set of EIS guidelines is the most efficient and effective way to guide the Proponent in preparing an environmental assessment that will provide the type and quality of information and conclusions on environmental effects required to satisfy their respective legislative requirements.

These Guidelines are intended to assist the Proponent in its preparation of the EIS. The purpose of the EIS is to identify the important environmental effects associated with the Project, to identify measures that are required to mitigate against any adverse effects and determine the significance of residual environmental effects.

**Based on the first two purpose statements of the *Canadian Environmental Assessment Act* (Section 4(1) (a) and (b)), we feel the purpose statements above are incomplete and recommend the following be incorporated into the purpose statements:**

-To provide information to enable the project to be considered in a careful and precautionary manner in order to ensure that the decision makers only approve the project if it will not cause significant adverse environmental effects.

And

-To provide information to enable decision makers to determine whether the project contributes to sustainable development and thereby achieves or maintains a healthy environment and a healthy economy.

The complete statement for the Purposes of the Canadian Environmental Assessment Act listed as section 4 (1) (a) & (b) are as follows:

- (a) “to ensure that projects are considered in a careful and precautionary manner before federal authorities take action in connection with them, in order to ensure that such projects do not cause significant adverse environmental effects;”
- (b) “to encourage responsible authorities to take actions that promote sustainable development and thereby achieve or maintain a healthy environment and a healthy economy.”

The EIS is expected to contain a review of all available pertinent information as well as such additional new information or data as provided by the Proponent or requested by Canada or Newfoundland and Labrador. Component Studies shall address baseline data requirements to support the evaluation of environmental effects and/or develop mitigation measures as well as monitoring and follow up programs. The Guidelines include the information required under Section 57 of the EPA, and the information necessary to address the factors set out in subsections 16(1) and 16(2) of the CEAA, both of which are included in **Appendix A**. As more specific information is provided and as additional baseline information is gathered, Canada and/or Newfoundland and Labrador may require other concerns and potential effects to be considered by the Proponent.

With regards to section 16.2 of the Act-(Canadian Environmental Assessment Act) which states:

“The results of a study of the environmental effects of possible future projects in the region, in which a federal authority participates, outside the scope of this Act, with other jurisdictions referred to in paragraph 12(5) (a)m (c) or (d), may be taken into account in conducting an environmental assessment of a project in the region, particularly in considering any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out.”

The following must be considered as projects proposed, projects already constructed and incubating projects:

- (a) A project registered with the Newfoundland and Labrador Environment Department as Markland Resources/Lower Churchill River Exploration Project: File Reference Number 2.2313.0190. Registration Number 1201. The undertaking was registered on June 22, 2005, to conduct a bulk sampling exploration program to determine the viability of suction-dredge mining in the central channel of the Lower Churchill River, just downstream of Muskrat Island along the first 35 km of the river. The Newfoundland Minister of the Environment did make a ruling that the project could not proceed as registered but that much smaller bulk samples than were originally requested could be taken from sandbars rather than from the river bed. (This ruling appears to have kept the Federal Department of Fisheries and Oceans out of the picture-for the time being.).
- (b) The recently constructed Causeway/Bridge across the river about 9km from Happy Valley-Goose Bay, which currently blocks approximately 65% (possibly even more-due to the constant infilling of the north pier which is slowly being scoured away by the action of the river) of the River's flow and has scoured a hole just east of the north pier from 7ft deep before construction began to 118 ft deep by October 2007 when checked by a depth sounder.
- (c) Up to 2 million gallons of raw sewage is currently being pumped into the river from two outfalls in Happy Valley-Goose Bay. In the past two summers, over \$30,000.00 respectively had to be spent to dig channels to flush the sewage due to the creation of sandbars which are likely caused by the changes in flow due to the draw-down by the Upper Churchill Hydroelectric Project. More changes in flow are expected to be the result of two more dams on the river, with the resulting changes in deposition and sandbar building, which could further hamper the river's ability to flush the sewage, even if there is a sewage treatment plant. This is a critical issue because there will still be certain chemicals and pharmaceuticals that will not be removed by the Town's proposed lagoon system and therefore released into the river as part of the effluent.
- (d) Contamination from the still waters of the south escarpment of the Goose Bay Remediation Project is flowing through the creeks and into the Grand (a.k.a. Churchill) River. These contaminants make it even more crucial that the river's ability to flush is not impeded.
- (e) There are 7 recently dug water wells approximately 6 kms from Happy Valley-Goose Bay and situated on the north side of the Grand (a.k.a. Churchill) River just a few feet from the riverbank. One of these wells has already closed due to salt in the water. The others may be in danger of infiltration from salt water should the proposed project go ahead. Studies must be done to ensure that the Town's water supply is protected.
- (f) With talks of this hydro Project comes talk of other possible projects right here in Labrador that might be able to use the power that would be generated. One in

particular that has been mentioned several times by our Minister of Labrador Affairs is a smelter. Any such talk of the end use of the power such as this must be considered in the cumulative environmental effects that are likely to be the result of this project. Obviously a smelter would be a direct result of this project because without this project, there is no available power to operate a smelter.

The EIS will be used by both governments in fulfilling their respective environmental assessment decision-making processes and will inform subsequent public hearing and regulatory processes for the Project. Following a comment period, these draft Guidelines will be amended accordingly and issued to the Proponent by the federal Minister of the Environment and the Newfoundland and Labrador Minister of Environment and Conservation.

3

## TABLE OF CONTENTS

PREFACE _____	
2	

SECTION 1 - BACKGROUND _____	
5	

Purpose of the Guidelines _____	5
Proposed Project _____	5

Environmental Assessment Process _____	5
Review and Comment on the Draft Guidelines _____	6

SECTION 2 - GUIDING PRINCIPLES _____	7
--------------------------------------	---

Environmental Assessment: A Planning Tool _____	7
Public Participation _____	7
Local Knowledge _____	7
Sustainable Development _____	8

Precautionary Principle	
<a href="#"><u>Core Community Values (add section here)</u></a>	

<a href="#"><u>World Commission on Dams/Criteria and Guidelines/ core values and strategic priorities. (add section here)</u></a> _____	8
---	---

SECTION 3 – PRESENTATION AND PREPARATION OF THE EIS _____	9
---	---

Study Strategy and Methodology _____	9
Presentation of the EIS _____	9

SECTION 4 – OUTLINE OF THE ENVIRONMENTAL IMPACT STATEMENT ____	11
--	----

Executive Summary _____	11
-------------------------	----

1.0 Introduction	11
1.1 Identification of Proponent	11
1.2 Overview of the Project	11
1.3 Purpose of the EIS	12
1.4 Roles and Responsibilities	12
1.5 Previous Registration and Environmental Assessment	12
1.6 Other Registrations	12
2.0 The Proposed Undertaking	12
2.1 Study Areas	12
2.2 Need, Purpose and Rationale of the Project	13
2.3 Alternatives	13
2.3.1 Alternatives to the Project	13
2.3.2 Alternative Means of Carrying Out the Project	14
2.4 Relationship to Legislation, Permitting, Regulatory Agencies & Policies	16
2.5 Project Description	16

2.6 Construction	17
2.7 Operation and Maintenance	18
2.8 Decommissioning	19
3.0 Environment	19
3.1 Identification of Key Issues	19
3.2 Description of the Relevant Components	20
3.3 Previous Development	20
3.4 Existing Environment	21
3.4.1 Atmospheric Environment	21
3.4.2 Aquatic Environment	22
3.4.3 Terrestrial Environment	22
3.4.4 Land and Resource Use	23
3.4.5 Heritage Resources	23
3.4.6 Communities	23
3.4.7 Economy, Employment and Business	24
3.5 Component Studies	24

3.6 Data Gaps	25
<hr/>	
Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project	
4	
3.7 Future Environment	26
<hr/>	
4.0 Environmental Effects	26
<hr/>	
4.1 General	26
<hr/>	
4.2 Accidents and Malfunctions	27
<hr/>	
4.3 Cumulative Effects	28
<hr/>	
4.4 Renewable Resources	28
<hr/>	
4.5 Effects of Environment on the Project	29
<hr/>	
5.0 Environmental Protection	29
<hr/>	
5.1 Mitigation	29
<hr/>	
5.1.1 Compensation	30
<hr/>	
5.2 Emergency Response / Contingency Plans	31
<hr/>	
5.3 Rehabilitation	31
<hr/>	

5.4 Monitoring and Follow-up Programs	31
6.0 Residual Effects & Determination of Significance	33
7.0 Consultation with Aboriginal Groups and Communities	33
8.0 Public Participation	33
9.0 Environmental Protection Plan	34
10.0 References	
Cited	34
11.0 Personnel	34
12.0 Copies of Reports	34
BIBLIOGRAPHY	
	35
APPENDIX A	
	37
APPENDIX B	
	39

5.

## SECTION 1-BACKGROUND

### Purpose of the Guidelines

The purpose of this document is to identify for the Proponent, Newfoundland and Labrador Hydro, and interested parties, the nature, scope and extent of the information and analysis required in the preparation of the EIS. The Proponent will prepare and submit an EIS that examines the potential environmental effects of the construction, operation, reclamation, decommissioning and abandonment of the Project, identifies mitigation measures and evaluates the significance of residual effects. Section 4 of these Guidelines outlines in detail the content of the EIS to be prepared.

The Purpose statements above are incomplete: We recommend that the following be incorporated into the purpose statements:

“...to provide information to enable the project to be considered in a careful and precautionary manner in order to ensure that the decision makers only approve the project if it will not cause significant adverse environmental effects.”

And

“...to provide information to enable decision makers to determine whether the project contributes to sustainable development and thereby achieves or maintains a healthy environment and a healthy economy.”

Again, these recommendations are based upon the first two purpose statements of the *Canadian Environmental Assessment Act (Section 4(1) (a) and (b))*.

### Proposed Project

The Proponent proposes a project consisting of hydroelectric generating facilities at Gull Island and Muskrat Falls, and interconnecting transmission lines to the existing Labrador grid. The Proposed Project includes:

The Gull Island facility consisting of a generating station with a capacity of approximately 2,000 MW that includes:

- A dam 99m high and 1,315 m long: and
- A reservoir 200 km<sup>2</sup> in area at an assumed full supply level of 125 m asl.

The dam is to be a central till-cored, rock-fill, zone embankment. The reservoir is to be 225 km long, and the area of inundated land is to be 85 km<sup>2</sup> (see insert below re-methods used to

figure the inundated land) at full supply level. The powerhouse is to contain four to six Francis turbines.

The Muskrat Falls facility consisting of a generating station with a capacity of approximately 800 MW that includes:

- A concrete dam with two sections on the north and south abutments of the river, and
- A 107 km<sup>2</sup> reservoir at an assumed full supply level of 39 m asl.

The north section dam is to be 32 m high and 180 m long, while the south section is to be 29 m high and 370 m long. The reservoir is to be 60 km long and the area of inundated land is to be 36 km<sup>2</sup> (see insert below re-methods used to figure the inundated land) at full supply level. The powerhouse is to contain four to five propeller or Kaplan turbines, or a combination of both.

Regarding total area of inundation for the Gull Island and Muskrat reservoirs:

Newfoundland and Labrador Hydro has been asked to provide information on the calculation methods used to determine the area of land that will be inundated. Thus far we have not received a response. We recommend the guidelines ask that NL Hydro provide, in layman's terms, a complete and transparent report on exactly how the inundation figures were determined, what methods were used and what the percentage of error is for those methods.

Interconnecting transmission lines consisting of:

- A 735 kV transmission line between Gull Island and Churchill Falls; and
- Two 230 kV transmission lines between Muskrat Falls and Gull Island.

The 735 kV transmission line is to be 203 km long and the 230 kV transmission lines are to be 60 km long. Both lines will likely be lattice-type steel structures. The location of the transmission lines is to be north of the Churchill; the final route is the subject of a route selection study that will be discussed in the environmental assessment. The lines between Muskrat Falls and Gull Island may be on separate towers, or combined on double-circuit structures.

The scope of the project is not broad enough in the area of transmission lines:

- Transmission lines are proposed to transfer the power from the new dams to the currently operating Churchill Falls control station. However, from Churchill Falls there is currently no way to transfer the power out of that control station-ie there is currently no room on the transmission lines through Quebec which NL Hydro uses to transfer the power from the original 'Churchill Falls project to markets south because of a request by Hydro Quebec to use those lines themselves to transport power from

- the Romaine River Hydro Project. There is no way to bring this extra power to market.
- Also, there is no mention of where the markets are for this extra power and since all this power is not needed in Labrador, it is therefore questionable as to whether the markets exist and what the economics of the project are.
  - While it appears the Proponent may supply a route selection study within the environmental assessment, it must be noted that the environmental assessment for the construction of the dams **MUST** include the assessment of the route the transmission lines will take and **MUST** also include economic figures for the markets they will eventually identify. There can be **NO PROJECT-SPLITTING** here, and in essence, the Lower Churchill Hydroelectric Project, as registered, is a **WHITE ELEPHANT!**

### Environmental Assessment Process

Under section 5 of the CEAA, an environmental assessment is required for this Project because Fisheries and Oceans Canada may issue a permit or license under subsection 35(2) of the Fisheries Act and Transport Canada may issue an approval under paragraph 5(1) (a) of the Navigable Waters Protection Act. Because of these regulatory roles, Fisheries and Oceans Canada and Transport Canada are responsible authorities for the environmental assessment.

6

The responsible authorities recommended that the Minister of the Environment refer the Project for assessment by the review panel. They are of the opinion that the Project is likely to cause significant adverse environmental effects over a large area and to a number of Valued Ecosystem Components (VECs). The Minister accepted this recommendation and has referred the Project to review panel.

This Project is also being assessed by the Government of Newfoundland and Labrador under Part X of the EPA, pursuant to Section 34(1) (a) and 34(1) (d) of the Environmental Assessment Regulations.

It is unclear to us whether or not the Project should be assessed by the Government of NL under Section 34 (2) of the Environmental Assessment Regulations where

“An undertaking that will be engaged in the construction of new electric power transmission lines or the relocation or realignment of existing lines where a portion of a new line will be located more than 500 metres from an existing right of way shall be registered.”

Will the transmission lines from Muskrat Falls and Gull Island to Churchill Falls fall into this category?

Newfoundland and Labrador and Canada are discussing the possibility of a joint environmental assessment to ensure that the respective requirements of the EPA and the CEAA that apply to the Project are met in an effective and timely manner.

It was our understanding that the decision has already been made to review this project as a joint environmental assessment and that a joint panel would be/should be already struck! Why then, is the above statement in the guidelines?

Review and Comment on the Draft Guidelines

The draft EIS Guidelines are available for review and comment until January 28, 2008 ((now changed to February 27<sup>th</sup>, 2008)).

During this period, any interested party may submit written comments toL:

Maryse Pineau  
Panel Manager  
Canadian Environmental Assessment Agency  
160 Elgin Street, 22<sup>nd</sup> Floor, Place Bell Canada  
Ottawa, ON K1A 0H3  
Telephone: (613) 948-1364  
FAX: (613) 957-0941  
E-mail: [maryse.pineau@ceaa-acee.gc.ca](mailto:maryse.pineau@ceaa-acee.gc.ca)

And

Paul Carter  
Chairperson  
Environmental Assessment Division  
Department of Environment and Conservation  
4<sup>th</sup> Floor, West Block, Confederation Complex  
P.O. Box 8700, St. John's, NL A1B 4J6  
Telephone: (709) 729-0188  
Fax: (709) 729-5518  
E-mail: [pcarter@gov.nl.ca](mailto:pcarter@gov.nl.ca)

All comments received will be placed on the public registry for the Project. After taking into consideration the input received during the comment period, the Guidelines will be finalized, sent to the Proponent and made public.

7

## **SECTION 2-GUIDING PRINCIPLES**

The EIS shall demonstrate adherence to the basic principles of environmental assessment as set out below.

### **Environmental Assessment: A Planning Tool**

Environmental assessment is a planning tool that enables consideration of the potential effects of a project before actions are taken to allow that project to proceed. It is a process for identifying a project's potential interactions with the environment, predicting environmental effects, identifying mitigation measures and evaluating their significance. If the project proceeds, the environmental assessment process also provides the basis for setting out the requirements for monitoring and reporting to verify compliance with the terms and conditions of approval and the accuracy and effectiveness of predictions and mitigation measures. (However, in the case of the Lower Churchill Hydroelectric project, once this river is dammed and the damage is done, monitoring and reporting to verify compliance with the terms and conditions of approval and the accuracy and effectiveness of predictions and mitigation measures will be useless. Mitigation measures are not an option for this river if this project proceeds. This Project spells the death of a currently "free flowing" river, at least it flows freely from the height of land to its mouth and no amount of mitigation measures can change the damage if the river is converted to two long reservoirs. How then can NL Hydro propose to mitigate the damage to the eco-systems? Their mitigation measures are of extreme interest to the local communities and beyond and it is imperative that they outline them very carefully.)

The first sentence of the above section should be amended to state the following:

'Environmental Assessment is a planning tool to ensure that projects are considered in a careful and precautionary manner, that projects which cause significant adverse environmental effects are not approved, and to promote sustainable development and thereby achieve or maintain a healthy environment and a healthy economy.'

### **Public Participation**

Public participation is a central objective of an environmental assessment process and a means to ensure that a proponent considers and responds to public concerns. In preparing the EIS, the Proponent is encouraged (since public participation is a central objective we recommend the words 'is encouraged' be changed to MUST) consult the affected communities, interested regional and national organizations and resource users.

Also, recent Supreme Court rulings have determined that Governments (Federal and Provincial) have an obligation to consult aboriginal people directly. Labrador has three distinct Aboriginal Groups-The Labrador Metis Nation, The Innu Nation and the Nunatsiavut Government (Inuit), and all three Aboriginal groups must be consulted directly whether or not they have had a Land Claim accepted by the Federal Government. Not having a Land Claim accepted by the Federal Government does not constitute a denial of one's heritage and aboriginality.

Meaningful public involvement can only take place if the public has a clear understanding of the nature of the proposed Project as early as possible in the environmental assessment process. Therefore, the Proponent is encouraged to: (recommend the words 'is encouraged' be changed to MUST)

- Continue to provide up-to-date information to the public and especially to the communities likely to be most affected by the Project;
- Involve the main interested parties in determining how best to deliver that information, that is, the type of information required, format and presentation methods, as well as the need for community meetings; and
- Explain the results of the EIS in a clear and direct manner to make the issues comprehensible to the widest possible audience.

### Local Knowledge

Populations living in proximity to the Project may have substantial and distinct knowledge, which may be essential to the assessment of the effects of the Project, and their mitigation. (Local knowledge also assists in understanding cultural, spiritual and core community values.)

Local knowledge will have an important contribution to make in preparing the EIS.

In environmental assessment, local knowledge may be regarded as the knowledge, understanding and values that local populations, including Aboriginal groups, have in relation to the environment and the potential environmental effects of the Project and proposed mitigation measures. This knowledge is based on personal observation, collective experience and/or oral transmission.

Local knowledge assists in understanding, including the inter-relationships, among such matters as: ecosystem function; resource abundance; distribution and quality; social and economic well-being; and use of the land and resources. It also informs the development of adequate baseline information, identification of key issues, prediction of effects, and assessment of their significance, all of which are essential to the EIS and its review.

### **Sustainable Development**

Sustainable development seeks to meet the needs of present generations without compromising the ability of future generations to meet their own needs. Its three objectives are 1) preserving environmental integrity, 2) improving social equity and 3) improving economic efficiency.

The proponent shall strive to integrate these three objectives into the planning and decision-making process for the Project, including seeking the views of interested parties.

(Recommend to replace the above sentence with the following:

‘The Proponent shall provide information on whether and, if so, how, their proposed project contributes to sustainable development.’

Reasons given below:

The first sentence of the preamble to the Canadian Environmental Assessment Act states as follows:

“WHEREAS the Government of Canada seeks to achieve sustainable development by conserving and enhancing environmental quality and by encouraging and promoting economic development that conserves and enhances environmental quality;”

The second sentence of the preamble states as follows:

“WHEREAS environmental assessment provides an effective means of integrating environmental factors into planning and decision-making processes in a manner that promotes sustainable development;”

THEREFORE: We feel that the second sentence under this heading above should not simply say the proponent shall “strive to integrate”, but instead the onus should be on the proponent to show whether this project contributes to sustainable development and if so, HOW it contributes.

### **Precautionary Principle**

One of the purposes of environmental assessment is to ensure that projects are considered in a careful and precautionary manner before action is taken in connection with them in order to ensure that such projects do not cause significant adverse environmental effects.

Principle 15 of the 1992 Rio Declaration on Environment and Development states that “Where there are threats of serious or irreversible damage, lack of full scientific certainty

shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” In applying the precautionary approach, the Proponent shall:

- Demonstrate that the proposed actions are examined in a careful and precautionary manner in order to ensure that they do not cause serious or irreversible damage to the environment, especially with respect to environmental functions and integrity, considering system tolerance and resilience, and will not interfere with the conservation of wildlife in a protected area;
- Outline the assumptions made about the effects of the proposed actions and the approaches to minimize these effects; and
- Identify any follow-up and monitoring activities planned, particularly in areas where scientific uncertainty exists in the prediction of effects.

Recommend to add another bullet here:

- Any follow-up, ongoing management and monitoring of construction and operation activities must include participation from local ENGO groups, Aboriginal groups and others who wish to be involved.

**ADD CATEGORY HERE:**

#### **CORE COMMUNITY VALUES:**

As with the recently assessed Whites Point Quarry and Marine Terminal Project, a prime consideration of the Joint Panel should be the adverse impact on a Valued Environmental Component: the people, communities and economy of Central Labrador and of Labrador as a whole. The Territory of Labrador is unique in its history and in its community development activities and trajectory. Our core values, defined by our people and local governments, support the principles of sustainable development based on the quality of the local environment. Local residents are deeply embedded within and dependent on the terrestrial, riverine and marine ecosystems of the region: human health and well-being is intrinsically linked with the viability of the ecosystem. Examples: the river is used as a highway for winter travel via snow machine, ice fishing is one of the favorite winter pastimes, canoeing is a favorite summer pastime, berry picking along the river banks and in the bogs is something most inhabitants do to supplement their winter groceries, as well as caribou hunting, duck and goose hunting and various other outdoor activities that can only continue if the eco-system remains healthy. Therefore, it is extremely important that the proponent consider the impacts on the lives of local communities in the Environmental Impact Statement.

**ADD ANOTHER CATEGORY HERE:**

**ADHERANCE TO THE WORLD COMMISSION ON DAMS (WCD)**  
**RECOMMENDATIONS WITH REGARDS TO ENVIRONMENTAL**  
**ASSESSMENTS FOR LARGE DAM PROJECTS:**

The World Bank established an independent comprehensive review of all Bank-funded large dam projects beginning around February 1998 and the results of that review were published in the UK and USA in 2000 by Earthscan Publications Ltd, and reprinted in 2001. ISBN: 1-85383-798-9 paperback and 1-85393-797-0 hardback. The full report can be viewed on the World Commission on Dams website at <http://www.dams.org/>

The WCD recommends that planning processes must recognize the rights of all those with a stake in the outcome of water and energy projects, and assess who may be at risk of harm from a proposed project and to what extent. This ‘rights and risk approach’ offers an effective way to determine who has a legitimate place at the negotiation table and what issues need to be included on the agenda. The WCD recommendations are based on five ‘core values’.

- Equity in resource allocation and in the spread of benefits;
- Sustainability in the use of the world’s diminishing resource base;
- Openness and participation in decision-making processes;
- Efficiency in the management of infrastructural developments; and
- Accountability towards present and future generations.

The WCD recommends 7 strategic priorities based on the five ‘core values’ listed above; They are as follows:

- Gaining Public Acceptance
- Comprehensive Options assessment
- Addressing Existing Dams
- Sustaining Rivers and Livelihoods
- Recognizing Entitlements and Sharing Benefits
- Ensuring Compliance
- Sharing Rivers for Peace, Development and Security

A key message and a set of policy principles support each of these seven strategic priorities and are expressed in the form of achieved outcomes. These are stated on page 214-257 of the WCD report-**Dams and Development, A New Framework for Decision-Making.** and can be found on the WCD website at <http://www.dams.org/>

**Therefore the Proponent should describe its policy with respect to community acceptance of hydropower projects. Specifically, does the Proponent endorse Hydro Quebec’s policy not to build new hydropower except when welcomed by affected communities? Also, the Proponent should describe the WCD criteria for new large**

**hydro projects and explain to what extent its process has or has not followed these criteria.**

9

### **SECTION 3 – PRESENTATION AND PREPARATION OF THE EIS**

#### **Study Strategy and Methodology**

The Proponent shall explain and justify all methods used in the preparation of the EIS. In describing its overall approach, the Proponent shall explain how it used scientific, engineering, local and other knowledge. All hypotheses and assumptions shall be clearly identified and justified. All data collection methods, models and studies shall be documented so that the analyses are transparent and reproducible. The degree of uncertainty, reliability and sensitivity of models used to reach conclusions shall be indicated. (This would include the methods used to calculate the inundated land mentioned in sections of the registration document and in Section 1-Background: under Proposed Project in these draft guidelines.)

All conclusions regarding the receiving environment and predictions as well as the assessment of environmental effects shall be substantiated. The Proponent shall support all analyses, interpretation of results and conclusions with a review of the appropriate literature, providing all references required and indicating the public availability of all works consulted, when appropriate. Any contribution based on local knowledge shall be specified and the sources identified, where appropriate.

The EIS shall identify all significant gaps in knowledge and explain their relevance to key conclusions drawn. The Proponent shall indicate the measures applied to bridge these gaps. Where the conclusions drawn from scientific and technical knowledge are inconsistent with the conclusions drawn from local knowledge, the Proponent shall present a balanced version of the various points of view as well as a statement of the final conclusions.

#### **Presentation of the EIS**

The EIS and all associated reports and studies shall use System International (SI) units of measure and terminology throughout. The Proponent shall present the EIS in the clearest language possible. However, where the complexity of the issues addressed requires the use of technical language, a glossary defining technical words and acronyms shall be included. Lines shall be numbered in the margin at appropriate intervals.

An initial requirement for fifty (50) paper copies of the draft EIS and twenty electronic copies may be sufficient. They shall be written in English (there is a need to have the EIS written in the languages of the local Aboriginal Groups-eg. Innueimun and Inuktituk with translation done by local translators. This is the only way that non English speaking people can be assured of understanding the entire written document) and printed or copied on two sides of recycled “Environmental Choice” paper in a loosely-bound

format. The paper choice shall be conspicuously stated. Where possible, maps and other attachments should be scaled to fit on standard size papers to facilitate copying. The electronic version of the EIS shall be submitted in a format so that it may be posted on the internet and in a manner which shall facilitate downloading and printing in part or in whole.

The EIS should be presented in the sequence outlined in these Guidelines or the Proponent may decide that the information is better presented following a different sequence. For clarity and ease of reference, the EIS shall include a Table of Concordance that cross-references the EIS Guidelines so that points raised in the Guidelines are easily located in the EIS. The EIS shall refer to rather than repeat information already presented in other sections of the document. A key subject index is to be provided giving locations in the text by volume, section and sub-section.

The Proponent shall provide charts, diagrams and maps wherever useful to clarify the text, including a pictorial depiction that clearly conveys what the developed Project sites would look like from an aerial perspective. Maps shall use a limited number of common scales to

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

10

allow for comparison and overlay of mapped features. Maps shall indicate common and accepted local place names. (Add here: if there are two or more names for certain towns, lakes, rivers, etc, then both or all accepted names must be used. Example: Mishta Shipu is the Innu name for what these guidelines call the Churchill River; however, Grand River is what most people in Happy Valley-Goose Bay call this same Churchill River: All three names should be used even though Churchill River is what is listed on current maps. There are other examples that may surface and it should be the responsibility of the Proponent to be sure these are stated.)

The Proponent shall present information, where technically feasible, using a standard Geographic Information System (GIS) mapping (digital) format with maps geo-referenced.

Throughout the preparation of the EIS, the Proponent should freely cite experiences from other environmental assessments, with emphasis on Newfoundland and Labrador and other Canadian examples, to support the methodology and value of the information provided, or as reasons in support of the selection of a preferred alternative.

To facilitate the identification of the documents submitted and their coding in the Canadian Environmental Assessment Registry, the title page of the EIS and its related documents should contain the following information:

- project name and location;
- title of the document, including the term “environmental impact statement”;
- subtitle of the document;
- name of the Proponent;
- names of the consultants, as appropriate;
- date.

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

## **SECTION 4 – OUTLINE OF THE ENVIRONMENTAL IMPACT STATEMENT**

### **EXECUTIVE SUMMARY**

The executive summary shall include identification of the Proponent, a brief project description, predicted environmental and socio-economic effects, mitigation measures, residual effects, follow up and monitoring programs, an outline of the component studies, and a summary of the fundamental conclusions of the EIS.

The executive summary should be written in terms understandable to the general public and in such a manner as to allow reviewers to focus on items of concern.

### **1.0 INTRODUCTION**

#### **1.1 Identification of Proponent**

This section shall introduce readers to the Proponent by providing pertinent corporate information, including the following:

- (a) Name of corporate body and mailing address
- (b) Chief Executive Officer
- (c) Principal contact person for purposes of environmental assessment
- (d) Ownership of rights and interests in the Project and associated natural resources
- (e) Corporate accountability for management of environmental and socio-economic effects. Operational arrangements and corporate and management structures, including the linkage of these factors between the Proponent, its parent companies and any other organizations with operational or ownership rights
- (f) Environmental and community relations policies
- (g) Key elements of Newfoundland and Labrador Hydro's environment, health and safety management system and how the system will be integrated into the Project In addition the Proponent shall describe its history in Canada's hydroelectricity industry, with specific reference to the existing Newfoundland and Labrador Hydro hydroelectric generation project at Churchill Falls.

#### **1.2 Overview of the Project**

The intent of this overview is to provide the key components rather than a detailed description of the Project, which will follow under "2.0 The Proposed Undertaking".

The Proponent shall briefly summarize the Project, by presenting the project components, associated activities, scheduling details, the timing of each phase of the Project and other key features. If the Project is part of a larger sequence of projects, the Proponent shall outline the larger context and present the relevant references, if available.

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

12

### **1.3 Purpose of the EIS**

The purpose of the EIS shall be described.

### **1.4 Roles and Responsibilities**

The roles and responsibilities of the following shall be outlined in this section:

(a) Proponent

(b) Environmental Assessment Committee

(what is the Assessment Committee? Does this mean the Federal Environmental Assessment Coordinator? If so, it is the roles and responsibilities of the Federal Environmental Assessment Coordinator that must be outlined here! –see section 12.1, 12.2, 12.3, 12.4 and 12.5 of the Canadian Environmental Assessment Act.

**QUESTION:** If this section (b) actually means the Federal Environmental Assessment Coordinator, who is the Federal Environmental Assessment Coordinator? Please name him/her!

(c) Governments of Canada and Newfoundland and Labrador

(d) Minister of the Department of Environment and Conservation

(e) Minister of the Environment and responsible authorities under CEAA

The Roles and responsibilities of the Joint Review Panel must also be outlined in this section:

Add to this section:

(f) Joint Review Panel

### **1.5 Previous Registration and Environmental Assessment**

The Proponent shall describe their previous registrations of proposed hydro developments on the Lower Churchill River, environmental assessment(s), the outcome of the assessment(s), and the reasons the project did not commence.

### **1.6 Other Registrations**

The Proponent shall indicate whether any other registrations are to be submitted for environmental assessment in the future as a result of this Project.

Other registrations **MUST** be submitted for environmental assessment in the future as a result of this Project. For example-the current project, as registered, does not pass the sustainability test due to the fact that there are no transmission lines proposed to take the developed power to market. The project, as registered, is only a construction project and

therefore has no benefits past the construction phase. It is simply the construction of two dams in the wilderness of Labrador with 2800 MW of power to be produced and nowhere to go. Before any further assessment of the currently registered project goes ahead, the transmission corridor for the 2800MW of power must be identified and the environmental effects of building new transmission corridors must be assessed along with the construction of the dams. Separate registrations could promote separate assessments and that is paramount to project -splitting. In other words, the building of the dams is intrinsically linked to the transmission of the resulting power. One should not proceed without the other.

## **2.0 THE PROPOSED UNDERTAKING**

### **2.1 Study Areas**

A precise description of the boundary of the Project shall be presented in relation to the study area for each VEC, accompanied by map(s) of appropriate scale showing the entire project area with principal structures and appurtenant works. This section should provide aerial images that illustrate representative habitats along the area of inundation. The delineation of the study areas is crucial to scope the extent of the environmental assessment. The rationale used to delineate the boundaries of the study areas shall be provided.

(Delineation of the boundaries must include the entire watershed of the Grand (Churchill) River, including all rivers, streams, brooks etc that drain into the main river. Also, the Proponent must be provided with a proper description of what Environment Canada considers a “watershed”, so they have proper guidelines to follow when determining the boundaries. As well, since the Proponent is claiming the project will have a positive environmental effect on national and global emissions of greenhouse gas it is important that studies of the detrimental environmental effects beyond the watershed; i.e. nationally and globally also be included.

With respect to baseline information on the environment, the Proponent shall present, wherever possible, a sufficient time-span of data and information to establish averages, trends and extremes. For the most important environmental and social components, the Proponent shall determine how far in the past the study should begin and how far into the future it should be carried.

The Ministers of the Environment and the Governments of NL and Canada should determine the “sufficient time-span of data and information to establish averages, trends and extremes, Not the proponent. For example: “Considering that the downstream community of Mudlake dates back to the mid 1800’s including especially trapping history up the river as far as the Height of Land, and the Innu component goes much further back (for millennia), WHY should the Proponent be determining the time span for the study? Shouldn’t the Fed/Prov. Govts. Be determining those limits?” –(Susan Felsberg, Mud Lake, 21 January 2008).

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

13

The temporal boundaries of the Project shall cover all phases of the project: construction, operation, maintenance, foreseeable modifications and, where relevant, the abandonment and decommissioning of works and the rehabilitation of the sites affected by the Project.

The temporal boundaries should also cover the decommissioning of the project at the end of the life of the dams and infrastructure. It is obvious that these dams will not survive forever. The proponent must state the expected life of the dams, the structures, the equipment etc and provide a discounted cost of decommissioning the entire project at the end of its life cycle. (cradle to grave accounting?)

If the Proponent does not believe the full temporal boundaries should be used for a phase of the Project, the report shall identify the boundaries used and provide a rationale for the boundaries selected.

This description may include the following information:

- (a) main ecological constraints of the environment;
- (b) land use;
- (c) local communities; and
- (d) the environmental significance and value of the Lower Churchill River Area.

## 2.2 Need, Purpose and Rationale of the Project

The language used in this section appears biased and infers that the project WILL be approved. In order to remove the bias it is recommended that the first paragraph be revised as follows:

“This section of the EIS shall provide a comprehensive explanation of the need, purpose and rationale for the project. The proponent shall provide information on markets for the electricity from this proposed project.”

This section of the EIS shall provide a comprehensive explanation of the need, purpose and rationale for the Project, including an evaluation of potential markets for electricity and trends in electricity conservation. The potential role of the Project in reducing greenhouse gas emissions is to be explained.

The balance of this paragraph should be deleted because it deals with alternatives (conservation) and biases the guidelines by suggesting that the project may have a potential role in reducing greenhouse gas emissions.

The need for the Project is defined as the problem or opportunity the Project is intending to solve or satisfy. The “need for” will establish the fundamental rationale of the Project.

- Justification section in these guidelines is entirely inadequate. The Panel should model this section on that in Guidelines for EM1A/Rupert Panel Review.
- It is important that the Guidelines distinguish types of justification, and to ask appropriate questions accordingly.
- Project registration document (p. 14) states that development of the project will help achieve NL Hydro’s core objective, which is the generation and transmission of safe, reliable, least-cost power **to residents, businesses and industries of the Province.**

1. Given this objective, the Guidelines must require full exposition of energy planning context in NL, including existing and planned resources, load forecasts, transmission issues, etc. (See section 2.1, 2.2, 2.2.1, and 2.2.2 of Eastmain-1A/Rupert Diversion Project , Comments on the Justification, by Philip Raphals, Ex. Director, Helios Centre, June 30, 2006 [www.centrehelios.org](http://www.centrehelios.org) )

- If the proposal involves decommissioning an existing plant, for example, Holyrood, Proponent must present expected service life remaining of that plant as well as Operating and Maintenance costs (including fuel) of continuing operation.

At the same time, it is no secret that the NL Government intends to export much of the power.

- Thus, Guidelines must also request information necessary to adequately assess profitability of this, (See section 4.2 of the Eastmain 2A/Rupert Diversion Project Comments)

This must include:

#### **COSTS**

- Direct project costs (costs for building the project, mitigation and compensation expenses, financing during construction), with upper and lower bounds of costs for each item, based, among other things, on a range of possible interest rates.
- Upfront transmission costs: direct cost of building necessary transmission within NL, and of compensating other transmission providers (e.g. Hydro Quebec) for improvements or additions (new lines) required on their systems to all project power to get to intended markets.
  - Description of access requirements and financial obligations for access to neighboring transmission systems.

#### **ONGOING COSTS**

- Operations and maintenance expense
- Financing costs and return on equity for initial investment
- Ongoing transmission costs.

## REVENUES

- Insofar as Proponent has or expects to sell long-term blocks of power:
  1. Identify buyers, duration, quantity, price
  2. Insofar as Proponent expects to sell some or all of the power at market prices, or in relatively short-term contracts in which the price is tied directly or indirectly to market prices
    - Describe degree of certainty or uncertainty with respect to the hypotheses used in these projects (e.g. exchange rates, interest rates and crude oil prices)
    - Present analysis of the implications for these market prices of a wide range of hypotheses concerning exchange rates, interest rates, and crude oil prices.

The “purpose of” the Project defines what the Proponent hopes to accomplish by carrying out the Project.

“Need for” and “Purpose of” the Project should be established from the perspective of the Proponent and provide a context for the consideration of alternatives to the Project.

### 2.3 Alternatives

#### 2.3.1 Alternatives to the Project

The EIS shall contain an analysis of alternatives to the Project.

The analysis of alternatives to the Project is to provide clearly described methods and sufficient information for the reader to understand the reasons for selecting the preferred alternative and for rejecting others. This shall include a description of the conditions or circumstances that could affect or alter these choices, such as market conditions, regulatory changes and other power developments, either prior to construction or during the life of the Project.

The above statements bias the guidelines by suggesting that there **MUST** be some type of power development in this area. The paragraph above implies that the only alternatives to the Project are other power developments or different choices for this Project. Since Newfoundland and Labrador Hydro’s (NLH) core objective and mandate is to generate and transmit safe, reliable, least-cost power **to residents, businesses and industries of the Province**, and since neither Labrador nor the island portion of the Province has a **NEED** for this much power, and since it is apparent that NLH and the Newfoundland and Labrador Government intend to export most of the power from this Project, the Project should therefore to be considered mainly as **a for-profit business venture**. When considered in this manner, there are many other ways to invest 6 to 9 Billion dollars and consequently many other alternatives to this project. The opportunity costs of this Project must therefore be considered. The question could be: ‘how could billions in debt

financing be used for alternative investments that 1) provide better overall returns on investment and 2) are less risky?’ Examples of alternatives are: the “null alternative” or the alternative of not carrying out the project at all; other for-profit business ventures like eco-tourism industries along the river for which much less than 6 to 9 billion dollars spent in promoting and advertising the river as a world class destination would likely bring huge profits locally; other “greener” power sources could also be an alternative to this project with an emphasis on local power supplies for local industry with less damage to the ecosystems and biodiversity of the entire river valley: (small run of river turbines should be studied as well as the possibility of installing “Archimedean screw” type turbines at the tailrace of the Upper Churchill project to produce power from the current created as the Smallwood Reservoir water is pushed out of the existing turbines and back into the river. Also, a most important alternative that the proponent must consider is Energy Conservation. How can 2800 MWs be saved and therefore the Null Alternative would be considered? A description of the benefits and impacts of each of the alternatives should be presented. As well, it is reported by the Group New Energy Finance at [www.newenergyfinance.com](http://www.newenergyfinance.com) that in 2007, \$117.2 billion in new money was invested in private sector clean energy projects-wind power, solar, biofuels, energy efficiency (\$20+ billion ahead of predictions and up 41% from 2006) This indicates that future investments in green energy is a much better solution both for investment purposes and for CO2 and other Greenhouse Gas savings.

A common perception is that hydroelectric power is “green” energy and will contribute to displacing ‘dirty’ electricity from the marketplace. While hydropower produces much fewer greenhouse gas emissions than fossil fuel generation, it has very substantial environmental and social impacts. For this reason, only the lowest-impact hydro stations are certified as “green”. As for displaced emissions, in this era of 365-day-per-year, round-the-clock-electricity auctions, the reality is quite complex. New hydroelectric power is much more likely to replace high-priced gas generation than ‘cheap’ power from coal-fired generating plants; at the same time, since low cost imports from Canada tend to decrease the price of power in the U.S., they also compete against energy efficiency investments.

It is imperative that the proponent look at other ways to spend \$6 to \$9 Billion dollars of tax payers money which would benefit the local economy and better help reduce GHG's, adding to Canada's commitment to Kyoto, other than building this project. The people of the Province need to be made aware of the uncertainties within this energy sector and the possibilities of "better" "more profitable" investments in other economic and energy projects.

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

14

The EIS shall include a comparative analysis of the environmental effects and technical and economic feasibility of alternatives that led to the choice of the selected Project alternative. The comparative analysis shall indicate how the Proponent took into account the environmental and social objectives inherent in the concept of sustainable development in selecting the preferred alternative. The Proponent shall include an evaluation of the thresholds for economic viability of the Project and considerations respecting the timing of phases and components of the Project.

Again, the statements above bias the guidelines in that they assume that the only alternative to this project is some other type of power development. This is not the case and not what is understood by the statements from the Environmental Assessment Act-regarding “alternatives to the project” section 16 1 (e), and alternative means of carrying out the project. (section 16 2 (b))

The first; “alternatives to the project” should mean any other way this amount of money could be spent, any other project that might be developed with the same kind of profit but less environmental damage, any other development other than an energy project that could benefit the local population and possibly contribute more to sustainable development in the area. It should also be noted here that Newfoundland and Labrador has the lowest Educational Attainment in Canada at only 28.5% of total population vs the National average of 45.0%. A study of what 6 to 9 billion dollars could do towards educating our children over the next 50 years might show that education dollars spent would go much further than hydro projects towards sustainable development in the Province. This section also should include the alternative of not doing the project at all, the Null Alternative

The second; an alternative means of carrying out the project; should mean any other methods, technology, etc. of producing this power, the same or another amount of power, but producing power nevertheless at this site in basically the same or similar way.

These two statements on alternatives to the project and alternative ways of doing the project are confused in the statements made in these guidelines. They are absolutely different and must therefore be treated differently. The wording must not be confusing.

Since the proponent is a Crown Corporation and as such will be spending/risking public funds, it is necessary that the proponent show what other possibilities might accrue from spending 6 to 9 billion dollars of public funds and must also show how these other ways of spending this amount of money could contribute to true sustainable development in the region. It is also imperative that the proponent study other ways to create power needed for future industry in the region but with less environmental damage.

### 2.3.2 Alternative Means of Carrying Out the Project

Alternative means of carrying out the Project, which are technically and economically feasible, and the environmental effects of any such alternative means shall be discussed.

The EIS shall describe design and siting alternatives for dams/reservoirs, generating stations, transmission facilities and ancillary facilities (such as roads and temporary infrastructure). The preferred alternatives shall be identified, with the selection based on clearly described methods. An explanation shall be included of how environmental factors affect the design and consideration of alternatives.

#### **Design alternatives that should be studied:**

Describe consequences for project costs, energy production, flooded area, ecological and social impacts of reducing the dam heights at a) Gull Island and b) Muskrat Falls. In particular, explore in detail the implications of:

- Reducing Gull Island dam height such as
  - To avoid flooding of Lake Winokaupau
  - To avoid flooding Mounis Rapids as well.

#### **Reducing Muskrat Falls dam to height of existing waterfall**

The Proponent shall provide the rationale for selecting Project components and shall discuss the state of the art of the various technologies being proposed. The Proponent shall indicate the known experience with, and the effectiveness and reliability of these techniques, procedures and policies, particularly under arctic or subarctic conditions, in Canada and elsewhere, and their relation to best practice in Canada. This discussion shall also show how design, engineering and proposed procedures are compatible with the environment and the local communities and shall minimize adverse environmental and social effects.

The EIS shall analyze and compare the design alternatives for the Project in relation to their environmental and social costs and benefits, including those alternatives which cost more to build and/or operate but which cause less harmful environmental effects. The Proponent shall assess the implications in environmental, economic and social terms of flooding of sensitive areas.

The range of alternatives considered as alternatives for the pace and scale of the operation shall be discussed, and the chosen alternative justified. The Proponent shall also indicate under what circumstances a change in economic conditions may influence the fulfillment of its plans and any commitments regarding avoidance of effects or mitigation measures.

(The Proponent should also do a study of the success of mitigation measures from other projects which would fall into a category similar to the mitigation measures proposed by the Proponent: eg. The proponent states that fish habitat will be created as a result of this project which could replace some of that which was lost: A study of the habitat created in the Star Lake case on the Island of Newfoundland would be a good case in point!)

(The Proponent should also state the list of uncertainties that exist with regards to building the project and selling the power; e.g. the volatility of the energy market place, the uncertainties around any transmission route.)

Alternative means of carrying out the Project shall include the following as discussed below:

- (a) Reservoir preparation
- (b) Transmission lines route selection
- (c) Facility layout and siting

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

15

(d) Generation stations optimization and construction sequence

(e) Construction labour force accommodation

(a) Reservoir Preparation

Flooding shall remove access to the forest resources and other terrestrial vegetation within the newly formed reservoirs. Inundation of vegetation is of concern with respect to aesthetics, resource and recreational use of the waterway and valley, recovery of wood fibre, the sequestration and release of carbon dioxide, mercury uptake, and habitat loss.

(as well as biodiversity)

A selection of reservoir preparation strategies is necessary to address these concerns, including economic, technical and environmental considerations which are to be evaluated in order to select and justify the proposed mitigation measures.

(b) Transmission Line Route Selection

The Proponent is to undertake a Route Selection Study which identifies the alignment for transmission lines proposed between Gull Island and Muskrat Falls and from Gull Island to Churchill Falls. The study shall involve the selection of a study corridor, approximately 1.0 km in width, within which various engineering, social and environmental constraints are identified. A preferred alignment and one or two alternative alignments shall be selected for evaluation, as appropriate.

(As stated in several other areas within this submission, it is imperative that a transmission line route be selected that would take this power to market so that ALL environmental effects can be studied within this one Environmental Assessment. Obviously then, it is also imperative that the markets for this power be identified now, before the EIS is written, so that not only the environmental effects of transmitting the power to market can be included but also the economics of the project can be considered as to whether this project is economically feasible.)

(c) Facility Layout and Siting

The Proponent shall evaluate facility layout and locations based on a variety of engineering and environmental considerations, including: camps, borrow pits, and roads. Where such facilities are yet to be located\*, a site selection process and evaluation process shall be described to demonstrate how potential environmental effects will be avoided or mitigated.

(\*This statement assumes that such facilities WILL be located, and biases the assessment process. It assumes the project WILL proceed: Suggest the wording be changed to "Where such facilities "might" be located in the future, a site selection process and evaluation process should be described to demonstrate how potential environmental effects could be avoided or mitigated.)

(d) Generation Stations Optimization and Construction Sequence

The Proponent shall outline generation station optimization alternatives (e.g., number of turbines, type of turbines, head, capacity, operating regime). The sequence of construction shall also be considered (e.g., Gull Island or Muskrat Falls first). These optimization studies are to consider technical and economic feasibility, and environmental considerations.

(This section should also ask that the Proponent supply information as to other types of turbines that would mitigate the number of fish kills. For example: if archemidian screws, do not cause fish kills as do the Francis and Kaplan turbines therefore-the alternative of producing energy at the existing tail race of the Upper Churchill Project, may, be the best way to preserve fish populations while still producing energy.)

(e) Construction Labour Force Accommodation

The EIS shall describe alternative labour force accommodation strategies (e.g., number and location of camps, in-community housing). These evaluations are to consider economic, social and worker conditions as well as any other relevant community, including Aboriginal community, considerations and environmental factors.

(A proper socio-economic study of other construction sites where camps were used vs where the Labour Force was actually housed in the community must be presented so local citizens can make an informed decision as to the best possibility for the community.)

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

**2.4 Relationship to Legislation, Permitting, Regulatory Agencies & Policies**

The EIS shall identify and discuss all relationships between the Project and all relevant legislation and policies (municipal, provincial, and federal).

Pertinent government policies, such as land and water resources development and use policies, and the Project's compliance with respect to these policies are to be addressed.

The Proponent shall provide a comprehensive list of permits and regulatory approvals required for the undertaking. The list shall include the following details:

- (a) activity requiring regulatory approval
- (b) name of permit or regulatory approval
- (c) name of legislation applicable in each case
- (d) regulatory agency responsible for each permit of approval

**2.5 Project Description**

The Proponent shall describe the scope of the Project for which the EIS is being conducted, including: the construction, commissioning, operation, maintenance, foreseeable modifications of the facilities, and where relevant, the closure, decommissioning, and restoration of the construction facilities, related to the undertaking.

Add here: The decommissioning, of the entire project must be considered, costed and discounted at future dollar value and listed within the project description even though it will take place in the future; i.e. removal of the dams and infrastructure and restoration of the sites should it become necessary due to siltation, aging facilities, loss of economic benefit etc. Since this project is being built with public funds these future costs will likely be borne by future generations and it is absolutely necessary that this current generation have an idea of what they might be asking their children or grandchildren to pay for.

With regards to scope of the project, since the Proponent has claimed benefits of reduced Greenhouse Gas emissions to Canadian Society as a whole, then the appropriate geographic scope must be used so as to capture the full range of potential costs and benefits of the development to Canadian society as a whole. Also, the Lower Churchill River valley likely provides ecosystem and cultural services that provide utility to citizens across the country and therefore the Project should be scoped to include these services.

As well, the end use of the power should be included in the scope. As mentioned later in this document, there has been talk from our MHA that a smelter is in the horizon for Labrador. Obviously a smelter would not be possible without power from the Lower Churchill Hydroelectric Project. Therefore, a smelter would be a

direct result of this Project and it and any other industrial developments on the horizon would need to be included in the cumulative effects and as the end use of the power.

### **General Layout**

The EIS shall provide a written and graphic description (e.g., maps and drawings) of the following physical features of the undertaking:

- The Gull Island and Muskrat Falls generating stations, including intakes, intake canals, dams, dykes, tailrace channels and spillways associated with each of these sites;
- The transmission terminal facilities and transmission lines linking the two stations and interconnecting with Churchill Falls Station;  
(There must also be written and graphic descriptions (e.g. maps and drawings) of the transmission lines that will take this power to market).
- The reservoirs and their management;
- All related works and activities including all temporary facilities required for the construction of the previously mentioned facilities, in particular:
  - o Temporary control structures and diversion works
  - o Work camps
  - o Permanent and temporary access roads
  - o Bridges and watercourse crossings
  - o Infrastructure for wastewater treatment & waste management
  - o Energy supply for camps and worksites
  - o Drinking water supply
  - o Borrow pits and quarries
  - o Management of excavated material
  - o Construction worksites and storage areas

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

## 2.6 Construction

The approach, details, materials, methods, schedule and locations of all planned construction activities, including permanent and temporary infrastructure, related to the physical features shall be presented including estimates of magnitude or scale where applicable. This is to include but not necessarily be limited to the following:

- **Dams, Reservoirs and Generating Stations**

- o Construction methods for all facilities are to be described comprehensively, for example, methods for diversion of river flows, coffer damming and reservoir filling

- **Access Roads, Borrow Pits and Quarries**

- o Access roads and corridors are to be described, including locations, technical characteristics and general road construction standards including maintenance, ditches, bridges and culverts and use of dust-control and de-icers

- o Identify the source, quantity and end use of all rock and aggregate materials. Outline the methods for prediction and prevention of acid rock drainage and metal leaching to be used in the quarry site selection process

Recommend adding: Any acid rock or metal rock identified in any quarry site must not be used for in-filling of the dam and must in fact, be safely covered at the site they were found in order to prevent contamination of any small streams or lakes near the quarry pit.

## **Transmission Facilities**

Transmission Facilities MUST include those facilities needed to transmit this power to market. And therefore, markets MUST be identified along with secure contracts for a sufficient period of time to ensure the project construction costs are covered. These are public funds this Crown Corporation is planning to /risk/borrow/spend. Also, once transmission facilities and markets are identified, those proposed must be included and combined with all other portions of this assessment so that the project can be assessed in its entirety, taking into account all economic benefits and costs, all potential environmental damage and all cumulative environmental damage. The two portions of this project; the construction of the dams portion and the construction of the transmission lines that would take the power to markets MUST not be studied separately. This, again, is paramount to PROJECT-SPLITTING a situation for which the Federal

Minister of the Environment has just been taken to court by Fundy Baykeeper in New Brunswick regarding the proposed Irving Oil Refinery and a warf connected to this project.

- o Construction methods for transmission facilities including crossings of water bodies and modifications to existing facilities shall be described

This must include ALL transmission facilities; even those not yet identified by the Proponent.

- o Description of volume of wood (e.g., merchantable and nonmerchantable) within right-of-way, clearing methods, removal and cost benefit analysis

In the study *Churchill River Power Project Reservoir Preparation Plan LHP-98-6 Revised Final Report*, it is reported that the cost of removal of merchantable volumes of productive and scrub softwood forest areas is well over \$100,000,000. for the Gull Island reservoir and over \$43,000,000. for the Muskrat Falls reservoir. A significant development since this study was done is the change in the forestry industry in the local area which resulted in a near total loss of demand for timber. It is therefore questionable that there would be recovery of the removal costs through sale of the timber. In addition, the Proponent has admitted in meetings that any forest areas deemed “unsafe for removal” would be left for the flooding. It is therefore doubly important that the costs of removal be included in the cost of the Project and/or the flooded biomass be included in the calculation of methyl mercury contamination.

#### • Personnel Requirements

- o The estimated size of projected workforce by month over the construction phase is to be presented indicating occupations by National Occupation Classification (NOC) Codes, skills, entry requirements and duration of work

It is an excellent idea that the workforce is to be projected BY MONTH over the entire construction phase and must be presented indicating occupations by National Occupation Classification (NOC) Codes, skills, entry requirements and duration of work. However, it should be noted that the Proponent has not yet done this by month, but has only listed these jobs in a broad statement of the type of workforce needed (at peak) and also, as of just a few weeks ago, the College of the North Atlantic has not gotten together with Hydro Representatives to set up a proper training plan for local residents. Time is of the essence here and if NL Hydro is serious about hiring locally, then the local College MUST be given time to implement training in the specific areas needed.

- Describe any planned hiring initiatives and practices (employment equity, journeypersons, apprentices, students and regional/local preference)

• **Temporary Structures and Infrastructure**

- Description of camp locations, drinking water supply source, method of managing wastewater and discharge areas, location and operating conditions of solid waste disposal sites, power supply, and management of any other installations (including fuel storage depots) required for the camps to function properly

Recommend adding here: The Proponent must also study and report on the alternative to camps of using Happy Valley-Goose Bay as a bedroom community so that rather than mostly lone men in camps for weeks, they would be encouraged to bring their families to the area which would diminish the weekend “bash” situations that we have seen from other projects in the past. It should also be noted here that many of the women interviewed regarding this project say they will not or cannot, due to family situations, live away from home for entire weeks at a time. That then prohibits women from benefiting from many of the proposed jobs and this should be taken into consideration when deciding on whether a camp situation or a bedroom community situation is best for this community.

- Scope and location of any communication and telecommunications systems required by the Project (e.g., transmission towers, access roads, energy sources)

- Where possible, identification and quantification of the use and production of dangerous products and waste generated by the Project

18

- o River diversion structures (e.g., cofferdams, diversion tunnels)
- o Material and fuel receiving, handling and storage areas
- o Disposal sites for domestic and construction waste
- o An inventory of equipment and materials required, including hazardous materials

- **Reservoir Preparation**

- o The work required and schedule for reservoir preparation including volume of wood within flood zone, harvesting strategy (e.g., roads, labour) and cost-benefit analysis
- o Methods to control and manage sedimentation and shoreline stability; dredging; dewatering methods for downstream sections of the river with respect to fish habitat maintenance and fish passage, including at the fish passage facility in the causeway across the Churchill River associated with the Trans Labrador Highway Phase III

(It is well known that riverbanks at Muskrat Falls present a particularly bad situation as far as shoreline/bank stability is concerned. The Proponent has commissioned specific studies on ways to stabilize the clay found at this site. These studies must be presented. As well, methods to manage sedimentation within the reservoir must be presented giving specifics on costs of dredging and on how sedimentation will affect energy output in the future.)

## **2.7 Operation and Maintenance**

All aspects of the operation and maintenance of the undertaking shall be detailed in this section of the EIS. This shall include:

- (a) Operating Regime: The description of the operating regime shall include the following:
  - Water management (turbine flows, ecological flows, reservoir head, maximum and minimum operating levels, operation of structures) for different hydrological conditions (low and high flows including flows lower than the ecological flows)
  - The time of year, frequency and amplitude (maximum and minimum levels) of water level fluctuation ranges for all water bodies
  - Flow rates (maximum, minimum and average) in the sections of the river affected with detailed maps showing the areas affected, and seasonal and daily variations in water levels

- The maximum and minimum surface areas of reservoirs, with detailed maps and residence time of water masses
- Changes in water temperature and oxygen regimes upstream and downstream of dams
- Velocity of water at intake structures and outlets of spillways and tailrace canals
- Changes in management of lakes or reservoirs upstream and downstream of the Project area
- The control and management of sedimentation and erosion  
(Especially as it relates to river crossings near Happy Valley-Goose Bay.)

- Maintenance plan for structures (dams) and facilities  
(The Proponent must describe, in detail, the expected life of the dams and facilities and the expected costs {using discounted future dollar values} to maintain those dams/facilities over the entire life of the project. These figures are extremely important when trying to determine the future viability of the project).
- Management of ice including “frazil”

**Recommend adding: Present historic flow data from the Upper Churchill project for at least 10 years**

1. explain variations of flow on varying time scales (daily, monthly, annually)
  2. indicate ramp rates (rates of increasing or decreasing flow)
- describe maximum and minimum water levels for each reservoir
  - describe operational strategy
    - use of storage in Gull Island reservoir
    - time periods within which level will fluctuate , degree of fluctuations (annual, monthly, weekly, daily, hourly,)
    - compare these water level fluctuations with
      - those found naturally (pre-Upper Churchill)
      - those found today
    - describe implications of these water level fluctuations
      - for fish species present
      - for riparian vegetation
      - for riparian animal species present

**Recommend adding:**

**Flow Regimes:**

- require Proponent to describe recent evolution of standards applied elsewhere, and especially by FERC in US re-licensing proceedings, with respect to ecological flow requirements, making particular reference to concept of emulation of the natural hydrograph and incorporating both minimum and higher peak flows while providing project operational constraints to avoid sudden flow fluctuations.

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

19

(b) Access Roads and Transmission Facilities: Maintenance (e.g., vegetation management, dust control, de-icing) of roads and transmission facilities shall be described. Electromagnetic fields shall be indicated.

(c) Personnel Requirements: A profile of the work force and working schedules for Project operation and maintenance activities shall be included.

(d) Project Modification: The Proponent shall identify, within the limits of its knowledge and control, how the operation, use, development, possible rebuilding and eventual dismantling of certain installations shall be handled in consideration of other uses. The EIS shall specifically note, to the extent possible, whether some installations, including all of the access infrastructures, may be used as they are, or may be converted to other purposes by other proponents or communities, or if they must be dismantled at the end of their useful life. The proposed means of restoration of any areas to be abandoned shall be described.

This section above seems to cover only the dismantling of certain installations that might remain at the end of the construction period, but under the main heading of Project Operation and Maintenance, should also include the dismantling of the entire project at the end of its life cycle. No project such as this is expected to continue forever, therefore, the Proponent must state the expected life of the facilities and dams and identify, to the best of its knowledge, how the eventual dismantling of what remains of the project will be effected and what the discounted future cost of that dismantling will be.

(e) Project Schedule: The EIS shall show the construction and commissioning schedules for the various Project elements, based on the most current information available.

## 2.8 Decommissioning

The EIS will present an approach for the decommissioning phase of the

Project, which sets out a commitment to address:

- a) environmental planning and mitigation measures;
- b) socio-economic mitigation measures; and
- c) public health and safety procedures.

Again: It appears that this section on decommissioning discusses only the decommissioning of the construction site, but must also include total decommissioning of the project at the end of its life cycle

## 3.0 ENVIRONMENT

### 3.1 Identification of Key Issues

To better focus the EIS, the Proponent shall identify the key issues related to the Project.

It is understood that the process for defining the key issues is iterative and that the list of issues can be modified during the environmental effect analysis phase. The issues can be revised and adjusted in relation to the information acquired in the field and during consultations held by the Proponent.

For information purposes, the following are factors that could prove relevant in the choice of the key issues:

- public concerns related to the component;

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

20

- economic significance;
- protected status of the component;
- regulatory requirements;
- rarity or special status of the component;
- preservation of biodiversity;
- sensitivity of the component to disturbances or pollution;
- importance of the component's ecological role;
- cultural and social significance of the component.

Recommend to add here: Future importance of, or future economic significance of the component.

### 3.2 Description of the Relevant Components

The EIS shall describe relevant aspects of the existing environment in the study area prior to implementation of the Project, which constitutes the reference state of the environment. Where appropriate and possible to do so, the Proponent shall present a time series of data and sufficient information to establish the averages, trends and extremes of the data that are necessary for the evaluation of potential environmental effects. For key environmental and social components, the Proponent should consider how far back in time and how far into the future the study should be conducted.

Again, for social components the Proponent should consider that the downstream community of Mudlake dates to the mid 1800's and the Innu component goes much further back (for millennia). The Proponent should also be directed to consider key environmental and social components far into the future, at least as far as the expected life of the project. ??????

Rationale for the temporal boundaries chosen should be provided. The Proponent will identify any deficiencies in information, and how these deficiencies will be addressed.

Using qualitative and quantitative surveys, the study shall describe the components of the biophysical and human environments likely to be affected by the Project. If the information available from government or other agencies is insufficient or no longer representative, the Proponent shall complete the description of the environment with current surveys according to generally accepted practices.

This description focuses on the components relevant to the key issues and effects of the Project. It shall only include the data necessary to analyze the effects. The EIS shall provide all of the information required to understand or interpret the data (methods, survey dates and times, weather conditions, location of sampling stations, etc.). The

methods used should be sufficient for the purposes of identifying and assessing environmental effects.

### 3.3 Previous Development

Hydroelectric generation projects have been occurring on the Churchill River, since the 1960's. As such, understanding how the effects of past hydroelectric generation projects have been mitigated and/or managed is of interest where those environmental effects have the potential to overlap with those of the Project or would provide lessons learned that could be applied to the Environmental Assessment of the Project. The EIS should include a concise discussion of past hydroelectric generation projects, the environmental effects that have occurred as a result where overlapping environmental effect are anticipated, and the measures that have been taken to mitigate or manage those environmental effects. Discussion of overlapping environmental effects should include consideration of the degree to which those mitigation measures have been successful. Any long-term monitoring or follow-up programs of relevance to these overlapping environmental effects and the key results should also be described. This information will help interested parties to understand the potential environmental effects of the Project and how they may be addressed.

Recommend to be added here: Given the cumulative effects of the past, planned and possibly future development, a study must be done on how fish migration along the Grand (Churchill) River can be restored and improved – i.e. Improvement/restoration of historic aquatic habitat- as an alternative to taking further habitat away. This can be included as part of the NULL alternative!

### 3.4 Existing Environment

The EIS shall identify the overall study area and include a description of the existing biophysical and socio-economic environment and the resources within it that shall be affected or that might reasonably be expected to be affected, directly or indirectly, by the proposed undertaking emphasizing the VECs. A qualitative and quantitative description of the present and potential resource use and the identification of known data gaps are imperative.

(Under “potential resource use”, special consideration must be given to the “no build” option and to a study of the potential use of this river as an eco-tourism attraction. This study must show enough investment by the Provincial and Federal Governments in marketing the area for what it is, “a unique wilderness adventure river”, one of the few rivers left in Canada or in the world for that matter where one can spend 10 days in a canoe and not see another person other than those in one's group. This river has been compared to the Nahanni for it's beauty and canoeing challenges and the study should show marketing investments that promote those attributes to the fullest.

Also, while it is important to include a description of the existing biophysical and socio-economic environment and the resources within it that shall be affected or that might reasonably be expected to be affected, it is also extremely important to know what the biophysical and social-economic environment and the resources within it were *before* the

original Churchill Falls hydroelectric project and Smallwood reservoir were built in the late 1960's.

It is recommended that the Proponent consider the past (BCF-Before Churchill Falls) biophysical and socio-economic environment and the resources within it that *WERE* effected by the original project and consider the cumulative effects of this new proposed project.

In addition, the EIS shall describe environmental interrelationships and sensitivity to disturbance. If the study results or data has been extrapolated or otherwise manipulated to depict environmental conditions in the study area modeling methods and equations shall be described with calculations of margins of error and/or confidence limits.

A description of the existing environment shall be developed for each alternative drawing specific reference to the VECs. References are attached at the end of these Guidelines to provide direction to the Proponent.

Detailed discussions shall be developed for the following environmental components:

- Atmospheric Environment
- Aquatic Environment
- Terrestrial Environment
- Land and Resource Use
- Heritage Resources
- Communities
- Economy, Employment and Business

VECs for each of the environmental component shall be described.

#### **3.4.1 Atmospheric Environment**

- Climate and meteorology
- Climate change and emissions of greenhouse gases (e.g., CO<sub>2</sub>, CH<sub>4</sub>) including reservoir emissions in the context of provincial and regional emissions and targets

The Proponent states the Project will go far towards our National commitment to reduce greenhouse gas production by replacing carbon intensive sources of energy generation, (Preface-4<sup>th</sup> paragraph- Registration Document) they should therefore be required to do extensive studies on the current emissions of CO<sub>2</sub> and CH<sub>4</sub> from not only the Smallwood Reservoir but also from several areas downstream in the river itself. A comparison should be made with similar rivers in similar latitudes & longitudes that have had no disturbance/dams in order to determine what GHG's are being emitted by the original hydroelectric project. Also, since there are new studies claiming the effects of methane on ozone layers is much more intensive than was originally thought, these newest studies must be taken into consideration and the precautionary principle adhered to.

Also with regards to climate change and emissions of greenhouse gases, the Proponent and the Government of NL has repeatedly stated that this project will displace dirtier energy. However, the Proponent gives no indication of WHICH, DIRTIER plants equivalent to 2800 MW will be shut down. Also, it should be noted that Large Hydro projects have not as yet passed the test criteria for any certification scheme either in Canada or the US to be called “green” energy, nor has it received any go ahead to be included in any cap-and-trade scheme for carbon credits and therefore, as of yet, cannot be called “green” energy due to the environmental damage and the release of greenhouse gases from the reservoirs themselves. (It can be noted here that the European Union is currently in heated debate as to the inclusion of large Hydro projects in it’s cap-and-trade carbon exchange programs and that two of the main groups, Nord Pool and ECX have said they will NOT allow credits from ‘large’ hydro projects to trade on their platforms.

It is therefore recommended that the Proponent apply for and receive some certification from one of the well known certification schemes before they can truly call this project “green”.

- Air Quality, including substantive emissions of conventional air contaminants (PM, SO<sub>2</sub>, NO<sub>x</sub>, VOCs) from Project-related sources
- Effects of the Project on local climate

Anecdotal evidence suggests that the climate changed in Central Labrador after the Smallwood reservoir was flooded and that this flooding was the cause of these changes. The Proponent should be required to supply climate data that would either substantiate this claim or refute it, and if substantiated, further studies should be done to show what effects more climate change will have on the local, regional and national level. Goose Airport has excellent meteorological data since 1941, when the Airbase was built, and this information is readily available for these studies.

- Existing ambient noise level

### 3.4.2 Aquatic Environment

- Hydrological features such as lakes and streams/rivers, watershed boundaries, river hydrology and hydraulics, bathymetry, surface water flow, groundwater movement and aquifer recharge zones, flood zones, ice formation and melt patterns
- Water quality and quantity from both surface and groundwater sources
- Sediment quality of watercourse
- Quantification of fish and potential effects to fish and fish habitat

#### FISH HABITAT MITIGATION:

In the registration document the Proponent discusses the idea of “creating” fish habitat to replace that which may be lost:

- Building new areas that resemble areas used by fish does not guarantee that fish will use them. (One case in point is the Star Lake case on the Island of Newfoundland. This case should be presented as part of a comprehensive summary and analysis of studies performed to date.-see below)
- Require proponent to present comprehensive summary and analysis of studies performed to date on the effectiveness of man-made habitat, by species, in Canada, US and Scandinavia.
- Mercury presence, mobility, fate and effects in the reservoir, including content in fish at representative levels in food chain as determined in an ecological risk assessment  
(As well, mercury presence, mobility, fate and effects in the river itself, downstream of the reservoir and out into Goose Bay should be quantified.)
- Geomorphology, including erosion and sedimentation

Two more dams will contribute to more sandbars, more slumping, which in turn will make navigation in summer much more challenging, especially for the people of Mudlake. The river is their highway and it is possible dredging may have to be done on a regular basis to keep navigation channels open. These costs must be included as a cost of building the dams. Hydrological studies must be done to determine the effects of erosion and sedimentation on the geomorphology of the riverbanks. As well, freeze-up and spring break-up could possibly be extended with two dams upstream, due to warming of the water as it flows through turbines. This could greatly increase the time people in Mudlake would be isolated. Some speculate it could be 4-6 weeks instead of the 1 week

they currently endure. This too must be included in a hydrological study to determine the exact effects and how they can be mitigated. As the warmer water is expelled from the turbines, it is a big unknown as to how far downstream this will affect ice conditions!

- Fish mortality from construction and operation (e.g., gas bubble disease & entrainment)

(Quantification of the number of fish chopped into bits as they pass through the existing turbines at Churchill Falls would be an indicator.)

- Marine mammals (e.g., ringed seals)
- Species of conservation concern (e.g., Species at Risk Act)

Recommend that –Salinity- be added as a specific study on the aquatic environment.

Salt has been found in water from some wells in Mudlake and they worry that two more dams on the river will exacerbate the problem. Farmers on the Mudlake Road in Happy Valley-Goose Bay use water from the river for irrigation and worry that the dams will allow salt to creep upstream making the water un-usable. The same concern goes for the town water wells 6 miles upstream on the riverbank and the possibility that they could be affected if the salt moves up that far. Also, there has been infiltration of salt water into Grand Lake, near the rapids and into local water wells in North West River since the Upper Churchill project came on stream and people are concerned that two more dams will further contaminate their water wells and Grand Lake. These items must be addressed as part of a hydrological study.

### 3.4.3 Terrestrial Environment

- Bedrock and surficial geology, terrain and soil conditions

(The sites at Gull Island and Muskrat falls each have unique geological characteristics... Gaining a thorough understanding of these characteristics is expensive and time-consuming and it is possible that these dams will be designed with only a partial knowledge of the site conditions. It should be noted here that more than three-quarters of 49 projects assessed in a 1990 World Bank study of hydropower construction costs were found to have experienced unexpected geological problems of some kind. The study concluded that for hydro dams “the absence of geological problems should be treated as the exception rather than the norm.” (Excerpt from *Silenced Rivers: The Ecology and Politics of Large Dams*, By Patrick McCully, Zed Books, London, 1996). Also, according to Mr. McCully, “it is well established...that large dams can trigger earthquakes...the first extensive study of the correlation between increased earthquake activity and variations in reservoir depth was made in the 1940’s for Hoover Dam.. ...Today there is evidence linking earth tremors and reservoir operation for more than 70 dams...Reservoirs are believed to have induced five out of the nine earthquakes on the Indian peninsula in the 1980s which were strong enough to cause damage.” (On page 113

of Silenced Rivers Mr. McCully gives a list of reported cases of reservoir-induced seismicity greater than magnitude 4.0 (Richter scale) (Table 4.1) In that table the following is listed – Dam-Manicouagan 3: Country-Canada: Dam height(m)- 108: Reservoir volume(m<sup>3</sup> X 10/6)-10,423: Impounding began-1975: Largest earthquake-1975: Size of earthquake-4.1 (Richter Scale)

Is it a coincidence that this reservoir and some 70 others suffered earthquakes or significant seismic activity within weeks or months of their filling?

Mr. McCully also states “The most widely accepted explanation of how dams cause earthquakes is related to the extra water pressure created in the microcracks and fissures in the ground under and near a reservoir. When the pressure of the water in the rocks increases, it acts to lubricate faults which are already under tectonic strain, but are prevented from slipping by the friction of the rock surfaces.”

According to Dr. V. Subramanyan, former professor of geology at IIT Bombay, who is currently a member of the experts committee of the Brihan Mumbai Municipal Corporation on its disaster management plan for Mumbai, says in discussing the earthquake that occurred at Koyna in 1967, that although much had been made of the poor reservoir, in reality, the river itself is flowing along two faults and the earthquake should be attributed to the release of stresses through these faults rather than the reservoir behind the dam..(This dam and it’s earthquake information is also listed in Table 4.1 of the Silenced Rivers book by Mr. McCully). Likewise, Dr. Subramanyan added, the earthquake of magnitude 6.2 that occurred at Jabalpur on the 22<sup>nd</sup> of May, 1997 was due to the presence of the mighty Narmada Fault and not due to the Bargi dam reservoir.

Labrador residents are aware that lateral and thrust faults occur along much of the length of both sides of the Grand (Churchill) River valley and are concerned that large reservoirs added atop these faults could create the climate for an earthquake.

It is therefore recommended that the Proponent must present information on all seismic activity in the surrounding area in the past and show the possibility of any future seismic activity, no matter how remote. Various scenarios of what might happen should leakage into any of these faults create stresses beyond what the fault can accommodate should be studied. The Proponent must provide information to show the largest flood likely or “Probably Maximum Flood”, with considerations for climate change and possible increases in precipitation, and must show that the dams are of sufficient strength to withstand the Maximum Credible Earthquake. Even so, the Proponent should also be instructed to put in place an appropriate evacuation plan for the communities of Happy Valley-Goose Bay, Mudlake, Northwest River and Shesheshiu, in the unlikely event of an earthquake that might cause the dams to overtop or break. As a first step in this emergency plan, an ‘inundation map’ should be drawn up and made public showing areas that could be flooded if a dam should burst. As well, recommendations should be made to these town residents as to the type of infrastructure that should be built to withstand an earthquake of greater than 4.0 on the Richter Scale.

- Pertinent physical and chemical properties of sediment and rock that might be affected by or have an effect on the Project

It is possible that during excavation for rock-fill to build the dams, that acid forming rock may be excavated and used. As the water flows over these rocks, acid may be leached into the water downstream with detrimental effects on fish and wildlife.

It is recommended that the Proponent must identify any acid containing rock and remove it completely from that which would be used to fill the dams and that if that acid rock had already been quarried that it must somehow be covered and be stored away from any rivers or streams where leaching might occur.

- Areas of potential ground instability such as slumping or landslides
- Permafrost conditions including areas of discontinuous permafrost, high ice content soils, thaw sensitive slopes and stream banks
- Terrestrial fauna, including mammals, avifauna (e.g., raptor, waterfowl and passerine/songbird surveys) and herpetiles
- Terrestrial flora, including forest inventories and ecological land classifications

Recommend adding the following: Forest inventories must be calculated for areas of inundation; an economic cost/benefit applied to those inventories and a plan set out stating all economic costs to remove those trees in order to mitigate the amount of methyl-mercury that will bio-accumulate in the food chain.

- Terrestrial habitat and ecotype alteration, disruption and destruction
- Wetland as classified using the Canada Wetland Classification System, and further characterized in terms of a functional analysis (e.g., habitat, water flow regulation, groundwater recharge)

Recommendation –Canada/US agreement on “No Net Loss” Wetlands must be stated in the EIS and since the Proponent has made the statement that they plan to “create” wetlands to replace those lost, a complete study of several creations of artificial wetland habitat projects and the final outcome of such artificial wetlands creation must be undertaken and reported in the EIS.

- Migratory patterns/river crossings

(It is well known that the caribou herd cross the river at the Gull Island site and this must be studied and documented.)

- Population dynamics
- Species and areas of conservation concern (e.g., Endangered Species Act, Species at Risk Act )
- Migratory birds
- Human-wildlife interaction (e.g., bear management plans)

For the Terrestrial Environment some key indicator species/species assemblages were selected to focus the environmental assessment. The species selected are reflective of different phyla, orders, families or guilds of species that represent key components of the Terrestrial Environment. These species were selected as being representative of species groups, importance in the food web (e.g., top predator), and their importance from socio-cultural and economic perspectives.

The following is the list of these key indicators:

- (a) Beaver
- (b) Marten
- (c) Porcupine
- (d) Caribou
- (e) Moose
- (f) Black bear
- (g) Harlequin duck
- (h) Early breeding waterfowl (including Canada goose)
- (i) Late breeding waterfowl (including Scoters)
- (j) Upland game birds
- (k) Osprey
- (l) Passerine/song birds (including Water thrush)

#### **3.4.4 Land and Resource Use**

- Present and Potential Timber Resource Utilization
- Current use of land and resources (including aquatic resources by Aboriginal persons for traditional purposes)
- Other rural land and resource use including existing and potential recreational and commercial fishing and hunting, gathering of country food and collection of plant propagules
- effects on navigation (e.g., vessel/boat traffic)

As discussed under Aquatic Environment, Navigation concerns for the Mudlake residents must be reviewed. Spring thaw, winter freeze-up and sedimentation/sandbars all will affect this the only 'highway' available to the people who live in this community.

- Unique sites or special features in the Study Area(s), including any Special Places candidate sites, Environmentally Sensitive Areas, reserves or protected areas, conservation agreement lands and habitat enhancement projects
- Landscapes, including aesthetic quality and effects on river aesthetics

#### **3.4.5 Heritage Resources**

- Historic and archaeological resources
- Paleontological resources
- Architectural resources

- Burial, cultural, spiritual and heritage sites

### 3.4.6 Communities

Recommend the following be added here-

Baseline social conditions providing key milestones in the area and their effects on local people should be studied.

- Community services and infrastructure in Upper Lake Melville
  - o Health services and social programs (e.g., drug addiction, delinquency)
- Human health in Upper Lake Melville and Churchill Falls
  - o Occurrence and trends in chronic diseases (e.g., diabetes, cardiovascular disease, chronic pulmonary disease and cancer), infectious disease, mental illness, addictions, and quality of life

Citizens at our Public Information Session wanted to know if there is any correlation between the methyl mercury in the food chain and the seemingly high incidence of cancer in our community. This is a question that has come up time and time again at various meetings. The Proponent should do studies that would show whether or not the correlation exists.

- o Dietary changes that could lead to health risks from methyl mercury
- Community health in Upper Lake Melville and Churchill Falls
- Family life in Upper Lake Melville and Churchill Falls

Recommendation to add the following—

That the proponent do extensive study of other areas in North America where camps were set up to supply workers for such a large construction vs areas where the workers were taken from the local community and the new work force integrated into the community along with their respective families. There are pros and cons to these two situations and examples must be reviewed in order for the community to make a sound judgement of the better alternative.

- Safety in Upper Lake Melville and Churchill Falls
- Culture in Upper Lake Melville and Churchill Falls
- Education and Training in Upper Lake Melville, Labrador and Province

As mentioned in another section of these guidelines, the College of the North Atlantic must be equipped to train as many local workers as possible for the jobs that would accrue, if the Project goes ahead.

- Housing and accommodation in Upper Lake Melville
- Property value and land use in Upper Lake Melville and within and adjacent to future reservoirs
- Road transportation of workers and materials to and from the Project limits between Churchill Falls, Upper Lake Melville and the Project sites

Recommend the Proponent must be responsible for all extra road maintenance since this “Trans Labrador Highway” is nothing more than a gravel road and with the extra heavy

equipment, and other supply vehicles the Project would demand, the road would be put in rough condition for local residents who loose a windshield about every other trip or so as it is.

### 3.4.7 Economy, Employment and Business

- Economy of Upper Lake Melville, Labrador and the Province
  - o Taxes and royalties
  - o Effects on gross domestic product
- Employment in Upper Lake Melville, Labrador and the Province
- Skilled and unskilled labour supply in Upper Lake Melville, Labrador and the Province
- Expenditures in Upper Lake Melville, Labrador and the Province
- Availability of skilled and unskilled labour
- Employment equity and diversity including under-represented groups (e.g., women, persons with disabilities, aboriginal groups)

Certain agencies have conducted meetings with local women and the consensus is that most women could not avail themselves of the jobs this project would bring, if the Proponent insists on using a work camp to house workers, rather than finding a way for workers to live at home in Happy Valley-Goose Bay. The Proponent must do more extensive studies on gender equity and gender training in order to assure that women in the community have equal opportunity for the available jobs.

- Business capacity
  - o Goods and services
- Expenditures in Upper lake Melville, Labrador and the Province
- Impacts and Benefits Agreement
- Agriculture
- Outfitting
- Eco-tourism

Although there are not very many eco-tourism operators or outfitters on the Grand (Churchill) River at present, that lack of commitment can probably be directly attributed to the constant threat of the building of dams and the subsequent destruction of any 'river' type operation. This threat has loomed since the late 1960's and it would be unfair to state that outfitting and eco-tourism just do not exist on this river, without some discussion of the reasons why they do not exist.

- Trapping
- Forest Resources Harvesting
- Mining and Mineral Exploration

### 3.5 Component Studies

Component Studies shall be prepared for at least the following VECs, including:

- Large mammals
- Furbearers

- Avifauna

- Species at risk
- Fish and fish habitat (plankton, benthos, marine mammals)
- Aquatic (water quality, hydrology, ice dynamics, sedimentation)
- Historic resources
- Timber Resources
- Socio-economics

**Recommend to add here: Core Community Values**

Where new information becomes available as a result of baseline studies, additional component studies may be required.

Component studies generally have the following format: (a) Rationale/Objectives, (b) Study Area, (c) Methodology, and (d) Study Outputs.

**(a) Rationale/Objectives**

In general terms, the rationale for a component study is based on the need to obtain additional data to determine the potential for significant effects on a VEC due to the proposed undertaking, and to provide the necessary baseline information for monitoring programs.

**(b) Study Area**

The boundaries of the study area shall be defined depending on the characteristics of the VEC being investigated.

**(c) Methodology**

Methodology shall be proposed by the Proponent, in consultation with resource agencies, as appropriate. The methodologies for each component study shall be summarized in the EIS.

**(d) Study Outputs**

Study outputs shall be proposed by the Proponent. Information and data generated shall be sufficient to adequately predict the effects on the VEC.

### **3.6 Data Gaps**

Information gaps from a lack of previous research or practice shall be described indicating baseline/information which is not available or existing data which cannot accurately represent environmental conditions in the study area over four seasons. If background data have been extrapolated or otherwise manipulated to depict

environmental conditions in the study area, modeling methods and equations shall be described and shall include calculations of margins of error and/or confidence limits.

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

### 3.7 Future Environment

The EIS shall describe the predicted future condition of the environment within the expected life span of the Project, if the Project were not to proceed.

(It is obvious here that there is an “expected life span of the Project” and therefore this expected life span of the project must be used to determine the total decommissioning date of the project and a discounted cost of that decommissioning.)

The predicted future condition of the environment shall help to distinguish project related effects from environmental change due to natural processes and shall include a discussion of climate change.

Current in-use models of future climatic conditions in the area and their possible effects on the eco-systems that surround the Grand (Churchill) River must be used rather than just including “discussion” of climate change.

The socio-economic environment to be described is undergoing substantial change regardless of the Project. The analysis shall consider the likely trends in the area in the absence of the Project given available information about other planned major projects or social, economic, or institutional changes in the zone of influence within the time frame of the Project. (add here: within the expected life span of the project.)

Different scenarios of possible expenditures of some of the 6 to 9 billion dollars on less environmentally damaging energy projects for local industry and other possible expenditures on marketing the area as a world class tourism site should be considered when talking about “likely trends” in the area.

## 4.0 ENVIRONMENTAL EFFECTS

### 4.1 General

The EIS shall contain a comprehensive analysis of the predicted environmental effects of each project alternative for the VECs. If the effects are attributable to a particular phase of the Project (construction, operation and/or maintenance) then they should be designated as such.

Predicted environmental effects (positive and negative, direct and indirect, short and long-term) shall be defined quantitatively and qualitatively for each project alternative and for each VEC. Environmental effects predictions shall be explicitly stated and the theory or rationale upon which they are based shall be presented in terms of the following parameters, as appropriate.

- (a) nature
- (b) magnitude (qualitative and quantitative)
- (c) geographic (spatial) extent

- (d) timing, duration and frequency
- (e) degree to which effects are reversible or mitigable
- (f) ecological context
- (g) level of knowledge
  - (g) the capacity of renewable resources that are likely to be significantly affected by the Project, to meet the needs of present and future generations

(example: eco tourism potential of the river which could, if marketed properly, provide local jobs not just throughout the life span of the project but in perpetuity.)

- (i) the extent to which biological diversity is affected by the Project
  - (j) the extent of application of the precautionary principle to Project mitigation measures
- The Proponent shall prepare a table of the proposed Project's anticipated effects, which shall enable the reader to review and consider those effects.

The assessment of the beneficial and adverse effects of the Project on the socioeconomic environment shall consider how the Project may affect various segments of the local populations (e.g., youth, elders, women, Aboriginal groups, harvesters, existing workforce including professionals). In considering the local social and economic effects of the Project, the Proponent shall have due regard for the attitudes and perceptions of local residents, and how these are grounded in their culture, social organizations and historical experience.

(THESE ARE CORE COMMUNITY VALUES WHICH HAVE BEEN INSERTED UNDER THE SECTION ON GUIDING PRINCIPLES)

Particular attention shall also be paid to the distinctive benefits and problems associated with large, temporary work forces:

- (a) demographics
- (b) social and cultural patterns (particular attention shall be given to the comparative adverse and beneficial effects of a major base of employment away from the communities, rotational work schedules, and the presence of large numbers of transient employees and contractors in the region)
- (c) services and infrastructure
- (d) cultural sites
- (e) land and resource use
- (f) local, regional and provincial economy
- (g) employment, education and training
- (h) governments
- (i) aboriginal issues

#### **4.2 Accidents and Malfunctions**

The Proponent will identify and describe the potential accidents and malfunctions related to the Project, including an explanation of how those events were identified, potential consequences (including the potential environmental effects), the worst case scenarios and the effects of these scenarios. The Proponent will explain the potential quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the malfunction and accident events.

Potential accidents and malfunctions **may** (recommend this word be changed to **MUST**) include those associated with the following occurrences:

- dam failure; (recommend to add—dam failure due to malfunction, accidents or seismic activity.)
  - waste management and disposal;
  - handling and use of chemicals and hazardous materials on-site; and
  - any other project components or systems that have the potential, through accident or malfunction, to adversely affect the natural environment.
- The Proponents shall pay special attention to the sensitive elements of the environment (e.g.: communities, homes, natural sites of interest, areas of major use, etc.) that may be affected in the event of an accident or a major malfunction.

The Proponent shall assess the likelihood of occurrence of the accidents and malfunctions.

Detailed plans, measures and systems to reduce the potential occurrence of an accident or malfunction shall be provided by the Proponent. They shall indicate how they will reduce the effects or consequences of an accident or malfunction, should it occur.

Through Grand Riverkeeper Labrador (GRKL) public information sessions, one resident of Mud Lake expressed grave concerns about possible dam failure. The proposed Muskrat Falls dam is only 20 miles upstream. If a tsunami-like wave were to come down the river it could possibly wash right over Mud Lake because it is on very low lying land. We do know, for instance, that there was an earthquake around the Minnipi region in 1984; granted a small one, but, it does indicate seismic activity only 50 miles south of the proposed dams. Also there are several lateral faults and some thrust faults on both sides of the river valley and we were informed by the proponent that the proposed Gull Island dam was redesigned to avoid construction on top of one of these faults. Therefore, along with the evacuation plan that the Proponent must develop in coordination with Safety, Health and Environmental Response Plans (SHERP), they must also study how far down river the massive amount of water might travel. What effect could this flooding have on Mulligan and the Northwest Islands on the north side of Lake Melville or Kenemish and all the cabins on the south side or even Rigolet at the eastern end of Lake Melville?

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

### 4.3 Cumulative Effects

The Proponent shall identify and assess the Project's cumulative environmental effects. Cumulative effects are defined as changes to the environment due to the Project combined with the existence of projects or activities that have been or will be carried out.

In the cumulative effects assessment, the Proponent shall consider the guidance described in the CEAA Cumulative Effects Assessment Practitioners Guide (1999) and other literature and experience with environmental assessment in Canada or elsewhere that it finds helpful in framing the cumulative environmental effects analysis.

Accordingly, the Proponent shall consider the cumulative environmental effects of the Project where those overlap with those of other projects and activities, of the past and future, and shall:

- identify and justify the environmental components that will constitute the focus of the cumulative effects assessment. The Proponent's assessment should emphasize the cumulative effects on the main VECs that could potentially be most affected by the Project. To this end, the Proponent shall consider, without limiting itself thereto, the following components likely to be affected by the Project:
  - o endangered or valued wildlife;
  - o endangered or valued plant species;
  - o sensitive soils or landforms;
- present a justification for the geographic and temporal boundaries of the cumulative effects assessment. The boundaries for the cumulative effects assessments will again depend on the effects being considered (e.g., will generally be different for different effects). These cumulative effects boundaries will also generally be different from (larger than) the boundaries for the corresponding Project effects;
- describe and justify the choice of projects and selected activities for the cumulative effects assessment. These shall include past activities and projects, those being carried out and future projects or activities likely to be carried out; and
- describe the mitigation measures that are technically and economically feasible, determine the significance of the residual cumulative effects. The Proponent shall assess the effectiveness of the measures applied to mitigate the cumulative effects. In cases where measures exist that are beyond the scope of the Proponent's responsibility that could be effectively applied to mitigate these effects, the Proponent shall identify these effects and the parties that have the authority to act. In such cases, the Proponent shall summarize the discussions that

took place with the other parties in order to implement the necessary measures over the long term.

#### **4.4 Renewable Resources**

The Proponent shall determine, based on the results of their assessment, whether the Project is likely to cause significant environmental effects on renewable

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

resources and therefore compromise their capacity to meet present and future needs.

Renewable resources are defined as resources that can be renewed on a regular basis, either naturally or by human action. While the emphasis is placed on living renewable resources such as fish, wildlife and forest, the analysis of the effects on renewable resources should also consider non-living renewable resources such as water.

Specifically in the case of the Grand (Churchill) River, one extremely important renewable resource that **MUST** be looked at closely is the possibility of eco-tourism on the river which could provide local jobs for many, many years; jobs in areas where local people have expertise and where the core community values exhibited in central Labrador would be of great benefit. Along with this idea of eco-tourism, the proponent should also look at the possibility of future fishing tourism ventures and what would be the benefits of a healthy ouananiche and trout population to that type of industry. These are industries that expand upon the way we live in this territory on a daily basis; our core community values.

The Proponent shall briefly describe the renewable resources that may be affected by the Project. The Proponent shall clearly establish, taking into account the result of their impact assessment, whether these renewable resources are likely to be significantly affected following the implementation of proposed mitigation measures (residual significant environmental effects). Should this be the case, the following points shall be addressed:

- a brief description of the Project's environmental effects on the renewable resource;
- an indication as to the way in which the capacity of this resource was measured or evaluated;
- an indication of the temporal and geographic boundaries used to assess the capacity of the affected resource;
- a determination of the capacity of the resource to meet current needs;
- a determination of the capacity of the resource to meet future needs;
- a description of any other appropriate mitigation measures;
- a determination of the significance of the residual effects on the renewable resource and its capacity to meet the need of current and future generations;
- an identification of the risks and uncertainties that remain and the description of the next steps, if any, that will be required to address this effect.

#### **4.5 Effects of Environment on the Project**

Environmental changes and hazards that may occur and may affect the Project shall be described (e.g., wind, currents, waves, storm surges, severe precipitation events, flooding, ice). The EIS shall take into account the potential influence of climate change scenarios (e.g., sea level rise, increased severity and frequency of storms and flooding).

(add here also: the possibility of decreased precipitation due to climate change and what effects this might have on the total electrical output of the project thus, on the total economic output of the project.)

The influence that these environmental changes and hazards may have on the Project shall be predicted and described.

The environmental effects that may occur as a result of the environment acting on the Project shall be assessed.

## **5.0 ENVIRONMENTAL PROTECTION**

### **5.1 Mitigation**

The EIS shall identify and discuss the proposed mitigation measures that are technically and economically feasible and that would mitigate the significant

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

30

adverse effects of the Project and enhance beneficial effects, including the interaction of these measures with existing environmental management plans.

Under the CEAA, mitigation is defined as the elimination, reduction or control of the adverse environmental effects of the Project, and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means. The rationale for and effectiveness of the proposed mitigation and enhancement measures should be discussed and evaluated. The Proponent, where possible, should refer to similar situations where the proposed mitigation has proven to be successful.

(Recommend to add here: Proponent should also refer to similar situations where the proposed mitigation has proven to be UN-successful, example- Star Lake, on the Island of Newfoundland.)

Mitigation failure should be discussed with respect to risk and severity of consequence. The discussion should include failure of dam/control structures.

Recommend Proponent must not only discuss mitigation failure with respect to dam/control structures but must also have an Emergency Evacuation Plan in place.

The Proponent shall identify who is responsible for the implementation of these measures and the system of accountability, including the obligations of all its contractors and subcontractors.

Mitigation measures shall be described for the construction, operation and modification phases and shall include:

- (a) Procedures that would be used to avoid environmentally sensitive areas or periods of the year;
- (b) Contingency plans and procedures to respond to accidents, malfunctions & emergencies;
- (c) Description of fish habitat compensation strategy;
- (d) Measures to ensure continued unrestricted and safe access and passage on land and sea for harvesting and travel by Aboriginal and non-Aboriginal local residents, and what alternatives shall be provided in the event of disruption;
- (e) Mitigation measures which would be taken to reduce or offset adverse effects on the life of the communities most directly affected by the Project;
- (f) Mitigation measures which would be taken to reduce or offset adverse effects on local businesses most directly affected by the Project; and
- (g) Describe measures to enhance any beneficial environmental effects, such as economic benefits to businesses affected by the Project.

Other mitigation measures, if any, that were considered shall be identified, and the rationale for rejecting these measures shall be explained. Trade-offs between costs and predicted effectiveness of the mitigation measures shall be justified.

The Proponent shall discuss the application of the Precautionary Principle in the identification of mitigation measures. The Precautionary Principle is defined in Section 2. The best available technology and best management practices shall be considered. Consideration shall be given for avoidance of environmental effects through implementation of scheduling and siting constraints and pollution prevention opportunities.

Draft EIS Guidelines – Lower Churchill Hydroelectric Generation Project

### 5.1.1

#### Compensation

The Proponent shall describe, in general terms, compensation programs and arrangements as follows:

- (a) Any compensation programs for damage caused by the Proponent's activities to the environment, to property, business operations, or to the land and resources of others. The Proponent shall describe any existing or proposed compensation programs for losses relating to property, use, access, harvests, added harvesting effort and costs that may be incurred by users of the land and its resource (e.g., tourism operators, trappers, subsistence hunters). (Add here: loss to local groups who use the river for recreation). A comparison with compensation programs for other projects and other resource
- (b) Any compensation arrangements for local, public or private providers whose burdens development activities shall be provided. and costs are increased or who incur losses as a result of the Project.

### 5.2 Emergency Response / Contingency Plans

The Proponent shall describe its environmental management plans and Safety, Health and Environmental Emergency Response Plans (SHERP) to provide an overall perspective on how potentially adverse environmental effects shall be managed over time. The Environmental Management System (EMS) shall include various plans (e.g., emergency response plans, contingency plans, environmental protection plans, waste management plans, monitoring plans) and developed in a manner consistent with the International Organization for Standardization (ISO) 14001 program. It shall show how the Project is consistent with sustainable development efforts in the region. Appropriate government agencies, aboriginal groups and local communities shall be involved in the development of the plans.

(Add here: Emergency Response plans should include, no matter how remote, the potential for seismic activity caused by leakage into existing faults.

### 5.3 Rehabilitation

A plan of proposed rehabilitation measures is required with an explanation of how the measures shall reduce or eliminate various negative effects during construction, operation and maintenance. The plan shall discuss the rationale, objectives and procedures for proposed rehabilitation measures.

Restoration of areas disturbed by temporary activities such as access roads, off-loading facilities, construction camp(s), land clearing prior to inundation, etc., shall be detailed. A schedule for carrying out the work (seasonal requirements, etc.) shall be included in the plan. Appropriate materials (plant species, soils, etc.) shall be indicated.

### 5.4 Monitoring and Follow-up Programs

The EIS shall describe the environmental and socio-economic monitoring and follow-up programs to be incorporated into construction, operation and modification activities.

Monitoring programs will (change the word “will” to WOULD- using the word “will” appears to bias the assessment by assuming the project WILL go ahead.) ensure that the Project is implemented as proposed, that the mitigation or compensation measures proposed to minimize the Project’s environmental effects are effectively implemented, and that the conditions set at the time of the Project’s authorization and the requirements pertaining to the relevant laws and regulations are met. The monitoring program (would) also make it possible to check the proper operation of works, equipment and facilities. If necessary, the program (would help reorient the work and possibly make improvements at the time of construction and implementation of the various elements of the Project.

The purpose of the follow-up program (would be) to verify the accuracy of the predictions made in the assessment of the effects as well as the effectiveness of the mitigation measures. The duration of the follow-up program shall be as long as is needed to evaluate the effectiveness of the mitigation measures.

If either of these programs identify unforeseen adverse environmental effects, the Proponent shall commit to adjusting existing mitigation measures, or, if necessary, develop new mitigation or compensation measures. The Proponent shall describe how the results of monitoring and follow-up programs will be used to refine or modify the design and implementation of management plans, mitigation measures and Project operations. This section shall also discuss the ways in which holders of local knowledge of Aboriginal and non-Aboriginal area residents, including women and youth, shall be involved in any monitoring and follow-up programs. The Proponent shall distinguish as appropriate between monitoring (compliance) and effects follow-up programs.

The proposed approach for monitoring shall be described and shall include:

- (a) The objectives of the monitoring program and a schedule for collection of the monitoring data required to meet these objectives;
- (b) The sampling design, methodology, selection of the subjects and indicators to be monitored, and their selection criteria;
- (c) The frequency, duration and geographic extent of monitoring, and justification for the extent;
- (d) Reporting and response mechanisms, including criteria for initiating a response and procedures;
- (e) The approaches and methods for monitoring the cumulative effects of the Project with existing and future developments in the Project area;
- (f) Integration of monitoring results with other aspects of the Project including adjustments to operating procedures and refinement of mitigation measures;
- (g) Experience gained from previous and existing monitoring programs;
- (h) The advisory roles of independent experts, government agencies, communities, holders of Aboriginal knowledge and renewal resource users;
- (i) Procedures to assess the effectiveness of monitoring and follow-up programs, mitigation measures and recovery programs for areas disturbed by the Project; and
- (j) A communications plan to describe the results of monitoring to interested parties.

The Proponent shall explain how the public shall continue to be involved, including participation in the design and implementation of environmental management and monitoring and follow-up programs.

The Proponent shall describe plans to maintain communications and working relationships with the affected communities, Aboriginal and town organizations and government agencies throughout the life of the Project. The intent of these plans is to involve those groups in monitoring and follow-up programs, and in identifying and working toward the reduction of adverse physical, biological or socio-economic effects, and the enhancement of beneficial effects.

To design complete and comprehensive program proposals, the Proponent shall prepare and submit these documents subsequent to the completion of the environmental assessment, but before the initiation of the Project itself.

#### **6.0 RESIDUAL EFFECTS & DETERMINATION OF SIGNIFICANCE**

Residual effects are those adverse effects or significant environmental effects which cannot or shall not be avoided or mitigated through the application of environmental control technologies, best management practices or other acceptable means.

The EIS shall list and contain a detailed discussion and evaluation of residual effects, which shall be defined in terms of the parameters outlined in section 4.1.

The EIS shall contain a concise statement and rationale for the overall conclusion relating to the significance of the residual adverse environmental effects. The EIS will, for ease of review, include a matrix of the environmental effects, proposed mitigation and residual adverse effects.

#### **7.0 CONSULTATION WITH ABORIGINAL GROUPS AND COMMUNITIES**

In addition to the specific references to assessing potential effects of the Project on aboriginal governments, groups and communities in other parts of the Guidelines, the Proponent is to present aboriginal governments, group and community interests and concerns including those received in response to the Registration in a separate chapter of the EIS.

Aboriginal interests must be named and are as follows:

- 1 Nunatsiavut Government (Inuit) has 38-40 percent of their membership in the Upper Lake Melville region and more in Rigolet (at the eastern end of Lake Melville) and additionally has an interest anyway because the proposed development is adjacent to their land;
- 2 The Innu Nation has an interest because the proposed Project is within their Land Claims area;
- 3 The Labrador Metis Nation, while still not recognized by the federal government as having aboriginal rights, are nevertheless here and have been since contact.

They are a fact of life. Many of their membership have historically trapped this river valley and even beyond to the Height of Land.

## 8.0 PUBLIC PARTICIPATION

Public consultations/meetings are required of the Proponent to present the proposal and to record interests and concerns including those received in response to the Registration. These concerns shall be addressed in a separate chapter of the EIS. Protocol for this meeting shall comply with the legislation and with divisional policy included in Appendix B.

As a minimum, public consultation meetings must be held in the communities of Happy Valley-Goose Bay, Northwest River, Sheshatshiu, Natuashish, Churchill Falls, and in the region of Labrador West.

**ADD** Mud Lake, and Rigolet (where locals say they have seen diminished seal populations since the Upper Churchill was brought on line); Cartwright (adjacent to the Hamilton Banks, where local lore claims that the Upper Churchill Project destroyed the cod fishery there), and the Labrador Straits area where the transmission lines (not yet registered) could possibly be built.

*"I DON'T BELIEVE IT! Mud Lake-the oldest established community in the river valley, the only one on the south side using the river daily, the one most impacted by steady erosion and sandbank development, is omitted from the list? And what are the chances that when Public Hearings are held in HVGB, that such could be scheduled at a season when Mlakers cannot travel across the river? Very likely, I've seen it happen regularly. There is always the strange, ignorant concept that 'oh, Mud Lake can travel up anytime' (hospital, school board, church, govt, etc. etc. in the past). This is NOT TRUE. Furthermore, when presenting the Env. Ass. To the public, the Proponents and their great retinue should be obliged to CROSS the blankety-blank river that they know so much about, in order to appreciate the full implications for commuters and the possible implications for seasonal flood release/winter ice formation, etc. This experience for them (Hydro) also has implications for the impossibility of certain mitigation measures in the future-when erosion occurs, no one is going to be able to put damaged shoreline back again. How far will the drastic erosion of the Upper C. project be assessed and analysed? Years ago, the Hydro Chairman once asked me directly why didn't Mud Lakers move out, because obviously they were a headache for him and they shouldn't be living where they do. My answer 'because it's their home, their grandparents are in the graveyard', and there's a historical reason for the settlement, which should be respected."*

- Susan Felsberg, Mud Lake, 21 January 2008

## **9.0 ENVIRONMENTAL PROTECTION PLAN**

The Proponent shall prepare an Environmental Protection Plan (EPP) for each main construction site and have them approved by the regulatory authorities before starting construction. They shall be stand-alone documents that shall target the site foreperson, the Proponent's occupational health, safety and environmental compliance staff, as well as government environmental surveillance staff. The EPPs shall address construction, operation and modification phases of the Project. A proposed Table of Contents and an annotated outline for the EPPs is to be presented in the EIS which shall address the major construction and operational activities, permit requirements, mitigation measures and contingency planning as follows:

- Proponent's environmental policies
- Objectives and voluntary commitments
- Relevant human resource management plans
- Environmental compliance monitoring
- Environmental protection measures
- Mitigation measures
- Permit application and approval planning
- Contingency planning for accidental and unplanned events
- Statutory requirements
- Revision procedures and contact lists

## **10.0 REFERENCES CITED**

All references used during the preparation of the EIS shall be cited in the text and listed in this section.

## **11.0 PERSONNEL**

The names and qualifications of all key professionals responsible for preparing the EIS and supporting documentation shall be included.

## **12.0 COPIES OF REPORTS**

The Proponent shall prepare a complete and detailed bibliography of all studies used to prepare the EIS. Supporting documentation shall be referenced in the EIS and submitted in separate volumes or attached as an Appendix to the EIS.

## **BIBLIOGRAPHY**

*Susan Felsberg of Mud Lake also notes, "that the Bibliography is all technical-no History, no Sociology. Parks Canada made a similar omission in its 1970's study for the proposed Mealy Mountains National Park-all flora and fauna, no human usage assessment".*

To emphasize this point:

*“I worked for a lot of years in the community of Sheshashiu with the Innu, as their doctor in their community, and it was really clear to me that while there was phenomenal issues with respect to human suffering, certainly addictions issues, acculturation and all sorts of sadness that go along with that, and along with that go along the cost of treatment programs, cost of housing that is not cared for well, cost of caring for people, generally depressed and unhappy and living a less than optimal life, and in all the time I was working I used to think about what were the major things that have happened in this community and it occurred to me, when we had this huge tsunami in the Pacific, that in fact, from a cultural point of view, the flooding of the Upper Churchill must actually have been almost the equivalent of a cultural tsunami for all of the people that were living and using that bioregion to survive. It often occurred to me that, in fact, in talking to the elders on times as I have done, that those people were actually in the midst of living their lives when in fact everything in their known world was utterly and completely changed and in shock within a very short period of time. Yet here we are 20 or 30 years later and I sometimes feel like the wound that happened at that time has actually created a blind spot, sometimes in the community itself, that the people themselves don’t even know what happened when that flooding took place, and now the repercussions of that, which include an immense amount of human suffering, are now attributed to all sorts of things where sometimes I think that the impact of that has been absolutely phenomenal and devastating. In fact, even to this point has never been really appropriately appreciated by all the people doing the studies. So, I guess I, for one, would really be interested in having an appropriate look at the magnitude of this insult to the culture then and really make sure that we have appropriately considered what the impact of the culture that we have now and in the future, is going to be in the next phase of the project should it go along.”*

-Dr. Jane McGillivray, GRKL Public information session, Northwest River, 20 January 2008.

Recommend that the scope of the project must include social assessments and mitigation measures in consultation with Labrador’s diverse cultures- the Inuit, Innu, Metis and white settlers. The Proponent should fully consider traditional knowledge and expertise which have as important a contribution to make as scientific and engineering knowledge.

*“Other than the Newfoundland Government endorsing the Innu, there has been no recognition of other aboriginal rights on this river of mine. When I grew up here we swam, fished, and drank the water from the river. Now the river is contaminated with sewage. The Nfld. Govt. has no respect for our river. In their plans, they plan to flood the river from Muskrat Falls up and dry up the river from Muskrat Falls down. Even though I am an aboriginal, whose forefathers have made their living from the fish and fame on the river, I am not allowed to build a cabin anywhere around the river. There*

*will be no museum built in our town to commemorate our river's historical past. And my diet of fish and seal will be limited because of contamination. I believe that I am becoming an environmental social casualty. Hydro development will mean 1000s of newcomers, and the devastation of my ancestral river. I see no good for me or my people in this plan to change our river."*

-Max Blake, GRKL Public Information Session, 19 January 2008

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**APPENDIX A** – Requirements of an Environmental Impact Statement under the Environmental Protection Act, Section 57 and Assessment by a Review Panel under the Canadian Environmental Assessment Act, Section 16

**APPENDIX B** – Requirements for Public Meetings

## **APPENDIX A**

Environmental Protection Act

Section 57 - Environmental Impact Statement

57. An environmental impact statement shall be prepared in accordance with the guidelines, and shall include,

- (a) a description of the undertaking;
- (b) the rationale for the undertaking;
- (c) the alternative methods of carrying out the undertaking, and the alternatives to the undertaking;
- (d) a description of the
  - (i) present environment that shall be affected or that might reasonably be expected to be affected, directly or indirectly, by the undertaking, and

- (ii) predicted future condition of the environment that might reasonably be expected to occur within the expected life span of the undertaking, if the undertaking was not approved;
- (e) a description of
  - (i) the effects that would be caused, or that might reasonably be expected to be caused, to the environment by the undertaking with respect to the descriptions provided under paragraph (d), and
  - (ii) the actions necessary, or that may reasonably be expected to be necessary, to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment by the undertaking;
- (f) an evaluation of the advantages and disadvantages to the environment of the undertaking, the alternative methods of carrying out the undertaking and the alternatives to the undertaking;
- (g) a proposed set of control or remedial measures designed to minimize any or all significant harmful effects identified under paragraph (e);
- (h) a proposed program of study designed to monitor all substances and harmful effects that would be produced by the undertaking; and
- (i) a proposed program of public information as required under section 58.

## Canadian Environmental Assessment Act

### Section 16 - Factors to be considered

16. (1) Every screening or comprehensive study of a project and every mediation or assessment by a review panel shall include a consideration of the following factors:

- (a) the environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or 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 that are received in accordance with this Act and the regulations;
- (d) measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project; and
- (e) any other matter relevant to the screening, comprehensive study, mediation or assessment by a review panel, such as the need for the project and alternatives to the project, that the responsible authority or, except in the case of a screening, the Minister after consulting with the responsible authority, may require to be considered.

#### Additional factors

(2) In addition to the factors set out in subsection (1), every comprehensive study of a project and every mediation or assessment by a review panel shall include a consideration of the following factors:

- (a) the purpose of the project;

- (b) alternative means of carrying out the project that are technically and economically feasible and the environmental effects of any such alternative means;
- (c) the need for, and the requirements of, any follow-up program in respect of the project; and
- (d) the capacity of renewable resources that are likely to be significantly affected by the project to meet the needs of the present and those of the future.

## **APPENDIX B**

Department of Environment & Conservation  
Environmental Assessment Division

### **ADVERTISEMENT REQUIREMENTS FOR PUBLIC MEETINGS / INFORMATION SESSIONS**

Purpose: To clarify for staff, proponents, public interest groups, etc. the types, timing, number, notification requirements, etc. for public consultations in relation to undertakings required under the Environmental Protection Act, SNL 2002 cE-14.2, (Section 58) to prepare an Environmental Impact Statement (EIS) or required under the Environmental Assessment Regulations, 2003 (Section 10) to prepare an Environmental Preview Report (EPR).

1. The Proponent is not required to conduct public meeting(s) (information sessions) under an EPR process unless specifically required to do so in the project Guidelines. This requirement shall be at the Minister's discretion, based upon advice from the Assessment Committee (AC) as provided by the Chairperson, taking into account the level of expressed public interest.
2. The Proponent is always required to conduct public meeting(s) (information sessions) under an EIS process as specified in the Legislation. This requirement shall be specified in the project Guidelines.
3. When required, a public meeting shall normally be held in the largest local population centre within the project area. This shall be the minimum requirement. In addition, when demonstrated public interest or concern warrants, additional meetings may be required. This may take the form of additional meetings to be held in major regional or provincial population centres, or possibly additional meetings within the original community. Such requirements are at the discretion of the Minister based on consensus advice from the AC Chairperson, and based upon public interest as evidenced by public submissions received.
4. The requirements for location of public meetings may be modified for projects proposed within areas subject to formal aboriginal land claims processes recognized by the provincial and federal governments, excluding projects located entirely within municipal boundaries. In such cases, a public meeting may specifically be required in an

appropriate aboriginal community which has a direct interest in the land claim. Such a meeting may be required in addition to others required under #3 (above). The Proponent may be required to provide appropriate translation services for such meetings. This provision is subject to alternate direction relating to dealings with aboriginal groups which may be imposed by government under special circumstances.

5. The format of the public meeting may be flexible, and the Proponent is free to propose a suitable format for approval by the AC. The format may range from formal public meetings chaired by the Proponent or representative with presentations followed by questions and answers, to a less formal open house forum where the public may discuss the proposal with the Proponent or representatives. Other formats may be considered by the AC. The purpose of the public information session is to 1) provide information concerning the proposed undertaking to those who may be affected, and 2) to record the concerns of the local community regarding the undertaking. Any format must meet these objectives.

6. The Proponent must ensure that each public meeting is advertised in accordance with the following specified public notification requirements, which shall form part of the project Guidelines when appropriate:

- Minimum information content of public advertisement - (Proponent to substitute appropriate information for italicised items):

#### PUBLIC NOTICE

##### Public Information Session on the Proposed

Name of undertaking  
Location of undertaking

shall be held at

Date and Time  
Location

This session shall be conducted by the Proponent,

Proponent name and contact phone number, as part of the environmental assessment for this Project.

The purpose of this session is to describe all aspects of the proposed Project, to describe the activities associated with it, and to provide an opportunity for all interested persons to request information or state their concerns.

#### ALL ARE WELCOME

- If translation services are to be provided as per #4 (above), then the ad should specify this fact and the languages to be used for the session.

- Minimum newspaper ad size: 2 columns wide.
- Minimum posted ad size: 10 cm x 12 cm.
- Minimum newspaper ad frequency (to be run in newspaper(s) locally distributed within each meeting area or newspaper(s) with the closest local distribution area): o  
For dailies, the weekend between 2 and 3 weeks prior to each session and the two consecutive days prior to each session, OR  
For weeklies, in each of the two weeks prior to the week in which the session is to be held.
- Minimum posted ad coverage: In the local Town or City Hall or office, and the local post office, within the Town or City where the meeting is to be held, to be posted continually for not less than 15 days prior to each session.
- Any deviation from these requirements for any reason must receive the prior written approval of the Minister.
- The Proponent must provide the Chairperson of the AC with copies of advertisements and public notices.

**GRAND RIVERKEEPER LABRADOR INC.**

**COMMENTS ON DRAFT  
JOINT REVIEW PANEL AGREEMENT  
AND  
TERMS OF REFERENCE,  
LOWER CHURCHILL  
HYDROELECTRIC GENERATION  
PROJECT**

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**Clarice Blake Rudkowski, Roberta Frampton Benefiel and Eldred Davis  
July 5, 2008**



**AGREEMENT****Concerning****The Establishment of a Joint Review Panel  
for the Environmental Assessment of the  
Lower Churchill Hydroelectric Generation Project****between****The Government of Canada, as represented by the  
Minister of the Environment****and****The Government of Newfoundland and Labrador, as represented by the  
Minister of Environment and Conservation  
and the  
Minister for Intergovernmental Affairs****WHEREAS:**

Newfoundland and Labrador Hydro is proposing to develop hydroelectric generating facilities with interconnecting transmission lines on the lower section of the Churchill River;

The Project/Undertaking, as proposed by the Proponent, is subject to an environmental assessment under the *Canadian Environmental Assessment Act* and the *Environmental Protection Act*;

The Governments of Canada and Newfoundland and Labrador wish to ensure that the type and quality of information and conclusions on environmental effects required to satisfy their respective legislative requirements are produced through a single, effective and efficient environmental assessment process;

The Minister of the Environment for Canada has responsibilities pursuant to the *Canadian Environmental Assessment Act* and has referred the environmental assessment relating to the project to a review panel in accordance with subsection 29(1) of the Act;

The Minister of Environment and Conservation of Newfoundland and Labrador has responsibilities pursuant to the *Environmental Protection Act* and has recommended to the Lieutenant-Governor in Council that public hearings be held on the undertaking;

The Minister for Intergovernmental Affairs of Newfoundland and Labrador has responsibilities pursuant to the *Intergovernmental Affairs Act*,

Section 72 of the *Environmental Protection Act* provides that the Minister of Environment and Conservation, with the approval of the Lieutenant-Governor in Council, may enter into an agreement with another government regarding the environmental assessment of an undertaking;

Section 73 of the *Environmental Protection Act* provides that the Lieutenant Governor in Council may establish a joint review panel in conjunction and coordination with another government where an agreement has been reached with such other government pursuant to section 72 of the EPA with respect to an undertaking;

Section 40(2) of the *Canadian Environmental Assessment Act* enables the Minister of the Environment to enter into an agreement with other jurisdictions respecting the joint establishment of a review panel and the manner in which the environmental assessment of the project is to be conducted by the review panel;

The Minister of the Environment has determined that a joint review panel with the Province of Newfoundland and Labrador will be the means by which Canada will proceed with the environmental assessment of the Project/Undertaking;

The Lieutenant-Governor in Council has ordered public hearings and authorized the Minister of Environment and Conservation to enter into an agreement with Canada on the conduct of those hearings; and

The Ministers have requested the Proponent to submit an Environmental Impact Statement to the Panel for the purposes of informing the Environmental Assessment Process.

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**THEREFORE**, the Minister of the Environment and the Minister of Environment and Conservation hereby establish a review panel for the Environmental Assessment of the Project/Undertaking in accordance with the conditions of this agreement and the Terms of Reference attached as Schedule 1.

## 1.0 Definitions

For the purpose of this Agreement, including the recitals and Schedule 1.

"Agency" means the Canadian Environmental Assessment Agency;

"Agreement" means this Agreement including Schedule 1;

"CEAA" means the *Canadian Environmental Assessment Act*;

"Day" means a calendar day;

"Department" means the Newfoundland and Labrador Department of Environment and Conservation;

"EIS Guidelines" mean the direction provided to the Proponent by Newfoundland and Labrador and Canada, which must be addressed in the Proponent's Environmental Impact Statement;

"Environment" means the components of the Earth, and includes:

- (i) land, water and air and all layers of the atmosphere,
- (ii) all organic and inorganic matter and living organisms as well as plant, animal and human life,
- (iii) the social, economic, recreational, cultural and aesthetic conditions and factors that influence the life of humans or a community,

- (iv) a building, structure, machine or other device or thing made by humans,
- (v) a solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from the activities of humans, or
- (vi) the interacting natural systems, a part or a combination of those things referred to in subparagraphs (i) to (v) and the interrelationships between 2 or more of them;

"Environmental Assessment" ("EA") means an assessment of the Environmental Effects of the Project/Undertaking that is conducted in accordance with the Legislation;

"Environmental Effect" means:

- (a) any change that the Project/Undertaking may cause in the Environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in subsection 2(1) of the Species at Risk Act;  
[Recommend under this section to take into consideration the migration patterns of various species, especially those considered at-risk, i.e., songbirds, by establishing a cooperative relationship with other environmental protection agencies across borders.](#)
- (b) any effect of any change referred to in paragraph (a) on:
  - (i) health and socio-economic conditions;
  - (ii) physical and cultural heritage;
  - (iii) the current use of lands and resources for traditional purposes by aboriginal persons; or,
  - (iv) any structure, site or thing that is of historical, archaeological, paleontological or architectural significance; or,
- (c) any change to the Project/Undertaking that may be caused by the Environment;

whether any such change or effect occurs within or outside Canada.

For the purposes of this Agreement, "cultural heritage" includes but is not limited to a human work or a place that

- (a) either
  - (i) gives evidence of human activity;
  - (ii) has spiritual and/or cultural meaning; or
  - (iii) gives evidence of human activity and has spiritual and/or cultural meaning;
- and
- (b) that has heritage value.

"Environmental Impact Statement" (hereinafter "EIS") means the environmental assessment report that is prepared by the Proponent;

"EPA" means the Newfoundland and Labrador *Environmental Protection Act*;

"Follow-up Program" means a program for

- (a) verifying the accuracy of the EA of the Project/Undertaking; and,
- (b) determining the effectiveness of any measures taken to mitigate the adverse environmental effects of the Project/Undertaking;

"Legislation" means, collectively, the CEAA and the EPA;

"Ministers" means the federal Minister of the Environment and the provincial Minister of Environment and Conservation;

"Panel" means the review panel, which is appointed pursuant to Section 2 of this Agreement;

"Participant Funding Program" means the program referred to in Section 8.0 of this Agreement;

"Parties" means the signatories to this Agreement;

"Project/Undertaking" means the Lower Churchill Hydroelectric Generation Project as described in Scope of the Project/Undertaking in Part 1 of the attached Schedule.

"Proponent" means Newfoundland and Labrador Hydro;

"Public Registry" means a repository to facilitate public access to the records relating to the EA of the Project/Undertaking in accordance with section 55 of the CEAA, that has been established by Fisheries and Oceans Canada and Transport Canada and that will be maintained by the Agency or the Secretariat until submission of the Panel report;

[Add Here: Definition of Resident as mentioned in section 3.7](#)

"Secretariat" means the Secretariat referred to in Section 5.0 of this Agreement;

"Terms of Reference" means the Terms of Reference for the Panel, as set out in Schedule 1 of this Agreement;

## **2.0 Establishment of the Panel**

**2.1** A process is hereby established for the creation of a Panel, pursuant to section 73 of the EPA and sections 40, 41 and 42 of the CEAA, for the purposes of the review of the Project/Undertaking.

**2.2** The Agency and the Department will make arrangements for the coordination of public announcements respecting the establishment of the panel.

## **3.0 Constitution of the Panel**

**3.1** The Panel shall consist of no more than five members, one of whom shall be the chair.

[Add here: Given the scope of environmental destruction and the effects socially and culturally on the area adjacent to this project, we suggest a number of seven \(7\) Panel members, three of which should be from the local area. This will create an effective voice for the area adjacent to the project.](#)

**3.2** The Ministers shall appoint Panel members, consistent with the requirements of the CEAA and the EPA, based on recommendations from the Agency and the Department.

**3.3** The Agency and the Department will provide a list of nominees to the Ministers and at least one of each of their respective nominees will be appointed as members. [Since the Department of Environment and Conservation of Newfoundland and Labrador are the Proponents of this Project along with](#)

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Newfoundland and Labrador Hydro, a Crown Corporation, they are in a conflict of interest by having their appointee on the Joint Panel. However, given the need for an on-going dialogue between the bodies it may be necessary to have a representative sit on the panel while not receiving the same privileges as a member.

**3.4** The Minister of the Environment shall appoint or approve the appointment of the chairperson or appoint a co-chairperson, and shall appoint at least one other member of the panel.

**3.5** The Panel members shall be unbiased and free from any conflict of interest relative to the Project/Undertaking and have knowledge or experience relevant to the anticipated environmental, social, economic and cultural effects of the Project/Undertaking on isolated Northern Communities.

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**3.6** Panel members will not be employed by the Public Service of Newfoundland and Labrador or of Canada, including Crown Corporation and the Innu Nation (who own 5% of the project).

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**3.7** At least one (1) of the members of the Panel shall be a resident of the geographical area of the Project/Undertaking, because local knowledge also assists in understanding cultural, spiritual and core community values.

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3.8 In addition, at least two of the panel members must have a demonstrated historical/cultural/spiritual/economic understanding of the geographical area of the Project/Undertaking.

3.9 In accordance with Governments policy on Gender Equity, the Panel membership should reflect this commitment.

3.10 There should be provision for the Public to appeal the appointment of any member of the Panel and therefore, a complete bio of each appointee should be provided for review by the public with an avenue for feedback before any final decision is made.

#### **4.0 Conduct of the Environmental Assessment by the Panel**

**4.1** The Panel shall have all the powers and duties of a panel set out in section 35 of the *Canadian Environmental Assessment Act* and sections 64 and 65 of the EPA and applicable regulations.

**4.2** The Panel shall conduct the EA in a manner that discharges the requirements set out in the EPA, the CEAA and in the Terms of Reference for the Panel set out in Schedule 1.

**4.3** All Panel hearings shall be public and shall provide for the participation of aboriginal groups, the public, governments and other interested parties. Add here: All Panel hearings should be held at an appropriate time to allow the working public to participate fully. i.e. not in the middle of work days. Also, with regards to the amount of time allotted to each presenter...there must be consideration of the fact that concerned citizens are not professional presenters and may need more time than professional presenters (e.g. Hydro employees) who have administrative assistants and experts to support the technological and academic aspects of their presentations. Members of the public will need special consideration in order to get our points across.

#### **5.0 Secretariat and Administrative Matters**

**5.1** Administrative, technical and procedural support for the Panel shall be provided by a Secretariat jointly established by the Agency and the Department.

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5.2 The Secretariat shall report to the Panel and shall be structured and operated so as to allow the Panel to conduct the EA in an efficient and cost effective manner, and without interference from the Newfoundland Premier and associated public servants.

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5.3 Prior to the appointment of the Panel, the Agency and the Department shall prepare a budget estimate for the activities of the Panel. The budget as agreed to by the Agency and the Department shall be finalized following the appointment of the Panel.

5.4 Costs associated with the review by the Panel will be apportioned between the Agency and the Department in accordance with a cost-sharing agreement to be finalized prior to the appointment of the Panel.

## 6.0 Record of Environmental Assessment and Panel Report

6.1 A public registry containing all records produced, collected or submitted with respect to the EA of the Project/Undertaking shall be maintained by the Agency from the appointment of the Panel until the report of the Panel is submitted to the Ministers. The public registry shall be operated in a manner to ensure convenient public access to the records for the purposes of compliance with section 55 of the CEAA and the practices of the Department. All records produced, collected or submitted with respect to the EA of the Project/Undertaking should also be deposited in hard copy and/or digital CD format, at each local library in Happy Valley-Goose Bay, Mud Lake, Northwest River, and other affected communities for public perusal.

6.2 On completion of the EA of the Project/Undertaking, the Panel shall prepare a report and submit it to the Ministers who will make it public.

6.3 The report will address the factors required to be considered under section 16 of the CEAA, will set out the rationale, conclusions and recommendations of the Panel relating to the EA of the Project/Undertaking, including any mitigation measures and follow-up program, and include a summary of issues raised by aboriginal groups, the public, governments and other interested parties.

6.4 The Parties agree to coordinate, to the extent possible, the timing and announcements of decisions on the Project/Undertaking.

6.5 Once the report is submitted to the Minister of the Environment, responsibility for the maintenance of the public registry in accordance with section 55 of the CEAA will be transferred to Fisheries and Oceans Canada as responsible authority.

## 7.0 Other Government Departments or Agencies

7.1 At the request of the Panel, federal and provincial departments or agencies having specialist knowledge with respect to the Project/Undertaking shall provide available information and knowledge in a manner acceptable to the Panel. We would expect that the Department of Fisheries and Oceans would use the same criteria for their information and knowledge as in the previous Environmental Assessment whereby they recommended "that approval for the project be withheld at this time". See the Department of Fisheries and Oceans Position Statement for the Lower Churchill Hydroelectric Project Generation Facilities, July 1980.

7.2 Subject to clause 7.1 of this Agreement and subsection 12(3) of the CEAA, nothing in this agreement shall restrict the participation by way of submission to the Panel by federal or provincial departments or agencies.

## 8.0 Participant Funding

8.1 The Agency will administer a participant funding program to facilitate the participation of aboriginal organizations and the public in the EA of the Project/Undertaking. The participant funding must be adequate to do the required work especially taking into account the exorbitant costs of travel to and within the region. Also, the public announcement regarding participant funding must be done with full transparency and distribution to participant groups.

## 9.0 Review, Interpretation and Amendment of this Agreement

9.1 The Parties will review this Agreement at the request of either Party.

9.2 The Parties will make every reasonable effort to agree on the interpretation and application of this Agreement.

9.3 Differences of opinion in the interpretation and application of this Agreement will be resolved, to the extent practicable, at a working level, through reasonable efforts taken in good faith.

9.4 The Agreement may only be amended with the written consent of both Parties. Unless another day is agreed, an amendment will become effective upon its execution by the Parties.

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**In witness whereof** our signatures are hereunto inscribed on this \_\_\_\_\_ day of \_\_\_\_\_  
2008.

Original signed by:

Minister of the Environment - Government of Canada

Minister of Environment and Conservation - Government of Newfoundland and Labrador

Minister for Intergovernmental Affairs – Government of Newfoundland and Labrador

**Schedule 1 - Terms of Reference for the****Panel****Introduction**

Pursuant to the Agreement Concerning the Establishment of a Joint Review Panel for EA of the Lower Churchill Hydroelectric Generation Project, a Panel is appointed to conduct an EA of the Project/Undertaking proposed by Newfoundland and Labrador Hydro.

The Panel shall conduct the environmental assessment of the Project/Undertaking in accordance with these Terms of Reference, have input into and sign off on the final guidelines for the Environmental Impact Statement, then insure the Proponent adheres to those guidelines for their Environmental Impact Statement., consistent with the Agreement between Canada and Newfoundland and Labrador on the Establishment of a Joint Review Panel for the Environmental Assessment of the Lower Churchill Hydroelectric Generation Project.

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In performing its responsibilities, the Panel shall promote and facilitate public participation and ensure that the process takes into account the concerns and traditional knowledge of aboriginal groups/governments and the concerns and community knowledge of the public.

**Part I – Scope of the Project/Undertaking**

The Proponent proposes a project/undertaking consisting of hydroelectric generating facilities at Gull Island and Muskrat Falls, and interconnecting transmission lines to the existing Labrador grid. The Project/Undertaking includes the following components as described by the Proponent. The specific dimensions/characteristics of the proposal are subject to change as a result of the findings of the environmental assessment:

The Gull Island facility consisting of a generating station with a capacity of approximately 2,000 MW that includes:

- a dam approximately 100 m high and 1,300 m long; and
- a reservoir approximately 200 km<sup>2</sup> in area at an assumed full supply level of 125 m asl.

The dam is to be a central till-cored, rock-fill, zone embankment. The reservoir is to be approximately 225 km long, and the area of inundated land is to be in the order of 85 km<sup>2</sup> at full supply level. The powerhouse is to contain four to six Francis turbines.

The Muskrat Falls facility consisting of a generating station with a capacity of approximately 800 MW that includes:

- a concrete dam with two sections on the north and south abutments of the river, and
- a reservoir approximately 100 km<sup>2</sup> in area at an assumed full supply level of 40 m asl.

The north section dam is to be in the order of 30 m high and 180 m long, while the south section is to be in the order of 30 m high and 370 m long. The reservoir is to be approximately 60 km long and the area of inundated land is to be in the order of 36 km<sup>2</sup> at full supply level. The powerhouse is to contain four to five propeller or Kaplan turbines, or a combination of both.

Interconnecting transmission lines consisting of:

- a 735 kV transmission line between Gull Island and Churchill Falls; and,
- two 230 kV transmission lines between Muskrat Falls and Gull Island.

The 735 kV transmission line is to be approximately 200 km long and the 230 kV transmission lines are to be in the order of 60 km long. Both lines will likely be lattice-type steel structures. The location of the transmission lines is to be north of the Churchill River; the final route is the subject of a route selection

study that will be discussed in the EA. The lines between Muskrat Falls and Gull Island may be on separate towers, or combined on double-circuit structures.

- Other transmission infrastructure needed to transmit power to markets. (Note: If this transmission infrastructure is not included in the Environmental Assessment then the project **CANNOT** pass the test of Sustainable Development as stated in the first paragraph of the Guidelines Review under the section **Sustainable Development.** Why does the promoter not know the type and number of turbines proposed for the power houses or the composition of the transmission lines? Explain the need to have 2800 MW of electricity transmitted to Churchill Falls with no available lines to transmit it anywhere else.

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## Part II – Scope of the Environmental Assessment

The Panel shall consider the following factors in the EA of the Project/Undertaking:

**Part of the Environmental Assessment MUST include socio-economic issues. These must be addressed in your original list below?**

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1. Purpose of the Project/Undertaking The Lower Churchill Hydroelectric Project registration document (p. 14) states that development of the project will help achieve NL Hydro's core objective, which is the generation and transmission of safe, reliable, least-cost power to residents, businesses and industries of the Province. 1) Given this objective, the Panel must require full exposition of energy planning context in NL, including existing and planned resources, load forecasts, transmission issues, etc. If the proposal involves decommissioning an existing plant, the Panel must ask that the Proponent present expected service life remaining of that plant as well as Operating and Maintenance costs (including fuel) of continuing operation. It is the stated intent of the NL Government to export most of the power from the Project thus, the Panel must request information necessary to adequately assess profitability of this stated intent.
2. Need for the Project/Undertaking; The Panel must ask that the Proponent explain need/justification/rationale for the project including an evaluation of potential markets for electricity and trends in electricity conservation versus desire for the project. They must also ask that the Proponent provide information on the potential role of the Project in reducing greenhouse gas emissions. This section should be modeled on that in the Guidelines for EM1A/Rupert Panel Review and must distinguish types of justification and ask appropriate questions accordingly.
3. Alternative means of carrying out the Project/Undertaking that are technically and economically feasible and the environmental effects of any such alternative means;
4. Alternatives to the Project/Undertaking (Including but not limited to, other ways to spend 6 to 9 billion dollars upfront that might better benefit the Province as a whole and the Labrador region specifically and better help reduce Greenhouse Gases adding to Canada's commitment to Kyoto.) Under this heading the Panel should require the Proponent to make the people of the Province aware of the uncertainties within the energy sector of the day and the possibilities of "better" "more profitable" investments in other economic and energy projects. Also, the null alternative must be considered.
5. Extent to which biological diversity is affected by the Project/Undertaking;
6. Description of the present environment which may reasonably be expected to be affected, directly or indirectly, by the Project/Undertaking, including adequate baseline characterisation;
7. Description of the likely future condition of the environment within the expected life span of the Project/Undertaking if the Project/Undertaking was not approved;
8. Description of the past environment, before the Upper Churchill Project was built and a complete analysis of the environmental effects of this project on the eco-systems of the river

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valley, downstream and beyond. See [Annette Lutterman's dissertation Historical Changes in the Riparian Habitats of Labrador's Churchill River due to Flow Regulation: The Imperative of Cumulative Effects Assessment, Dalhousie University, Halifax, N.S., July 2007.](#)

9. Environmental Effects of the Project/Undertaking, including the Environmental Effects of malfunctions, accidents or unplanned events that may occur in connection with the Project/Undertaking; (Example: Currently a tug boat with fuel, base oil, battery acid, anti-freeze, hydraulic fluid and transmission oil remains partially submerged at the Gull Island site where SNC Lavelin, a subcontractor for NL Hydro, managed to get it overturned. At last report they state it is too dangerous to human life to try to remove it.) The Panel must ask that NL Hydro have contingency plans and funds in place for all possible malfunctions, accidents or unplanned events that could possible occur.) The Panel must ask NL Hydro to describe the effects on downstream dams if failure of CFLCo structure(s) upstream result in uncontrolled release of Smallwood reservoir water. They should provide maintenance records and forecasted maintenance requirements of all currently existing dykes and control structures of the Upper Churchill Project in order to determine if maintenance meets the stated requirements to maintain public safety and to predict the life of these structures. Also, the Panel must require NL Hydro to consider the possibility of dam induced earthquakes at the Gull Island site given the fact that both sides of the river valley contain faults. (These concerns must be taken seriously as information in recent newscasts indicates that up to 72 dams are at risk after recent earthquakes in China.)
10. Any cumulative Environmental Effects that are likely to result from the Project/Undertaking in combination with other projects or activities that have been or will be carried out;
11. The significance of the Environmental Effects as described in items 8 and 9;
12. Mitigation measures that are technically and economically feasible and that would mitigate any significant adverse Environmental Effects of the Project/Undertaking, including the interaction of these measures with existing management plans; [In the Proponent's study Churchill River Power Project Reservoir Preparation Plan LHP-98-6 Revised Final Report, it is reported that the cost of removal of merchantable volumes of productive and scrub softwood forest areas is well over \\$100,000,000. for the Gull Island reservoir and over \\$43,000,000. for the Muskrat Falls reservoir. A significant development since this study was done is the change in the forestry industry in the local area which resulted in a near total loss of demand for timber. It is therefore questionable that there would be recovery of the removal costs through sale of the timber. In addition, the Proponent has admitted in meetings that any forest areas deemed "unsafe for removal" would be left for the flooding. It is therefore doubly important that the costs of removal be included in the cost of the Project and that the flooded biomass be included in the calculation of methyl mercury contamination.](#)
13. Proposals for environmental compliance monitoring;
14. Measures to enhance any beneficial Environmental Effects;
15. Need for and requirements of any follow-up program in respect of the Project/Undertaking;
16. Capacity of renewable resources that are likely to be significantly affected by the Project/Undertaking to meet the needs of the present and those of the future;
17. Extent of application of the precautionary principle to the Project/Undertaking; and
18. Comments received from aboriginal organizations, the public and interested parties by the Panel during the EA;
19. Factors related to climate change including greenhouse gas emissions; [Provide documentation to prove that publicity statements/propaganda such as {coal fired generation produces X times the GHG's of Hydro Power, etc. Example-some coal burners with new type scrubbers can even be cleaner than some Hydro projects.}](#)

20. Proposed public information program. The proponent has refused to release some studies and also considers some of the available studies to be obsolete. E.g.: (new studies on methyl mercury done with Hydro Quebec where Hydro Quebec stated they are not ready to release this information.) Also, many of the studies done for this project are not peer reviewed. This must be addressed!
21. All economic costs of the Project, including but not limited to the decommissioning of the project at the end of its projected life span. (The word decommissioning must be the broadest sense of the word as in decommissioning of the dams and restoration of the river to its former state). A signed commitment for the removal of the dams should be made by the NL Government and NL Hydro, along with an establishment of a contingency fund prior to the dams being built.
22. Cumulative effects of the Project which span the widest possible area. For example- the inundation of fresh water with salt sea water will add to the world wide disappearance of fresh water as a whole and must be considered...methane gas emissions from the reservoirs contributing to Global Warming/Climate Change, etc. etc. along with any other country wide or global cumulative effects that would affect the health and wellbeing of future generations (This should be added to number 9 above.) Also, since the Proponent is claiming the Project will have a positive environmental effect on National and Global emissions of greenhouse gas, it is imperative that studies of the detrimental environmental effects beyond the watershed; i.e. nationally and globally should also be included. Also, the environmental, economic and social effects of the Upper Churchill MUST be included in Cumulative Effects.
23. In the draft guidelines under **Sustainable Development**, the following description is stated: "Sustainable development seeks to meet the needs of present generations without compromising the ability of future generations to meet their own needs. Its three objectives are 1) preserving environmental integrity, 2) improving social equity and 3) improving economic efficiency."
- The Panel must ask that the Proponent provide information on whether and, if so, how, their proposed project contributes to sustainable development.
24. A prime consideration of the Panel should be the adverse impact on a Valued Environmental Component: the people, communities and economy of Central Labrador and of Labrador as a whole. The Territory of Labrador is unique in its history and in its community development activities and trajectory. Our core values, defined by our people and local governments, support the principles of sustainable development based on the quality of the local environment. Local residents are deeply embedded within and dependent upon the terrestrial, riverine and marine ecosystems of the region: human health and well-being is intrinsically linked with the viability of the ecosystem. Examples: the river is used as a highway for winter travel via snow machine, ice fishing is one of the favourite winter pastimes, canoeing is a favourite summer pastime, berry picking along the river banks and the bogs is something most inhabitants do to supplement their winter groceries, as well as caribou hunting, duck and goose hunting and various other outdoor activities that can only continue if the eco-systems remain healthy. Therefore, it is extremely important that the impacts on the lives of local communities be considered in the Environmental Impact Statement.
25. The Panel must also require the Proponent to seriously consider and report on the socio-economic impacts this BOOM/BUST project will have on the local communities. Also, other socio-economic considerations must be presented.

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26. Adherence to the World Commission on Dams recommendations in their report *Dams and Development, A new Framework for Decision-Making*, (see the full report at [www.dams.org](http://www.dams.org))
27. Complete review of the 1980 Environmental Assessment and other studies done before and since including those mentioned by PhD. Candidate Annette Lutterman in her dissertation, *Historical Changes in the Riparian Habitats of Labrador's Churchill River due to Flow Regulation: The Imperative of Cumulative Effects Assessment*, submitted as partial fulfillment of the requirements for the degree of Doctor of Philosophy at Dalhousie University, Halifax, N.S. July 2007. Of particular interest is her reference to baseline studies in her draft of **Chapter 5 re Observations of the River Shoreline, Vegetation Before and After Regulation**, pages 102-220.
28. In order to mitigate the adverse effects of construction camps on the local community the Panel should require the Proponent to study and report on the alternative of using Happy Valley-Goose Bay as a bedroom community. It should be noted here that many of the women interviewed regarding work on this project say they will not or cannot, due to family situations, live away from home for entire weeks at a time. Therefore the gender equity of the project could be severely compromised.
29. In a demonstration of the commitment of the Project/Undertaking to the communities being affected, scholarship funds should be established for Labrador students going into post-secondary studies in the fields of environmental studies, engineering, and community development.

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To assist in the analysis and consideration of these issues, in addition to the Secretariat established by Canada and Newfoundland and Labrador to support the Panel, within its approved budget, the Panel may retain independent expertise to provide information on and help interpret technical and scientific issues and issues related to traditional knowledge and community knowledge.

#### Aboriginal Rights Considerations

The Panel will have the mandate to invite information from Aboriginal groups and people related to the nature and scope of potential or established Aboriginal rights or title in the area of the Project, as well as information on the potential adverse impacts or potential infringement that the Project will have on asserted or established Aboriginal rights or title.

The Panel shall include in its Report:

1. information provided by aboriginal related to traditional uses and strength of claim as it relates to the potential environmental effects of the project on recognized and asserted Aboriginal rights and title.
2. any concerns raised by Aboriginal groups related to potential impacts on asserted or established Aboriginal rights or title.

The Panel will not have a mandate to make any determinations as to:

- the validity or the strength of claim asserted by individual aboriginal groups
- the scope of the Crown's duty to consult aboriginal groups
- whether the Province or Canada has met its respective duty to consult and accommodate in respect of rights recognized and affirmed by s. 35 of the *Constitution Act, 1982*.

### Part III - Steps in the Environmental Assessment Process

The main steps in the EA by the Panel will be as follows:

#### 1. Site Visit:

The Panel will visit the proposed Project area to gain a first-hand understanding of the Project/Undertaking and its surroundings. The Panel visit to the site should be conducted by a totally unbiased entity. i.e. if the Innu Nation or any one else with a vested interest in seeing this project approved are involved in taking the Panel on a site visit this would constitute a conflict of interest since either of these entities would have valuable time alone with the Panel to propagate their side of the argument. The Panel must be careful to give all interested parties equal opportunity to present their case, therefore, if one of the above entities does end up taking the Panel on the site visit, then environmental groups and opponents to the project must be given the same time, opportunity and enough funding to show the Panel the opposing side of the argument.

#### 2. Public Information Centres

Public information centres will be established by the Panel at Happy Valley – Goose Bay, Sheshatshiu, Natuashish, and other locations in the Province as deemed appropriate by the Panel. These public information centres will be administered by the Secretariat.

#### 3. Joint Panel will issue the final EIS Guidelines

##### 3. (4.) Submission of the EIS

The Proponent shall submit to the Panel the EIS prepared in accordance with the EIS Guidelines issued by the Ministers. The tail appears to be wagging the dog here. The perception is that this process is skewed to favour the Proponent. In other Environmental Assessments such as Eastmain-1-A/Rupert Diversion Project and The Romaine Complex, the Panel signed off on the guidelines before they were submitted to the Proponent. Why is this project different? (See Procedures for an Assessment by a Review Panel, pursuant to s.58(1)(a) of the Canadian Environmental Assessment Act, November 1997). Quoting from the same document on finalizing the Guidelines 4.8.9 "Taking into account the comments it received on the draft guidelines, the review panel will finalize the guidelines. Once the guidelines are finalized, the review panel will issue them to the proponent and make them public." The draft guidelines were issued by the agency in December 2007, all comments were in by February 27, 2008 yet here we are on the 4<sup>th</sup> of July 2008 and still the panel has not been struck. It appears that the CEAA's own guidelines have been abandoned. The Panel shall direct the Proponent to distribute the EIS to aboriginal groups, the public, governments and other interested parties.

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##### 4. (5) Review of the EIS:

Within 7 days of receiving the EIS from the Proponent, the Panel shall initiate a 75-working day comment period (excludes weekends, public holidays and especially the Christmas holiday season) on the EIS. Aboriginal groups, the public, governments and other interested parties will be able to review the EIS and provide comments to the Panel on whether it adequately addresses the EIS Guidelines and whether additional information should be provided before public hearings are convened. The comments are to be provided either in writing or verbally by submitting quality recordings. Comments given verbally are to be considered as fully as written comments.

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##### 5. (6) Comments provided to the Proponent

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Comments received by the Panel during the comment period, shall be provided to the Proponent. The Proponent shall provide its response to the comments not later than 60 days following completion of the comment period.

#### 6. (7)EIS Sufficiency

The Panel shall review all comments received from aboriginal groups, the public, governments and other interested parties. Should deficiencies be identified as a result of the review of the EIS, and in consideration of any comments received from aboriginal groups, the public, governments and other interested parties, and in consideration of the Proponent's response to those comments, additional information may be required from the Proponent. Any request for additional information shall be issued within 30 days following the close of the comment period [or 60 days following receipt of written comments from the Proponent, whichever occurs later.] The Panel will determine the need, timing and location of any meetings required for the clarification of technical information.

#### 7. (8)Scheduling of Public Hearings

The Panel shall schedule and announce the start of the public hearings once the Panel is satisfied that sufficient information has been provided to allow it to do so. A minimum of 45-~~working~~-days notice ~~(excludes weekends, public holidays and especially the Christmas holiday season)~~ will be provided to aboriginal groups, the public, governments and other interested parties prior to the start of the public hearings. The Panel will schedule the public hearings to encourage the attendance and participation of aboriginal groups and the public.

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As required, the Panel will hold technical hearings on specific aspects of the Project/Undertaking in addition to community-based hearings focused on seeking the views of aboriginal governments/organizations and the public on the potential Environmental Effects of the Project/Undertaking.

#### 8. (9)Location of Public Hearings

The Panel will hold public hearings in locations determined by the Panel within the area likely to be affected by the Project/Undertaking, or in any area reasonably close to where the Project/Undertaking is proposed to be carried out, to provide convenient access for potentially affected aboriginal organizations and the public.

#### 9. (10)Conduct of Public Hearings

The Panel will conduct the public hearings in a manner which will:

- promote and facilitate the participation of aboriginal organizations, the public and interested parties in the project area,
- afford those aboriginal organizations, the public and interested parties an opportunity to present their views on the potential Environmental Effects of the Project/Undertaking; and
- ensure a thorough examination of matters relevant to its mandate.

The Panel will determine interpretation requirements for the public hearings and any other activities associated with the EA.

#### 10. (11)Length of Public Hearings

The public hearings will be completed within 45 days from the start of the hearings.

See provisions of Article 4.2(5-7 of Consultation Agreement ~~e.g.~~ Independent consultants.

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#### 11. (12)Delivery of Panel Report

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The Panel will deliver its report to Ministers within 90 days following the close of the public hearings. The report will take into account and reflect the views of all Panel members. The report will include:

- a description of the EA process, including public hearings
- an expression by the Panel of its judgement with respect to the need for the project, alternative means of carrying it out, and alternatives to the project. (as listed under Part II)
- the Panel's recommendation as to whether or not the project should proceed.
- the rationale, conclusions and recommendations of the Panel with respect to the nature and significance of the potential Environmental Effects of the Project/Undertaking,
- the Panel's recommendations concerning, as appropriate, any mitigation measures including, as pertinent, recommendations concerning the environmental management of the Project/Undertaking and follow-up programs
- a summary of any issues identified and comments and recommendations received from aboriginal organizations, and
- a summary of the issues raised and any comments and recommendations received from the public, governments and interested parties.

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## Translation and Interpretation

### Panel's Documents

The Panel's operational procedures, public notices pertaining to the Panel's meetings and hearings, detailed procedures for the conduct of the public hearings, and any information request or deficiency statement issued by the Panel will be translated into French and those aboriginal languages that the Panel deems necessary to enable open and effective participation in the process by aboriginal people and organizations. Reasonable measures will be taken to ensure that the translations will be made available, in written and/or audiovisual forms, on the Public Registry and at Public Information Centres in a timely manner following the public release of the English version by the Panel, and will be provided on request to individuals and groups.

The Executive Summary and Recommendations of the Panel report will be translated into French and those aboriginal languages that the Panel deems necessary to convey its key findings and recommendations to aboriginal people and organizations that have participated in the review process prior to public release of the Panel report. Such translations in written and/or audiovisual forms will be available on the Public Registry and at Public Information Centres at the same time as the English version of the Panel report to the public.

The Panel report will be translated in French and made available in a timely manner following Panel submission of the English version of the report. Translation of the remainder of the Panel report into aboriginal language(s) will be undertaken by the Governments and made available in a timely manner upon request from aboriginal organizations or the public.

### Proponent's Documents:

The Panel shall consult with the participating aboriginal organizations and the Proponent regarding which parts of the EIS and any other documentation or additional information prepared by the Proponent for the Panel for use during the Environmental Assessment of the Project/Undertaking will be translated into aboriginal language(s). As determined by the Panel, the Proponent shall translate those documents and shall ensure that all reasonable measures are taken to effect translations in a timely manner.

Translations of the EIS and other Proponent documents into aboriginal languages shall be made available in written and/or audiovisual forms, on the Public Registry and at Public Information Centres

Interpretation:

The Panel shall consult with participating aboriginal organizations prior to making a determination of interpretation requirements from English to aboriginal language(s) and from aboriginal languages into English for any public meetings hosted by the Panel and the public hearings, including the technical and community hearings, and any other interpretation requirements, and appropriate interpretation services will be provided by the Panel. Aboriginal translators/interpreters must not be currently, or previously employed by the Proponent or any of their subcontractors, or NL Government or the Innu Nation. To verify the translation the Proponent must have a translator/interpreter who is familiar with the rigorous academic approach of reverse translation.

DRAFT

**From:** Ann & Dave Raeburn  
**Sent:** 22 janvier 2008 12:51  
**To:** Pineau, Maryse [CEAA]  
**Cc:** pcarter@gov.nl.ca  
**Subject:** LOWER CHURCHILL (GRAND RIVER) PROJECT

Please accept this submission as my thoughts and concerns on the Proposed Lower Churchill Hydro Electric Project.

My concerns are with the physical properties of the river and how the Project would effect it, particularly below Muskrat Falls.

I live in the village of Mud Lake and so the river is my highway to the world. I travel the river on almost a daily basis year round, as do all the residents of Mud Lake. Everything from the mail to medical emergencies must rely on the river as a dependable transportation link to Happy Valley-Goose Bay and beyond. If you speak to the elders in Mud Lake and in Goose Bay, they will tell you that the river was changed dramatically by the Upper Churchill Project and so it follows that further changes would likely occur with the Lower Churchill Project.

The seasonal fluctuations in river volume were substantially reduced by the Upper Churchill Project. However there is still a large catchment area below Churchill Falls with many tributaries adding to the seasonal variations in river volume.

These seasonal variations appear to assist in "flushing" the river and generally keeping it as mother nature intended.

Damming the river at Gull Island and Muskrat Falls would virtually eliminate the seasonal variations in river volume below Muskrat Falls. The volume of water in the river below Muskrat Falls would be almost entirely controlled by the operation of the dam. There would be no seasonal changes in volume at all. This would have a dramatic effect on how the river behaves from several stand points.

Firstly, salinity, there are already traces of saline in the waters around the mouth of the river and in the Mud Lake area. This would likely be increased by the effects of the dam. The residents of Mud Lake rely on water from well points as their drinking water. I have heard of saline being found in water from well points in the area particularly at greater depths.

Damming the river would also have a major effect on the freezing and thawing of the river below Muskrat Falls. It would greatly increase the amount of time in the spring and fall when the river would be impassable either by boat or snowmobile.

The "freezing" time for the river, in the fall, is generally between 4 to 7 days. That is the amount of time the river is unusable either by boat or snowmobile. I believe that the reason for this relatively short "downtime" is that the temperatures in the upper reaches of the river towards Churchill are much colder and ice forms earlier upstream, breaks away and flows downstream, it is further broken up as it comes over Muskrat Falls.

This ice can be as thick as 6" to 12". As the water temperature cools and volume of ice flowing down the river increases the mouth of the river plugs up and very quickly you have rifted ice frozen together that is safe to travel on. This can happen in 24 to 48 hrs. However, this would not happen if the river was dammed at Muskrat Falls. The "downtime" for travel on the river would be increased from 1 week to possibly 4 to 6 weeks. It would be entirely dependant on local weather and temperature conditions.

In the spring, a similar situation in reverse would occur. The spring flood waters very quickly break up the ice and flush it out in the bay, but again with the dam in place, this could not occur. We would have to wait for the ice to melt dependant on weather conditions.

The summer season on the river is more difficult to predict. I think the water levels would be generally lower making it even more difficult to navigate between sand bars. The sand bars tend to move downstream annually by as much as 100 meters and the channels tend to change direction at times. This action may be reduced by the dam but this is very difficult to predict. It is possible that some dredging may have to occur to keep navigation open in the summer months.

**My submission to:**

**The Draft Environmental Impact Statement Guidelines for the Lower Churchill Hydroelectric Generation Project.**

**My name is James Purdy and I have a farm on Mud Lake Road a few hundred meters from the Grand (churchill) River.**

**I ask for the following to be included in the Environmental Assessment(s) and the findings published in the Environmental**

**Impact Statement:**

**1. Presently, the area between Muskrat Falls and the East Mechin River along both sides of the Trans Labrador Highway are closed for caribou hunting. The reason given by the Province is the protection of the Red Wine Mountain caribou herd. What is a good enough reason to use this area or part of it for a hydro reservoir, not intended to benefit us around here with more electricity or even cheaper rates, that will permanently displace these animals from their habitat? Another impact on wildlife would be the influx of large numbers of workmen, many who would hunt and sportfish, therefore I believe this effect of increase in hunting and fishing pressure, on both the wildlife resources and the local hunters and fishermen is very important and should be studied and assessed.**

**2. I understand that a very important part of a project like this requires a "need" be demonstrated. I do not believe there is an apparent or imagined need. The idea that this proposed hydroelectric generation project will fill or supply a need is untrue and should not be presented as fact. I will concede it would fill a desire for cheaper electricity and as history shows us the lower price electricity is the more it is wasted or used frivolously. The population of eastern North America, as of right now, is not experiencing blackouts, brownouts or people physically suffering from lack of electricity. In fact from where I sit, at 11:35 am, I see two houses with the outside lights left on. If there is a desire for cheaper electricity to, increase production of a commercial operation in, let's say Rhode Island, then I insist those people build a generating station in their own backyard. I do not believe a need for Lower Churchill destruction by a hydroelectric generation project has or can be demonstrated.**

**3. I read in the draft that the only transmission lines to be studied and included in the EIS are those proposed between Muskrat Falls and Gull Island and between Gull Island and Churchill Falls. This seems to be misleading at least. I have heard a 'proposed' transmission route to Newfoundland from the Premier of this province, no less. I also believe if this power were to be sent to Churchill Falls it would be sent some where else, the Town of Churchill Falls certainly has no need for more electricity. Therefore I believe there would be an increase in transmission capacity in the form of additional lines from Churchill Falls to wherever. I believe these matters should be in the EIS.**

**4. Decommissioning; I don't understand what the "approach for the decommissioning phase" means. I know all of the definitions of the words in that quotation however the quotation seems vague and the meaning escapes me. I would like to see the decommissioning process clearly, chronologically and results oriented described studied and described.**

**5. Temporary negative effects; one of the negative effects of the influx of a large number of men to an area is the 'leaving behind of fatherless children'. These children often are disadvantaged in upbringing, education, social acceptance and other hereditary rights. The impact on the area is most often financial. This area has experienced this already from the military.**

**6. Compensation program; being a farmer with land very near the bank of the Grand (Churchill) River. I am very concerned about a number of potential negative effects this project would likely cause. I am worried that the interruption in flow of the river by the filling and maintaining of the reservoir will upset and change the temperature moderating effect of the river water flowing by our farm. We are dependent on the river water to raise the air temperature in early spring, to cool the air on hot summer days and to prolong our growing season in the fall. This enables us to grow things on our farm which may not be successful, on a regular basis, a short distance away. We also worry that the disruption in flow and unnatural flow/rate times will allow the saltwater tide to salinate our groundwater supply on our sandy land farm.**

**James Purdy**

Sara McCarthy

To:

Maryse Pineau  
CEAA

Paul Carter  
Provincial Environmental Assessment Division

**RE: LOWER CHURCHILL DEVELOPMENT PROJECT**

Other than my great attachment to the Grand River, and the sorrow I will feel if it is destroyed to create yet another source of income for this resource robbing partnership of Newfoundland and Labrador, I have another motive for writing this letter. It is in regard to the global warming catastrophe that is happening right now and how we as a human race are ever going to solve it.

The point of this project is to create more power. More more more... all we do is consume and destroy everything in our path as we do it. We have dug ourselves in a treacherously deep hole of pollutants. With the completion of this project, we will send energy outside of Labrador, to do things like power car production factories, sell the cars at a low cost, have more cars on the road and create more greenhouse gasses! If the world is getting along fine right now with the amount of power it has, then there is no need for more. We are supposed to be going forwards by reducing our consumption instead of increasing it! By destroying a beautiful river to create more power we are doing the exact opposite.

The time will come for someone to step up to the plate and say that their province/state/country is going to make the first move towards a sustainable future for their people. A sustainable future for Labrador is one that is self-sufficient. Why not take this opportunity to say to the world- we value our land, our culture, our heritage, the possibility of ecotourism and our HEALTH more than the dollars such a project would bring in. Why set an example and find a way to get rid of the oil burning to heat homes that is happening in the North? Why not invest some extra dollars and build some wind turbines? This is the way the world needs to start thinking, and we should be right there in the front line.

You say this project is to benefit the people of our province. Well as a resident of Goose Bay I don't feel that I will benefit from this project. Where will this new income go? In what appears to be a race to un-isolate our communities of Labrador by funding the construction of habitat dividing roads, it seems as though we have become so money starved that we are willing to sacrifice what makes our province special in the first place. Why would anyone want to come see a damned river? Why would anyone of my friends (many of whom have already come from away to witness what I call the wonder of Labrador) want to make the journey up here to fish in poisoned waters?

I feel as though this project does not really have the future of our town, our province, or even of this world in mind. It's time to stop rolling downhill, to stand up, and to take that first step forwards.

Sara McCarthy  
BSc. Biology Hnrs. Zoology  
University of Guelph

Please accept this submission as my thoughts and concerns on the proposed Lower Churchill Hydro Electric Project.

I was listening to CBC Radio this morning and heard Max Blake of Rigolet talking about the Provincial Government's decision concerning the Metis proposal for the development of a wind turbine generating station in North Western Labrador that would benefit the people of this province, who are faced with the highest price of home heating fuel and the highest gas prices of anywhere in eastern Canada.

I have to agree with Max that if this proposal were made anywhere else on the island portion of this province, it would probably have the go ahead from government.

We, here in Labrador, have seen the same things happen in the past, ie, the chicken farm is one example, where the owner was required to dearly pay for a service that he was unable to get from the Egg Marketing Board as the operation was too far removed from the source, namely the Avalon Peninsula, for the Board to be able to pick up the extra produce, yet they expected to receive payment for such a service.

There is no need here to mention our GIVEAWAYS such as Churchill Falls Power, and the Iron Ore industries of Western Labrador., but what would have happened if Voisey's Bay Nickle had proposed to build a smelter in Labrador instead of on the Island, that would probably cause the Newfoundland Government to disallow production unless the smelter was built on the Island. Recently the only way that a logging industry could continue here was, because the logs could be shipped to the island to maintain the mills there. Now the Stephenville Mill is closed so there is no more logging in Labrador.

The government of Newfoundland and the Dictatorship of Labrador, now propose to develop the Lower Churchill Project and ruin the rest of a river valley that is one of the greatest tourist attractions in the area, or could be, if properly marketed.

Power for the portion of Labrador that is not now receiving electricity from Churchill Falls could have sufficient electricity from Churchill Falls, if the Tail Race at Churchill Falls were turned into a generating station, which with today's technology would not be such a great feat of engineering. The water flowing from the turbines of Churchill Falls, through the tail race would not damage any water turbine placed there, as water from this source would be free of particles, such as ice or debris, which could damage any turbines placed there, and with two generators, one on each side of the tail race, the amount of electricity generated, which was never measured, simply because of the short-sightedness of the afore mentioned people, who only want to develop mega projects which will ruin Labrador Rivers and employ contractors from the Island portion of the Province.

The money for a project such as this could come from the \$20,000,000 that the government is currently receiving for the recall power from Churchill Falls, which, as claimed by the government of Newfoundland and the dictatorship of Labrador, is for all the province, not just Labrador.

How much longer are we, Labradorians willing to stand by and let a dictatorship ruin our lives and cost us so much money in the meantime.

Could a study were undertaken with some serious thought and engineering with regards to the tail race, to generate power without sustainable damage to that portion of the river?

Someone already suggested that there is a study being done to harness the water of the Bay of Fundy in this manner, so I think that the same kind of study should be undertaken here in Labrador. Thanks for your time. Dave Massie

As a life-long resident of Mud Lake (Labrador) I am greatly concerned about the problems our community will face if the proposed Churchill project will go ahead.

Mud Lake is situated at the lower end of the Churchill (Grand) River. For at least six months of the year, we have to cross the river by boat to get our groceries, medical services, etc.

One of my concerns is that the water level at this end of the river will be too shallow for boats to cross.

Another concern (and there are many), is knowing that our fish and wildlife will be contaminated, and we depend on them for a large part of our diet.

It's sad to think of all the little birds and animals that will be destroyed. It must never be allowed to happen.

And what about us, the people who live by the river, will we be poisoned too?

I might also mention that our (Grand) River the most beautiful river in the Country, will be lost forever. Thank You.

Gwen Chaulk.

From:  
Sent: 25 janvier 2008 19:24  
To: Pineau, Maryse [CEAA]  
Subject: churchill river

I am writing this letter as a concerned citizen of Mud lake, Labrador. We're located about 7km down the river from Happy Valley-Goose Bay. I am retired from the United States Air Force and have been here since Sep 93. Since that time I have seen a dramatic change in the churchill River especially in the summer.

First of all, the only way to get to Mud Lake is by boat in the summer or ski- doo in the winter. The sandbars in the river have shifted and moved down river by the current until it's almost impossible to navigate, especially when the water is low. What is going to happen if they dam the river? You'll be able to walk across the river. That is not my only concern. Raw sewage is pumped into the river from Happy Valley-Goose Bay. What is going to happen then if the river is dammed. I am totally against damming the river because of the changes it's going to have on the fishery, tourism, and our general lifestyle. The fishery will be gone, period. Salt and brackish water is coming into our area now because of the flow or lack of flow from the river. I hate to ramble on but Labrador will not get any benefits from this project. Maybe a few construction jobs to begin with. Then the hydro is going to be sold outside the province. We've got communities on the coast of Labrador still on diesel power. Has anybody thought of wind power? Anyway in my opinion this project should not be done.

Sincerely, Reg Kerby

**Sent:** 28 janvier 2008 17:56

**To:** Pineau, Maryse [CEAA]

**Subject:** Re: Draft : Environment Impact Statement Guidelines on the Lower Churchill Hydroelectric Generation Project (Nfld& Labrador Hydro)

I want to express my opinion and deep concern how any Government can allow another hydro project to be developed on this great river. First I want to comment on the timing and length of time for people to voice their concerns. Where else only in Labrador or concerning Labrador would this be announced during the Christmas season with only one month to submit their views.

The residents of Labrador are still reeling from the disaster, destruction and devastation of our homeland from the Upper Churchill River hydro project. They dammed this great river, flooded our lands, destroyed fish habitat, wildlife, birds, and our trappers possessions without even notifying them that this was happening. They even changed the name of our river changing it from Grand/Hamilton to Churchill.

Today we are seeing it about to happen again.

This project if allowed to proceed will cause drastic, adverse environmental affects over all of Labrador, over all of Canada and the world. A huge ecosystem will be totally destroyed never to live again.

Damming rivers to provide electricity is not green energy and we should be looking at alternative sources

Further damming of this beautiful river will damage our culture, our heritage, our land, our water and even the air we breathe.

Governments continue to disregard how these life giving rivers and their ecosystems interact with our lives and sustain life itself. Once they are gone they are lost forever.

We want to be able to paddle the waters of this river in its natural state, allowing our wildlife to roam, our birds to fly, fish to be able to survive in their natural habitat, providing food and nourishment for our bodies and minds.

I can hear our ancestors calling us to all rally together to save this great wonder.(our River) This is our river, a very sacred place.It is partially destroyed,please leave the remainder in its natural state for us to enjoy and take care of for our future generations.

This river is a big part of our lives.If you destroy it you are also destroying us.

Daphne Roberts

**SUBMISSION to draft environmental guidelines for the LOWER CHURCHILL  
HYDROELECTRIC PROJECT.  
(Community Core Values)**

The proposed hydro project would see the destruction of my family's , back 4 or 5 generations, trap line and trapping area. These men trapped in the wintertime a hundred miles or more from home, left their families for months on end, lived alone in small log tilts, ate whatever meat they shot or trapped and worked very hard in a unforgiving environment to give their families an existence.

These men and many more like them eked out a bare living and built and enriched a multinational industry (Hudson Bay Company) and have little recognition for their sacrifices and effort.

**Our family** recognises them and honours them for their sacrifices, we have placed a bronze plaque at 'Slack Waters', the site of Joe Blake's, my grandfather, main tilt.

I consider it the most beautiful spot on Grand River. This is where he spent his working life, his career. This was his living quarters, his office, his warehouse, his business and his place of rest and Worship. This was his trapline, his alone, he owned it and he passed this ownership on to his descendants as it was passed down to him, so now we own it the same way he did. He defended his ownership in his way and in accordance with the times and what was at stake. Now it is our turn to defend **our** Slack Waters.

His main tilt and food cache are still there, near the plaque. They are used by the family, only a little for trapping, but are respected and preserved for their past.

All the way up the river, from Muskrat Fall to Churchill Falls sites have a similiar story of traplines, main tilts, ownership and loyalty to family exists and there is hard evidence, complete with names, faces, pictures and the sites. My non-european ancestors lived and made their home in this river valley since before it was 'discovered'. There is archaeological evidence of this land and river use.

I do not believe any government or any business has as much of a right to Slack Waters or the river as we do. The proponents of this hydro project have not demonstrated a need only a want for more, cheaper hydroelectricity. There is enough electricity in eastern north america as you can see by the nighttime satellite pictures. Tell 'them' to turn some lights off at night and while 'they' are at it some of the outside lights out during the day then they would have plenty.

This project, as proposed, would forever obliterate the very heart and lifeline of the original peoples of Central Labrador.

I state that anything more than a run of the river generation facility to let Labradorians have a enough electricity to get off relying on diesel is unacceptable.

Submitted by;  
Marjorie Goudie

FROM: FELSBERG ENTERPRISE

PHONE NO.: 709 896 3559

Jan. 27 2008 06:15PM P1

CIMFP Exhibit P-00352 - Tab 16

Page 126

## LOWER CHURCHILL HYDROELECTRIC GENERATION PROJECT

### DRAFT GUIDELINE COMMENTS submitted on January 28 2008

**P.12 2.1 Study Areas:** "The Proponent shall determine how far in the past the study should begin, and how far into the future it should be carried".

**Comment:** Considering that the downstream community of Mud Lake dates back to the mid 1800s, including especially trapping history up the river as far as the Height of Land, which contributed significantly to the affidavits for the 1927 Canada/Newfoundland Boundary Decision, and the Innu component goes much further back, WHY should the Proponent be determining the time span for the study? Shouldn't the Fed/Prov Governments be determining those limits?

**P.13 2.1 Study Areas:** "This description may include the following information: a)b)c) and d)"  
I suggest that this really should be saying MUST include, not may.

**P.33 7.0 Consultation with Aboriginal Groups and Communities.**

**Comment:** This title reads ambiguously. Are only aboriginal groups and communities to be addressed, or hopefully is everyone to be included? Perhaps, if clarified, the draft folk really do exclusively mean 'aboriginal'? If so, justification is required. And the same sentence appears to be incomplete: "The Proponent is to present...interests and concerns... with what? I suggest that the Proponent is to MAKE RESPONSES TO (...) Governments".

**P.34 8.0 Public Participation:** "As a minimum, public consultation meetings must be held in the communities of HVGB, NWR, Sheshashlu, Natuashish, ChF, and Lab West" Additional references throughout the text to Upper Lake Melville do not precisely define that district's communities re health, economics, etc.etc.

**Comment:** It is to be hoped that the above really is a minimum, as it omits Mud Lake, which MUST be included, because:-

- a) It is the oldest established community of all in the river valley, predating everyone else;
- b) It is the only one on the south side of the river;
- c) The residents travel and commute on the river, by boat and snowmobile 365/12/24/7 as absolutely no other community does;
- d) It is the community most impacted by steady erosion and sandbank development. How far will the drastic erosion from the Upper Churchill be assessed and analysed? What are the implications for seasonal dam release/water level controls/winter ice formation and safety? etc.
- e) The Public Hearings exercise MUST be demonstrated in the community, so that the Proponent and full-time can be fully aware of the geography and physical impact of commuter logistics, and implications for the impossibility of certain mitigation measures in the future - when the erosion occurs, no one is going to be able to put damaged shoreline back again.
- f) If inappropriately scheduled, it is possible that Mud Lakers will not be able to commute into HVGB for the Hearings, depending on the seasonal river/ice conditions, or adverse weather. The Proponent can reach the community by helicopter if absolutely necessary, though not acceptable, as the education level will thereby be sadly reduced.

In conclusion re the above points, I notice that although study parameters are to be established, nowhere is the actual word DOWNSTREAM mentioned, where physical impact will be very substantial - possibly overwhelming.

Susan Felsberg.

Thank you for your attention to the above remarks.

Jan 28 2008

-----Original Message-----

From:

Sent: February 1, 2008 2:56 PM

To: Pineau, Maryse [CEAA]; pcarter@gov.nl.ca

Subject: Suggested additions to the Guidelines - Lower Churchill  
Hydroelectric Generation project

Regarding The Proposed Construction of one or more dams on the Lower  
Churchill River \_

\*I believe that the following points should be included as essential  
components of the Environmental Assessment Guidelines being developed\*

1. It is very important to provide scientifically defensible estimates  
submitted by independent scholars/researchers on

1. The amount of forest acreage that will be flooded

2. The amount of methyl mercury that will be produced by  
the rotting vegetation

3. The concentration of methyl mercury in the river water  
that will result from the rotting of this vegetation

4. The amount by which this methyl mercury will add to the  
burden of methyl mercury already present in the river

5. The impact on the health of fish, wildlife and humans  
that is predicted will stem from their consumption of this contaminated  
river water, including the specific impacts envisioned on Aboriginal  
and Metis peoples who use the river for sustenance, survival and  
family recreation.

6. The predicted impact on aboriginal and Metis hunting and  
fishing activities

7. The predicted impact of the necessary flooding caused by  
each dam on soil erosion at the water's edge, and below it in the  
lake(s) that will form. Estimates also need to be made of the added  
sedimentation on the river bottom that will result from this erosion

8. The predicted rate of sedimentation behind the dam(s)  
and related estimates of how long the dam(s) will be viable as an  
electricity generating tool(s).

9. The predicted impact on fish spawning beds, and on fish  
survival rates more generally.

2. It is very important to obtain statements and interview material  
from persons from across Canada (and abroad) who have paddled the river  
(or otherwise traveled on it) to assess these users' opinions of the  
river as a natural heritage wonder, and as a national "drawing card"  
for naturalists, tourists and campers. In my opinion the nation stands  
to lose a magnificent waterway (in my eyes the most beautiful in all  
of  
Canada) if the Lower Churchill is dammed..

3. It is very important to obtain statements (gathered by independent researchers) from local Labradoreans (and especially from local Metis and aboriginal residents) about what they think should (or should not) happen to their "Grand" river.

4. A public hearing is essential, where real people can stand up and speak to the many issues directly, describing how any changes proposed will effect them and their specific life styles

I trust that this input will be helpful.

(signed)

Dr. Brenda Beck

Lifelong canoeist who has paddled many, many Northern Canadian rivers.

*Maryse Pinau* CIMFP Exhibit P-00352 - Tab 16 Page 129  
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To the Environmental Assessment Agencies

Re. The Lower Churchill Development Project

In September of 2006, I traveled on the Churchill River with a group of Innu. For ten days, I ate, slept, paddled, worked and talked with them. In our group were several young men, two of whom have had trouble with alcohol and drugs, and subsequent encounters with the justice system. Both have at times been suicidal. Going on the river was their way of straightening out. They had made up their minds to try and change the direction in which their lives were going and this was a step towards that.

Throughout the trip, they hunted for uscted as spotters when we ran the rapids, helped erect the huge tent we slept in, chopped wood, entertained the children with jokes and stories, and generally made themselves pleasant and useful. I was extraordinarily impressed with how they conducted themselves and by the skills they exhibited. They were no longer unemployed, loutish young corner boys, they were capable and competent woodsmen. The river transformed them.

I have seen both young men in Goose Bay since and while I'm sure they have their struggles, they seem to be making the progress they wanted and which we all hoped for them after that trip. I sincerely believe that if they had not gone on the river at that critical time in their lives, they might well be dead or brain damaged by now. The community as a whole would have lost two more young people to alcohol, drugs and despair.

I wish to stress here that taking these young men on any river would not have achieved what it did -- it had to be the Churchill. This was their heritage, a landscape they knew and understood, a river with which they have a spiritual bond. I fear for their lives and the lives of other young Innu if development destroys that for them.

I am not so naïve as to think we can continually turn our backs on development, but sometimes we must. This morning, as I write this, I heard on the news of a young First Nations father in Saskatchewan who apparently led his two young daughters into a park to freeze to death after he had been drinking. My mind went immediately to those two young men I met on the Churchill River. We *akenashau* have taken so much from them, and it has to stop. We must leave them something to live for.

I believe that the Lower Churchill Development should not proceed. Our Innu citizens are too fragile for such a drastic step at this time in history. If you destroy the river, people will die. They will drink themselves to death, they will drown in stupid accidents, they will take their own lives, and those of us who decided they were expendable in the cause of development will have their blood on our hands. The Environmental Assessment must examine the impact of the development on the humans who consider the river their home.

Sincerely,

Dr. Robin McGrath