TAB 7

Information Note
Department of Municipal Affairs and Environment

Title: Government's Response to the IEAC Recommendations on Methylmercury.

Issue: Newly constructed reservoirs can increase methylmercury (MeHg) in the food chain and expose human populations to increased levels in their diet. In April 2018 the Independent Experts Advisory Committee (IEAC) delivered four recommendations to reduce MeHg exposure and to help protect the health of the Indigenous and local populations. This note explains government's response to those recommendations.

Background and Current Status:

- MeHg is formed in water by methylating bacteria. Newly formed reservoirs provide bacteria with the necessary raw materials, including food in the form of organic matter. MeHg is built up through the food chain by bio-accumulation and bio-magnification. Human exposure to MeHg depends upon how much MeHg there is in the various foods and how much such food constitutes the person's diet.
- Two human bio-monitoring studies were carried out in the region, one by Calder et al. (for Harvard) the other by Golder & Associates (for Nalcor). Both performed extensive hair sampling for MeHg. Although the subject base differed, they came to similar conclusions. In Golder all 293 participants were below the respective Health Canada guidance values. In Calder, out of 474 participants, one female was slightly above the normal acceptable range and one male was also slightly above the normal acceptable range for adult males, ie increasing risk. No one was even near the "at risk" level.
- The objective of MeHg modelling by Calder et al has been to relate estimated increased MeHg production at the Muskrat Fall reservoir to increased MeHg in country foods and based on a typical food basket, to increased exposures in the area population. Furthermore, the same model was used in the IEAC process to test the effectiveness of mitigation scenarios such as soil removal and wetland capping.
- The IEAC's four recommendations were as follows…
    1. Nalcor undertake targeted removal of soil and capping of wetlands.
    2. Independent body to develop a community based monitoring program with pre-established benchmarks to act as triggers for pre-established actions.
    3. Posting of an impact security fund to ensure access to plentiful, high quality and culturally appropriate alternate foods.
    4. Independent body to provide communication advice on importance of safely eating country food now and to ensure proper advice if monitoring under Rec #2 indicates increases in MeHg.

Analysis

<u>Recommendation #1 – Soil Removal and Wetland Capping</u>

Nalcor undertake targeted removal of soil and capping of wetlands for the reduction of both the amount and duration of methylmercury production in the Muskrat Falls Reservoir as outlined in Annex A.

- Calder et al concluded that MeHg levels in the surface waters of Lake Melville would increase by an average factor of about 2.5 times. This would push up the MeHg concentration in country foods such that MeHg would increase from about 70% to about 89%.in a typical diet. This would not have much impact for most area residents but for some individuals, especially in Rigolet (95% percentile), MeHg exposure could exceed the Health Canada guidance values for the pTDI.
- Mitigation scenarios were quantified using the same Calder model. Soil removal would only reduce the MeHg exposure to the above small sub-group by 25%. If alternative input parameters were considered, the effectiveness could be as little as 6% reduction. For the wetland capping mitigation the effect is much smaller still, less than 2%.
- Subsequent to the IEAC work, independent consultants for Nalcor have concluded that Calder's estimates for MeHg production are too high, that the impact of country foods was overestimated based on the actual presence and consumption patterns of potentially affected species and that other factors that made Calder's model appear to overstate the issue. 4 of the 6 western scientists did not recommend soil removal.
- Surface water monitoring results in the Churchill River and in Lake Melville shows very little impact from the initial 25% flooding that has already taken place. In fact, surface water MeHg levels in Lake Melville are currently well below the starting value in Calder's model and about half of what Calder's model predicted for the present amount of reservoir impoundment.

Government Response:

- Based on lack of consensus, uncertainty in the theoretical modelling approach, possible adverse environmental effects of soil removal, Innu land claims and the fact that nowhere has soil removal for reservoir preparation to reduce MeHg ever been carried out, soil removal recommendation will not be accepted.
- Recognizing that wetland capping has very little theoretical benefit, it does give some long term benefit and does not present any environmental risks. It will be combined with fish habitat compensation. Wetland capping is therefore accepted.

Recommendation #2 – Monitoring

Recommend the design of a community-based monitoring program that answers questions about key indicators (i.e. water, key fish species, seal).

Provide ongoing oversight to the implementation of the monitoring program.

Develop pre-established benchmarks and appropriate responses to those results.

Government Response:

- Government will establish a committee with Indigenous groups and municipalities and appoint new Chair (Public Health Professional) to begin with the setting of new terms of reference for implementing this recommendation.
- Nalcor's current environmental monitoring programs will be examined for further community involvement.
- Nalcor to be a full participant and funding agency.

Recommendation #3 – Impact Security Fund

A significant fund to replace loss of country food and compensate for loss of traditional practices related to the harvesting of that food, and to compensate for impacts on human health, both physical and mental if there are impacts to country foods resulting from impoundment of the Muskrat Falls reservoir

Government Response:

- Government has committed that Nalcor must provide reasonable and appropriate compensation measures to address the impact of food consumption advisories.
- Government will discuss details with the affected parties in the context of the health management objectives and benchmarks set to triggers under the monitoring program.

Recommendation #4 – Health Management

Standard advice be provided to pregnant women and the community at large that it is important and safe to eat country foods

Form an independent body to develop and assist with the dissemination of communication materials.

Work with Indigenous and local populations to develop benchmarks for action to ensure an appropriate response and communication plan should methylmercury increases in country food be detected through monitoring Government Response:

Government Response:

- Government agrees with this recommendation.
- Government will establish a new committee with Indigenous groups and municipalities and appoint an independent public health professional to work on fully completing the recommendations.

Action Being Taken:

- Brief Labrador MHAs (done)
- Brief Federal Government officials
- Brief Federal MP for Labrador
- Meet with IEAC members
- Brief media
- News release and media availability

Prepared/Approved by: M. Goebel / J. Chippett, DM (pending)

Ministerial Approval: Received from Hon. Graham Letto (pending)

January 10, 2019

KEY MESSAGES

Municipal Affairs and Environment
Final Recommendations of IEAC
November 15, 2018

Summary:

- The IEAC made four recommendations to address the issue of methylmercury related to the Muskrat Falls Project. The recommendations included: a public information and education campaign to inform the public that consumption of country food and water are safe; implementation of a community-based monitoring program; an Impact Security Fund to guarantee continued access to local country food or safe alternatives; and targeted removal of soil and capping of wetlands in the future reservoir.
- The four recommendations were unanimously agreed to by the Indigenous groups and municipalities with the exception that targeted soil removal was not supported by the Innu Nation.

Anticipated Questions:

- Does the Provincial Government accept the recommendations of the IEAC?
- Why won't government require Nalcor to undertake targeted soil removal?
- When will implementation of the recommendations begin?

Key Messages:

- The Provincial Government has taken the concerns related to methylmercury associated with the Muskrat Falls Project very seriously and continue to work to ensure the health and safety of residents.

- The Department of Municipal Affairs and Environment is reviewing the IEAC's final recommendations.

- The Provincial Government recognizes that the recommendation that suggests targeted soil removal in combination with wetland capping, was not agreed upon by the voting IEAC members. At this time, no decision has been made on further reservoir clearing.

- In 2016 and 2017, Nalcor advanced mitigation activities within the Muskrat Falls reservoir below the 25 m elevation level and has cleared approximately 1,800 hectares.

- Additionally, the Department of Municipal Affairs and Environment continues to monitor water quality for methylmercury levels in the reservoir, downstream, and in Lake Melville, as was agreed upon by all parties in 2016.

- This water monitoring plan was developed collaboratively with the Indigenous Groups and the data is regularly shared with the groups and the public. Since the water quality monitoring was implemented, the methylmercury levels have at no time represented a risk to public health.

Secondary Messages:

- We look forward to working with Indigenous peoples and municipalities to maintain, and improve where needed, the monitoring program that has been endorsed by the IEAC.

- To date over a 1,000 water samples have been analyzed for methylmercury and many associated water parameters. Current levels of methylmercury in Lake Melville are in the order of 0.01 ng/L which is considered pristine. The future results will inform public health and education about methylmercury in food and water.

- The Provincial Government continues to work with the Innu Nation, Nunatsiavut Government, and the NunatuKavut Community Council and municipalities as we work together to address issues of methylmercury associated with the Muskrat Falls Project.

Drafted by: MAE Communications
Approved by: MAE Executive

Factsheet:

- The IEAC submitted final recommendations on methylmercury in April, including:
  - A public information campaign to reiterate that country food and water are safe.
  - An independent, community-based body to oversee the design and implementation of a monitoring program for the Muskrat Falls project and provide information relevant to the protection of human health.
  - Negotiation of an Impact Security Fund between the Province, Nalcor, Indigenous groups and local population
  - Targeted soil removal in combination with wetland capping. This recommendation was not agreed upon by the IEAC members. Three of the voting members (Nunatsiavut Government, NunatuKavut Community Council and Affected Municipalities) voted in favor; the Innu Nation supported covering the wetlands.

- The IEAC was formed following an October 2016 agreement that the Provincial Government, in partnership with the Innu Nation, Nunatsiavut Government, and the NunatuKavut Community Council, would establish an Independent Expert Advisory Committee to determine and recommend options for mitigating human health concerns related to methylmercury. Mitigation measures will be realized through utilizing best available science that incorporates Indigenous Traditional Knowledge.