

Date : 3/21/2017 2:14:27 PM
From : "Shea, Erin"
To : "Chippett, Jamie"
Cc : "Robinson, Lynn" , "Goebel, Martin"
Subject : FYI: NR KMs - Dam Safety at Muskrat Falls
Attachment : KMs - Dam Safety Response.doc;

FYI – here is what NR has prepared for KMs re Hatch. This is going through NR approvals now....

Thanks,
E.

From: Quinton, Diana
Sent: Tuesday, March 21, 2017 2:13 PM
To: Shea, Erin <ErinShea@gov.nl.ca>
Cc: Robinson, Lynn <LynnRobinson@gov.nl.ca>; Collins, Chrysta <ChrystaCollins@gov.nl.ca>
Subject: RE: KMs - Dam Safety at Muskrat Falls

Thanks. I've included these in our messages (still going through review here). Please see attached.

From: Shea, Erin
Sent: Tuesday, March 21, 2017 2:05 PM
To: Quinton, Diana
Cc: Robinson, Lynn
Subject: KMs - Dam Safety at Muskrat Falls

Please see these KMs from MAE, as discussed.

Thanks,
E.

Municipal Affairs and Environment
Dam Safety at Muskrat Falls
March 16, 2017

Summary:

The stability and safety of the dam at Muskrat Falls -- including the cofferdam and the North Spur -- has been questioned by local residents and those opposed to the project. The independent engineering assessment of the dam has just been released by Hatch Ltd., and questions may arise about the report's findings on dam safety. Questions: What government is doing to ensure the safety of residents downstream from the dam? How are you making sure that Nalcor is taking all necessary steps to make sure the dam will not fail?

Key messages:

- Owner/operators of dams are required to comply with the Canadian Dam Safety Guidelines as outlined by the Canadian Dam Association. These guidelines provide a framework for safety of dams.
- As regulator, the Department of Municipal Affairs and Environment has the responsibility to hold Nalcor to all terms and conditions of its permit under the *Water Resources Act*. Failure to comply with any terms and conditions would render the permit null and void.
- Representatives of the Department of Municipal Affairs and Environment meets with Nalcor on a regular basis to review regulatory compliance and any environmental matters relating to the construction activities. Officials of the Water Resources Management Division within the department also conduct monthly site inspections at Muskrat Falls.
- The Muskrat Falls Project must meet **all** Dam Safety Guidelines as outlined by the Canadian Dam association. To meet this guidelines Nalcor must:
 - Perform an annual dam safety inspection and provide the results to the Department;
 - Conduct a dam safety review and report to the department within two years of start of reservoir filling, and no later than every five years thereafter;
 - Prepare an Emergency Preparedness Plan, which Nalcor indicates that it has developed and shared with communities downstream.
- As the regulator, the Provincial Government ensures that operators are aware of their responsibilities in following best practices in dam safety.
- The Department of Municipal Affairs and Environment works with dam owners and operators to provide guidance to ensure they are meeting their obligations under the *Water Resources Act*.

Natural Resources**Hatch's Dam Safety Review and Audit**

March 21, 2017

Summary:

Uncle Gnarley posted a blog on Monday, March 20: DAM SAFETY REVIEW A "HATCH" JOB, SAYS ENGINEER. It was a guest post by retired engineer James Gordon. In the blog it states: I have read the "Hatch "Audit" released by Nalcor just a few days ago. The first issue that I noticed is that a company cannot "audit" its own work – it is a blaring conflict of interest, and I am surprised that Hatch accepted the assignment. Of course everything is perfect, why would Hatch say otherwise when commenting on their own work?" Stories about the dam safety review and audit have been on CBC, NTV and VOXM.

Key messages:

- We appreciate all viewpoints related to the Muskrat Falls Project which belongs to the people of Newfoundland and Labrador.
- However, it troubles us to hear alarmist allegations such as those related to conflict of interest.
- Nalcor, as project manager, has been clear that there is no conflict of interest in relation to Hatch's Dam Safety Review and Audit. This is because Hatch was not part of the construction of either the North Spur dam or cofferdam. Hatch is a reputable, international firm which has conducted work for the provincial government and Nalcor. We have no reason to question their credibility.
- Government is committed to strong governance and oversight to ensure Nalcor finishes the Muskrat Falls Project safely and in compliance with the highest standards of dam safety and construction under the leadership of renowned CEO Stan Marshall.
- The project has many layers of oversight which is expected given the project's size, cost and importance to the provincial electricity infrastructure.
- Oversight includes the Independent Engineer (MWH), the provincial oversight committee, the regulator - Department of Municipal Affairs and Environment, Nalcor's new Board of Directors, and independent consultants such as Hatch.
- We will continue to hold Nalcor accountable for the management of the Muskrat Falls Project.
- We encourage residents to review Hatch's Dam Safety Review and Audit which is available on Nalcor's website at http://muskratfalls.nalcorenergy.com/wp-content/uploads/2017/03/MF-Independent-Dam-Safety-Review-and-Audit-1_Hatch-Feb-2017.pdf

Secondary messages (Department of Municipal Affairs and Environment):

- Owner/operators of dams are required to comply with the Canadian Dam Safety Guidelines as outlined by the Canadian Dam Association. These guidelines provide a framework for safety of dams.
- As regulator, the Department of Municipal Affairs and Environment has the responsibility to hold Nalcor to all terms and conditions of its permit under the Water

Resources Act. Failure to comply with any terms and conditions would render the permit null and void.

- Representatives of the Department of Municipal Affairs and Environment meet with Nalcor on a regular basis to review regulatory compliance and any environmental matters relating to the construction activities. Officials of the Water Resources Management Division within the department also conduct monthly site inspections at Muskrat Falls.
- The Muskrat Falls Project must meet all Dam Safety Guidelines as outlined by the Canadian Dam association. To meet this guidelines Nalcor must:
 - Perform an annual dam safety inspection and provide the results to the Department;
 - Conduct a dam safety review and report to the department within two years of start of reservoir filling, and no later than every five years thereafter;
 - Prepare an Emergency Preparedness Plan, which Nalcor indicates that it has developed and shared with communities downstream.
- As the regulator, the Provincial Government ensures that operators are aware of their responsibilities in following best practices in dam safety.
- The Department of Municipal Affairs and Environment works with dam owners and operators to provide guidance to ensure they are meeting their obligations under the Water Resources Act.

Natural Resources

North Spur

March 21, 2017

Summary:

The stability and safety of the North Spur has been questioned by those opposed to the Muskrat Falls Project. Questions could be raised on what government is doing to ensure the safety of the North Spur to protect the people of Labrador.

Key messages:

- The North Spur dam has been reinforced and stabilized using industry-standard engineering practices. It is a critical piece of infrastructure for the Muskrat Falls hydro facility.
- The geology is well-known and has been studied and analyzed since 1965.
- Extensive field investigations by geotechnical experts informed the stabilization design.
- The design for the North Spur has been further validated through independent reviews by MWH Canada (the project's independent engineer) as well as Hatch Ltd.
- Stabilization works on the North Spur began in 2015 and was completed in late 2016.
- Independent public sessions in Labrador were held in January 2017 to provide information about the North Spur and to hear the concerns of residents.
- Nalcor has engaged Hatch to undertake a third-party review and audit of the Nalcor's Dam Safety Program.

Secondary messages (Department of Municipal Affairs and Environment):

- The North Spur stabilization is subject to all of the terms and conditions of the permit provided by the Department of Municipal Affairs and Environment under the Water Resources Act.
- As regulator, the Department of Municipal Affairs and Environment has the responsibility to hold Nalcor to all terms and conditions of this permit. Failure to comply with any terms and conditions will render the permit null and void.
- The North Spur also meets **all** Dam Safety Guidelines as outlined by the Canadian Dam association. To meet this guidelines Nalcor **must**:
 - Perform an annual dam safety inspection and provide the results to the Department of Environment and Climate Change;
 - Conduct a dam safety review and report to the department within two years of start of reservoir filling, and no later than every **five years thereafter**;
 - Prepare an Emergency Preparedness Plan, prior to filling.