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Mr. Lance Clarke
Lower Churchill Management Corporation
350 Torbay Road, Suite 2
St. John's, NL, A1A 4E1 CANADA

Subject: Lower Churchill, Phase 1 Development
Agreement LC-G-002
Engineering Procurement and Construction Management (EPCM) Services
Muskrat Falls – Drawdown of Reservoir

Dear Lance:

In a letter issued 28 October 2016, SNC-Lavalin presented commentary on the Partial Impoundment during Construction to el 25.0 m with an overview of the reasons behind the need of partial impoundment for ice cover formation and recommended that the level not be lowered once it is raised.

It is our understanding that the project is now being directed to lower the head pond level from the current level of 21.5 m, to the natural level above the Upper Falls (approximately El 17.0 m to El 18.0 m).

The head pond level has been elevated for a number of months and has reached a stable state. If the water level is lowered, it increases the risk of landslides in the head pond area, as stated in our previous letter: "Should the temporary head pond be drawn down to the natural conditions following the partial impoundment, this could trigger landslides of the reservoir rim that is already recognized as unstable. It may also lead to landslide generated waves that, due to the short warning time and the unpredictability of the intensity, could endanger the safety of the people working at the site." There would also be danger to people involved in recreational activity in the head pond (boating, hiking, etc).

Although we strongly recommend that the level not be modified, lowering by 0.5 m and waiting for 7 days had been suggested to help reduce this risk; however we understand that lowering that slowly is not acceptable. The lowering should not be faster than 0.5 m in one 24 hr period and then holding for a further 24 hrs before proceeding to the next increment, this might help to reduce the risk of damage to the existing geotechnical structures and reservoir rim, but that cannot be certain.



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SNC-Lavalin cannot be responsible for any damage that may occur to project structures from the lowering or from potential landslides, and recommends strongly against undertaking this action.

It is also emphasized that, as stated in our previous letter, that the water level must be raised to el 25 m to form the winter head pond prior to winter freeze up to mitigate the risk of serious damage to the infrastructure, including the risk of flooding the powerhouse.

Yours truly,

SNC-LAVALIN INC.

Joe Leone
Director of Project Services
Hydro & Power Delivery

c.c.: R. Power, S. O'Brien, P. Cattelan

