Review Comments

Point Lepreau License Renewal – External Hazards

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1 Introduction

1.1 General

The proposed external hazard assessments for Probalistic Maximum Storm, Probalistic Tsunami, High Wind and Extreme Rainfall affecting the Point Lepreau Generating Station (PLGS) have been reviewed and no specific concerns have been discovered with regards to the adequacy of the elements of these assessments. More specific comments for each parameter are addressed in Section 2.

1.2 Climate Change

There is now widespread scientific agreement by the Intergovernmental Panel on Climate Change Fifth Assessment Report (IPCC AR5, 2013) that accelerated climate change is happening and that human activities are the principal cause. However, measures to reduce greenhouse gas emissions are only part of the climate change challenge. Even if significant reductions in emissions were put in place tomorrow, the lag in the climate system means that past emissions will continue to affect the climate for several decades to come. Climate change will have impacts on places where citizens live. Proactively adapting to climate change is therefore an essential part of ensuring our communities remain safe, resilient and sustainable.

It is noted that no allowances have been made in the PLGS plans with regards to the potential impacts of climate change. In the opinion of this reviewer, sea-level rise is the most significant climate change parameter that will impact coastal locations. The most recent sea-level change estimates would result in a rise of slightly more than one metre near PLGS by year 2100 (Daigle, 2014), hence an accelaration from the regional rate of increase of near 30 cm in the past century.

While it is understood that climate change will not significantly impact PLGS during the upcoming 5-year licensing period, specific issues related particularly to sea-level rise should be considered in the longer time frames.

2 External Hazards

2.1 Probable Maximum Storm (PMS) Assessment

It is noted that CNSC staff have recommended that the existing Potential Maximum Storm (PMS) estimate needs to be updated for the next external hazard assessment. This reviewer believes that the PMS associated scenario of a tropical systen (hurricane or tropical storm) tracking just west of PLGS continues to be the type of meteorological set-up that would generate the most critical impacts. It is noted however, that even with an extreme climate change induced sea-level rise scenario of say, 2 metres, flooding of PLGS would not occur with the afore-mentioned PMS.

2.2 High Wind Assessment

No specific concerns have been noted.

2.3 Extreme Rainfall

No specific concerns have been noted.

2.4 Site Specific Probalistic Hazard Assessment

Reviewer agrees with the results of the exhaustive assessment submitted by Amec Foster Wheeler. The only caveat is that Climate Change induced sea-level rise in the longer term (beyond year 2050) could potentially enhance flooding risks for the CCW pump house for the worst-case tsunami scenarios.

3 Conclusion

This review has not discovered any concerns related to the submitted impacts related to the external hazards of Probalistic Maximum Storm, Probalistic Tsunami Assessment, High Wind Assessment and Extreme Rainfall Assessment affecting PLGS.

It is recommended however, that the lens of Climate Change be applied to future reviews.

4 References

IPCC, 2013: Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA

Daigle, R., 2014, Updated Sea-Level Rise and Flooding Estimates for New Brunswick Coastal Sections.

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