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January 18, 2018

Sent via eFile

BC HYDRO MRS TPL-001-4 ASSESSMENT REPORT
EXHIBIT A-2

Mr. Fred James
Chief Regulatory Officer
Regulatory & Rates Group
British Columbia Hydro and Power Authority
16th Floor – 333 Dunsmuir Street
Vancouver, BC V6B 5R3
bchydroregulatorygroup@bchydro.com

Re: British Columbia Hydro and Power Authority – Mandatory Reliability Standard TPL-001-4 Assessment Report – Project No. 1598932 – Information Request No. 1

Dear Mr. James:

Further to your May 3, 2017 filing of the Mandatory Reliability Standard TLP-001-4 Assessment Report, enclosed please find British Columbia Utilities Commission Information Request No. 1. In accordance with the Regulatory Timetable, please file your responses no later than Thursday, February 1, 2018.

Sincerely,

Original signed by:

Patrick Wruck

/ad
Enclosure



British Columbia Hydro and Power Authority
Mandatory Reliability Standard TPL-001-4 Assessment Report

INFORMATION REQUEST NO.1 TO BC HYDRO

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A. TERMS OF BC HYDRO TPL-001-4 ASSESSMENT REPORT

- 1.0 Reference: BC HYDRO IMPLEMENTATION COSTS OF MRS TPL-001-4
British Columbia Hydro and Power Authority (BC Hydro) Mandatory Reliability
Standard (MRS) TPL-001-4 Assessment Report, Section 3, p. 7; BC Hydro’s Adoption
Recommendation, Section 5.2, p. 17, Table 3
Revised Standard Final Assessment Summary**

On page 7 of the Assessment Report, BC Hydro states the one-time and ongoing implementation costs of TPL-001-4 as:

BC Hydro estimates that the cumulative cost for B.C. registered entities to achieve and maintain compliance with the Revised Standard (TPL-001-04) and the TPL-001-04 Terms being recommended for adoption in B.C. will be at least \$496,000 with respect to one-time costs, and at least \$43,000 on an annual ongoing basis.

On page 17, Table 3, of the Assessment Report, FortisBC Inc. (FBC) states the one-time and ongoing implementation costs of TPL-001-4 as:

One-time Costs (\$) – R1-R6, R8: \$30,000-\$50,000 total; studies using short circuit models with any planned generation and transmission facilities in service which could impact the study area will need to be developed and maintained. Minor modifications to the annual Fortis BC planning study will be required.

Ongoing Costs (\$/year) – R1-R6, R8: \$15,000 - \$20,000; new short circuit analyses will be required annually.

- 1.1 These provided one-time and annual costs are related to the incremental manpower required to demonstrate TPL-001-04 compliance. Please address the costs/benefits of needed incremental system enhancements to meet the performance requirements of the Revised Standard, particularly as they relate to Non-Consequential Load Loss (NCLL) as stated in footnote 12 on page 5 of the Assessment Report and the Spare Equipment Strategy Requirements (R2.1.5).
- 1.2 The purpose of TPL-001-04 studies is to identify reliability weaknesses. Does the Revised Standard identify new system performance issues that the previous Standard does not? If so, please list the reliability issues that the TPL-001-04 studies will identify and whether a budget has been allocated for associated system/equipment upgrade costs to address these reliability issues. If so, please provide a preliminary budget.

- 1.3 How would identified reliability issues from TPL-001-04 studies be addressed and what would be the schedule to correct these issues in order to become compliant with TPL-001-04? Please provide existing mechanisms and mitigation plans to ensure the system meets the reliability requirements of TPL-001-04.

2.0 Reference: MRS TPL-001-4 EFFECTIVE DATES
BC Hydro MRS TPL-001-4 Assessment Report, Section 5.3, p. 17, Table 3, Summary of Final Assessment of the Revised Standard Standard TPL-001-4 — Transmission System Planning Performance Requirements, Section A, p. 1
Introduction – Effective dates

On page 17, in Table 3 of the Assessment Report, BC Hydro states the effective dates for TPL-001-4 requirements as:

R1: First day of first calendar quarter, two years after BCUC adoption.

R2-R6, R8: First day of first calendar quarter, three years after BCUC adoption.

For 84 calendar months beginning the first day of the first calendar quarter following BCUC approval, Corrective Action Plans applying to the following categories of Contingencies and events identified in TPL-001-4.

On Page 1 of TPL-001-4, NERC outlines the effective dates for TPL-001-4 R1 through R7 as:

Requirements R1 and R7 as well as the definitions shall become effective on the first day of the first calendar quarter, 12 months after applicable regulatory approval.

Requirements R2 through R6 and Requirement R8 shall become effective on the first day of the first calendar quarter, 24 months after applicable regulatory approval.

- 2.1 The reported manpower requirements by BC Hydro and FBC associated with TPL-001-04 requirements do not appear consistent with a three-year implementation period, nor do they appear consistent with implementation dates of other jurisdictions. Please explain why the effective dates are approximately 2 to 3 times longer than the TPL-001-04 recommendation.
- 2.2 Are the extended effective dates due to multiple reliability issues anticipated in TPL-001-04 studies? If so, please list the reliability issues, their upgrade requirements, associated costs and existing reliability mechanisms that address these issues.

B. TECHNICAL REVIEW

3.0 Reference: MRS TPL-001-4 REQUIREMENT R7 PLANNING AUTHORITY / PLANNING COORDINATOR
BC Hydro MRS TPL-001-4 Assessment Report, Section 2.1, p. 2, Reliability Standards with Reliability Related Requirements for Planning Authority (PA)/ Planning Coordinator (PC); Standard TPL-001-4 — Transmission System Planning Performance Requirements, Section B, p. 7,
Requirements

Regarding requirement R7 of TPL-001-4 for PA/PC, on page 2 of the Assessment Report, BC Hydro states:

BC Hydro recommends that Requirement 7 of the Revised Standard be ordered by the Commission to be held in abeyance and be of no force or effect in B.C. until the PC matter as it pertains to B.C. is resolved.

NERC TPL-001-4 outlines requirement R7 as:

Each Planning Coordinator, in conjunction with each of its Transmission Planners, shall determine and identify each entity's individual and joint responsibilities for performing the required studies for the Planning Assessment.

- 3.1 Please describe the advantages and disadvantages to BC Hydro system reliability if TPL-001-04 requirement R7 were adopted, and explain how the reliability of BC Hydro systems experiences a degradation or improvement from requirement R7. In your response, please address the British Columbia Utilities Commission's (Commission) legal jurisdiction to order such an adoption.
- 3.2 Please determine the costs, labour and schedule for BC Hydro to implement TPL-001-04 requirement R7.

**4.0 Reference: MRS TPL-001-4 NON-CONSEQUENTIAL LOAD LOSS
BC Hydro MRS TPL-001-4 Assessment Report, Section 3, p. 5, Planned NCLL in BC;
Utilities Commission Act (UCA), Section 125.2(6)
Non-Consequential Load Loss - 75 MW limit**

Regarding footnote 12, for NCLL and a 75MW hard-cap, on page 5 of the Assessment Report, BC Hydro states:

The Revised Standard, under footnote '12', sets a limit of 75 MW of planned NCLL for US registered entities. BC Hydro is not a US registered entity, and it follows that if the Revised Standard is adopted as proposed, the 75 MW hard-cap on the use of NCLL will not be applicable to BC Hydro.

[I]information regarding the planned use and the amount of NCLL will be provided to the Commission as part of the Stakeholder Process and any Regulatory Review. In this regard, the Commission will be informed of the planned use of NCLL in B.C., so that it can direct its implementation, as required, on a case-by-case basis.

Section 125.2(6) of the UCA states the need for consistency with other jurisdictions for adopting Mandatory Reliability Standards:

After complying with subsection (5), the commission, subject to subsection (7), must, by order, adopt the reliability standards addressed in the report if the commission considers that the reliability standards are required to maintain or achieve consistency in British Columbia with other jurisdictions that have adopted the reliability standards.

- 4.1 If BC Hydro believes the TPL-001-4 NCLL of a 75MW limit is not applicable, what is the largest NCLL BC Hydro anticipates needing and does BC Hydro wish to implement this value as the NCLL limit?
- 4.2 As BC Hydro wishes to implement NCLL on a case by case basis, please list the anticipated contingencies that require NCLL, the load levels, the impacted entities and associated costs.
 - 4.2.1 Please provide a detailed analysis on how BC Hydro systems reliability would be affected if NCLL is not allowed.
- 4.3 Pursuant to Section 125.2(6), where it is stated that reliability standards are to be adopted to maintain or achieve consistency with other jurisdictions, please justify why BC Hydro does not believe the 75MW limit from the Revised Standard (TPL-001-4) is applicable and why it would have the Commission evaluate NCLL on a case by case basis.

- 4.4 Under BC Hydro's proposed standard for adoption, how frequently does BC Hydro expect NCLL to occur? Please explain your response including the factors under which NCLL would be anticipated in BC as a whole.
- 4.5 In the absence of a NCLL limit, how would BC Hydro envision the Commission evaluate each NCLL and their effects on the Bulk Electric System (BES) on a case by case basis?
- 4.6 In the absence of the 75MW limit, would the Commission take on any responsibility for the reliability of each NCLL in BC? Please explain your response.
- 4.7 Although TPL-001-4 allows for regulatory jurisdiction regarding NCLL levels, removing the NCLL limit may run counter to the overall planning objective of TPL-001-4, which is to "minimize the likelihood and magnitude of Non-Consequential Load Loss following planning events." Please provide BC Hydro's justifications for removing the NCLL limit, how this would affect the reliability of BC Hydro systems and if BC Hydro has a preferred NCLL limit.
- 4.8 Please provide an assessment regarding whether the reliability of BC Hydro systems would degrade or improve if the NCLL of a 75MW limit is adopted and describe how such an adoption might be implemented.
- 4.9 Does BC Hydro believe the Commission has the legal jurisdiction to order the NCLL of a 75MW hard-cap on BC MRS registrants? Please explain.

**5.0 Reference: TPL-001-4 ADOPTION RECOMMENDATION
BC Hydro MRS TPL-001-4 Assessment Report, Section 2.1, p. 2, Reliability Standards with Reliability Related Requirements for PA/PC; Section 7, p. 25
Conclusions**

On page 2, BC Hydro's final assessment of the Revised Standard (TPL-001-4) states:

BC Hydro recommends that Requirement 7 of the Revised Standard be ordered by the Commission to be held in abeyance and be of no force or effect in B.C. until the PC matter as it pertains to B.C. is resolved. As for the remaining Revised Standard requirements, BC Hydro does not see any adverse reliability risk at this time preventing a recommendation for adoption.

On page 17, Table 3 of the Assessment Report, BC Hydro states the effective dates for TPL-001-4 requirements as:

BC Hydro has assessed the Revised Standard adopted by FERC in the U.S. during the 2014 Assessment Period. BC Hydro has concluded that the Revised Standard will preserve or enhance the reliability of the BES in B.C., and thus will serve the public interest and is suitable for adoption in B.C. with the exception of TPL-001-4, Requirement 7, which is recommended to be held in abeyance until the PC matter as it pertains to B.C. is resolved. BC Hydro recommends that the Revised Standard, be adopted by the Commission.

- 5.1 Please explain and provide evidence on how BC Hydro determined that the Revised Standard (TPL-001-4) is not less stringent than the existing Standards that it would be replacing (i.e TPL-001-0.1, TPL-002-0b, TPL-003-0b, and TPL-004-0a) and therefore would not result in adverse reliability consequences.

- 5.2 BC Hydro’s final assessment of the Revised Standard (TPL-001-4) states no foreseeable adverse reliability risks preventing a recommendation for adoption. Please provide supporting evidence on how BC Hydro concluded that the adoption of the Revised Standard (TPL-001-4) will not have any “Adverse Reliability Consequences”, while replacing legacy reliability standards, and would improve the reliability of the Bulk Electric System (BES).
- 5.3 Please explain how TPL-001-4 would improve reliability and not degrade existing BES, when BC Hydro is not compliant with footnote 12, on page 5 of the Assessment Report, for NCLL (75MW limit) and requirement R7. In addition, please describe the benefit for the reliability of the BES if BC Hydro was compliant with footnote 12 and R7.