



AUC

Alberta Utilities Commission

Alberta Electric System Operator

**Christina Lake Area
240-kV Transmission System Development
Needs Identification Document**

April 24, 2012

The Alberta Utilities Commission

Decision 2012-112: Alberta Electric System Operator,
Christina Lake Area 240-kV Transmission System Development
Needs Identification Document
Application No. 1607795
Proceeding ID No. 1518

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1 Introduction and background

1. The Alberta Electric System Operator (AESO) filed a needs identification document (NID) with the Alberta Utilities Commission (AUC or the Commission) on October 20, 2011, under Section 34 of the *Electric Utilities Act*. In the application the AESO requested approval of the need for developing a 240-kilovolt (kV) transmission loop through the Christina Lake area, south of the city of Fort McMurray and northeast of the town of Lac La Biche, to serve the future load growth in both the near-term and long-term. The application was registered on October 20, 2011, as Application No. 1607795.

2. The Commission issued a first round of information requests to the AESO on November 9, 2011 and received responses from the AESO on November 16, 2011. The Commission issued a second round of information requests to the AESO on December 5, 2011, and received responses on December 12, 2011.

3. The Commission issued a notice of application respecting the NID application on December 16, 2011, with a deadline for submission to the Commission by January 20, 2012. The notice was sent to postal code addresses in areas provided by the AESO where the proposed transmission system development could be implemented, and to community organizations, First Nations and elected government officials in the Christina Lake area. The notice was also published in the local newspapers.

4. In response to the notice, six interested parties filed submissions indicating concerns with or support to the proposed transmission facilities. Three parties who have expressed their concerns with the NID application are the Métis Nation of Alberta Association, the Beaver Lake Cree Nation and the Conklin Métis Local #193. The three parties who supported the NID application were the Heart Lake First Nation, Devon Canada Corporation and Cenovus FCCL Ltd.

5. The Commission issued a letter to the Métis Nation of Alberta Association Region 1, the Conklin Métis Local #193 and the Beaver Lake Cree Nation, respectively, on March 22, 2012 asking for each party to provide more information about their respective objections to the NID application. Only the Conklin Métis Local #193 responded to the Commission's request. The Conklin Metis Local #193 stated that it had outstanding concerns about the NID application but did not intend to be further involved in the proceeding.

6. On April 20, 2012, the Commission issued a ruling on the standing of the Métis Nation of Alberta Association Region 1 and the Beaver Lake Cree Nation, respectively. The Commission found that neither of these two parties had established that they had rights that may be directly and adversely affected by the Commission's decision on the NID application. The Commission did not have to rule on the standing of the Conklin Métis Local #193 because it had already been advised that it would not participate in the proceeding.

7. Having decided that there was no party with standing to object to the application, the Commission decided that it was unnecessary to hold a hearing to consider the application. The Commission made its decision on the application based upon the record before it.

8. In reaching the determinations set out in this decision, the Commission considered all relevant materials comprising the record of this proceeding, including the evidence and submissions. References in this decision to specific parts of the record are intended to assist the reader in understanding the Commission's reasoning relating to a particular matter and should not be taken as an indication that the Commission did not consider all relevant portions of the record as it relates to that matter.

2 Discussion

9. The AESO stated that its NID application was prepared in response to several requests for transmission system access and the AESO's long-term load and generation growth forecasts in the Christina Lake area. The AESO had determined that expansion of the transmission system in the area would be required as soon as possible and proposed to develop a 240- kV transmission loop through the Christina Lake area to serve the future load growth in both the near-term and long-term.

10. In the NID, the AESO proposed first to build a new 240-kV switching substation along the existing 240-kV transmission line 971L in the Christina Lake area. The new substation, designated as CHL1 substation, would be commissioned by the second quarter of 2013 and would cost in the order of \$25 million (+/-30%, \$2013).

11. Secondly, the AESO proposed to build approximately 30 kilometres of double-circuit 240-kV transmission line from the proposed CHL1 substation to a second new substation, designated as CHL4 substation. The CHL4 substation would include two 240/138-kV 200-megavolt-ampere (MVA) transformers. Initially the line would be operating with one circuit strung, with summer rating of approximately 870-MVA and winter rating of approximately 1,100 MVA. The proposed in-service-date for these facilities would be in the second quarter of 2014. The estimated capital cost would be in the order of \$105 million (+/-30%, \$2014).

12. Thirdly, the AESO proposed to build approximately 60 kilometres of double-circuit 240-kV transmission line from the existing Heart Lake A898S substation to a third new substation, designated as CHL2 substation. The CHL2 substation would include one 240/138-kV 200-MVA transformer. In the same time frame, the AESO also proposed to build approximately 30 kilometres of double-circuit 240-kV transmission line between the proposed CHL2 and CHL4 substations. Initially the lines would be operating with one-circuit strung, with summer rating of approximately 870MVA and winter rating of approximately 1,100 MVA. The proposed in-service-date for these facilities would be in the second quarter of 2015.

13. Other proposed development to be commissioned in the second quarter of 2015 are:
 - i. Terminating the existing 240-kV transmission line 9L930 at Heart Lake A898S substation by using an in-and-out configuration. The transmission line 9L930 is presently bypassing Heartland A898S substation.
 - ii. Altering CHL2 substation to accommodate future 138-kV line terminations in the substation. The 138-kV lines would be originated from Winifred 818S substation and a future CNRL Kirby substation.
 - iii. Altering the termination of the existing 240-kV transmission line 957L at Christina Lake 723S substation to accommodate future 240-kV line terminations in the substation.

The estimated capital cost for all 2015 proposed facilities would be in the order of \$280 million (+/-30%, \$2015).

14. The AESO has developed three alternatives to address the need for the transmission system reinforcement in the Christina Lake area. Based on the reliability performance and flexibility of future system expansion, alternative 2 is selected as the proposed alternative because it provides a technically feasible solution to address the need.

15. The AESO carried out a participant involvement program between May 2011 and September 2011 to provide stakeholders with an opportunity to raise concerns regarding the need for the project. The AESO prepared an information package mailed to postal code addresses in areas where the proposed transmission system development could be implemented. One open house was held on June 29, 2011 in the Hamlet of Conklin. The AESO also advertised its intention to file the NID in the local newspapers.

3 Commission findings

16. The Commission reviewed the NID application and determined that it contains the information required by the *Electric Utilities Act*, the *Transmission Regulation*, and AUC Rule 007: *Applications for Power Plants, Substations, Transmission Lines, and Industrial System Designations* (AUC Rule 007).

17. The Commission is satisfied that it should approve the application. In coming to this decision the Commission had specific regard to the direction provided in subsections 38(a) through 38(e) of the *Transmission Regulation* as discussed in the following paragraphs.

18. The Commission considers that the level of detail presented by the AESO in the application was sufficient for its purposes, that is, it was sufficient to justify the need for the proposed transmission development in the Christina Lake area.

19. Subsection 38(a) of the *Transmission Regulation* provides that the Commission must:

- (a) have regard for the principle that it is in the public interest to foster
 - (i) an efficient and competitive generation market,

- (ii) a transmission system that is flexible, reliable and efficient and preserves options for future growth, and
- (iii) geographic separation for the purposes of ensuring reliability of the transmission system and efficient use of land, including the use of rights of way, corridors or other routes that already contain or provide for utility or energy infrastructure or the use of new rights of way, corridors or other routes, notwithstanding that geographic separation for the purposes of ensuring reliability of the transmission system or efficient use of land may result in additional costs,

20. The Commission is satisfied that the public interest criteria set out in subsection 38(a) are met. Reliable electrical transmission facility infrastructure is a prerequisite to having an efficient and competitive generation market. The AESO has studied the performance of the existing transmission system and the proposed alternatives under forecasted load, generation scenarios and different system conditions.¹ Having regard to the foregoing, the Commission finds that the AESO has demonstrated that there is need to upgrade the transmission system in the Christina Lake area.

21. The Commission is also satisfied that the AESO's proposed alternative 2 will provide a reliable and efficient transmission system which also has the flexibility for the future load growth and transmission system expansion.² The Commission finds that the other alternatives considered by the AESO were proposed for roughly the same geographic location as its preferred alternative and would have broadly similar land impacts.³

22. Pursuant to subsection 38(b) of the *Transmission Regulation* the Commission must:

- (b) have regard for the following matters when it considers an application for a transmission facility upgrade or expansion, or operations preparatory to the construction of a transmission facility, namely, the contribution of the proposed transmission facility:
 - (i) to improving transmission system reliability;
 - (ii) to a robust competitive market;
 - (iii) to improvements in transmission system efficiency;
 - (iv) to improvements in operational flexibility;
 - (v) to maintaining options for long term development of the transmission system;

23. The Commission is satisfied that the criteria set out in subsection 38(b) have been met. The AESO's proposed alternative 2 will enhance system reliability, efficiency and operational flexibility, which will consequently promote a robust competitive electric market.⁴ In this application, concerns about reliability, system efficiency and operational flexibility are met by means of new 240-kV substations, new transmission lines, and reconfiguration of some exiting

¹ Exhibit 0002.00, Application, Part A, Section 2.2, pages 3 to 4, Section 3.4, pages 8 to 9; Part B, Appendix A, Section 1.1, pages 5 to 6, Section 2.6 to 2.9, pages 10 to 14, Section 3 to 6, pages 19 to 42; Part B, Appendix B.

² Exhibit 0002.00, Application, Section 3.1, page 5, Section 3.4, pages 8 to 9; Part B, Appendix A, Section 5.4 page 38 and Section 6, pages 39 to 42.

³ Exhibit 0002.00, Application, Part A, Section 3.6, pages 9 to 10; Part B, Appendix E.

⁴ Exhibit 0002.00, Application, Section 3.4, pages 8 to 9; Part B, Appendix A, Section 5.4 page 38 and Section 6, pages 39 to 42.

transmission facilities. The Commission considers that the proposed transmission enforcement also preserves options for the long-term plan of the transmission system in the Christina Lake area by providing capacity to meet the forecast load until 2017.⁵

24. Subsections 38(c) and (d) of the *Transmission Regulation* state that the Commission must:

- (c) take into account the long term transmission system outlook document and the transmission system plan filed with the Commission,
- (d) take into account the ISO's responsibilities under the Act and regulations.

25. The Commission has reviewed the need identified by the AESO in the needs identification document together with references in the AESO's 2011 long-term transmission system plan which the AESO has filed with the Commission, and is satisfied that the needs application and the long term plan are consistent.⁶ The Commission also finds that this application is reflective of the AESO's responsibilities;⁷ in particular, its responsibility to direct the safe, reliable and economic operation of Alberta's interconnected transmission system⁸ and its responsibility to plan the transmission system.⁹

26. Finally, subsection 38(e) of the *Transmission Regulation* directs that the Commission must:

- (e) consider the ISO's assessment of the need to be correct unless an interested person satisfies the Commission that
 - (i) the ISO's assessment of the need is technically deficient, or
 - (ii) to approve the needs identification document would not be in the public interest.

27. The Commission finds that no interested person has demonstrated that the AESO's assessment of the need to expand and enhance the transmission system in the Christina Lake area and the AESO's choice of its proposed alternative are technically deficient or not in the public interest.

28. The Commission has reviewed the application in light of the principles and matters it is required to consider pursuant to Section 38 of the *Transmission Regulation*. No interested party has demonstrated that the AESO's assessment of the need to expand and enhance the transmission system in the Christina Lake area is technically deficient or that approval of the needs identification document is not in the public interest. Consequently, the Commission considers the AESO's assessment of need to be correct, in accordance with subsection 38(e) of the *Transmission Regulation*.

⁵ 2011 Draft AESO Transmission System Plan, Section 4.5.2.1, page 108, Section 4.5.2.2 to 4.5.2.4, pages 111 to 113, Section 4.6.1, page 130, Section 4.6.3, page 138.

⁶ 2011 Draft AESO Transmission System Plan, Section 4.5.2.1, page 108, Section 4.5.2.2 to 4.5.2.4, pages 111 to 113, Section 4.6.1, page 130, Section 4.6.3, page 138.

⁷ Exhibit 0002.00, Application, Section 1.1, page 1, Section 2.1, pages 2 to 3, Section 3.5, page 9, Section 3.6, pages 9 to 10 and Section 3.9, pages 12 and Part C, pages 18 to 20.

⁸ This responsibility is set out in Section 17(h) of the *Electric Utilities Act*.

⁹ This responsibility is set out in Section 15 of the *Transmission Regulation*.

4 Decision

29. The Commission approves the AESO's NID application as filed, pursuant to Section 34(1) (c) of the *Electric Utilities Act* and Section 38 (e) of the *Transmission Regulation*, and grants the approval set out in Appendix 1 – Need Identification Document – Approval No. U2012-195 – April 24, 2012 (Appendix 1 will be distributed separately).

Dated on April 24, 2012.

The Alberta Utilities Commission

(original signed by)

Anne Michaud
Panel Chair

(original signed by)

Bill Lyttle
Commission Member