



## Alberta Electric System Operator ENMAX Power Corporation

Calgary Business District  
Underground Cable Replacement  
Needs Identification Document and Facility Application

February 12, 2010

**ALBERTA UTILITIES COMMISSION**

Decision 2010-057: Alberta Electric System Operator and ENMAX Power Corporation  
Calgary Business District Underground Cable Replacement  
Application No. 1605351 & 1605443  
Proceeding ID. 277

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# ALBERTA UTILITIES COMMISSION

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Calgary Alberta

**ALBERTA ELECTRIC SYSTEM OPERATOR  
ENMAX POWER CORPORATION  
CALGARY BUSINESS DISTRICT  
UNDERGROUND CABLE REPLACEMENT**

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## 1 INTRODUCTION

1. On August 10, 2009, the Alberta Electric System Operator (the AESO) filed Application No. 1605351 with the Alberta Utilities Commission (the Commission or AUC) seeking approval of the Needs Identification Document (NID) for the replacement and upgrade of four existing 138-kV underground transmission cable circuits (Transmission Cables) in the Calgary Business District pursuant to section 34 of the *Electric Utilities Act*. The Transmission Cables that were the subject of the NID application are owned by ENMAX Power Corporation (ENMAX) and are described as follows:

- circuits 138-1.82L and 138-1.84L between No. 1 Substation and No. 5 Substation, and
- circuits 138-1.83L and 138-1.85L between No. 1 Substation and No. 8 Substation

2. The AESO directed ENMAX to submit a facility application to the Commission for the facilities that are required to meet the needs identified in the NID pursuant to section 35 of the *Electric Utilities Act*.

3. On September 10, 2009, ENMAX filed Application No. 1605443 (the Facility Application), with the Commission seeking approval to alter and operate the Transmission Cables. ENMAX proposed to replace the existing 138-1.82L and 138-1.84L high pressure oil insulated cables with cross-linked polyethylene (XLPE) cables of higher capacity and to replace the existing 138-1.83L and 138-1.85L low pressure oil insulated cables with XLPE cables of higher capacity (the Project). On October 8, 2009, ENMAX submitted additional information to the AUC to clarify information provided in the Facility Application.

4. The AESO also requested that the Commission consider both the NID and the Facility Applications (the Applications) jointly, pursuant to section 15.4 of the *Hydro and Electric Energy Act*.

## 2 BACKGROUND

### 2.1 Overview – the Process for New Transmission Development in Alberta

5. Two approvals from the AUC are required to build new transmission facilities in Alberta: an approval of the need for expansion or enhancement to the system pursuant to section 34 of the *Electric Utilities Act* and a permit to construct and operate a transmission line pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*.

6. Section 38 of the *Transmission Regulation* provides guidance to the Commission in the exercise of its jurisdiction in considering a NID application. Where no party objects to a NID, subsection 38(d) is of particular relevance. It states:

38 When considering whether to approve a needs identification document under section  
34 (3) of the Act 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.

7. Section 34 of the *Electric Utilities Act* provides the Commission with three different options for making a decision on a NID. The Commission may approve or deny the NID, or it may refer the NID back to the AESO with suggestions or directions for changes or additions.

8. Facility applications are prepared by a transmission facility owner (TFO) assigned by the AESO (in this instance the TFO is ENMAX). When considering an application for a transmission facility, the Commission must consider whether the proposed transmission line is in the public interest having regard for the social and economic effects of the transmission line and the effect of the transmission line on the environment.

9. Section 15.4 of the *Hydro and Electric Energy Act* allows the Commission to consider a NID and a facility application in a combined proceeding. In this proceeding the Commission considered the NID and the Facility Application jointly.

## **2.2 The NID Application**

10. The AESO stated that the Transmission Cables in the Calgary Business District were installed over 30 years ago. Due to aging, thermal capacity of the Transmission Cables had reduced. The AESO's power flow analysis showed that, due to the increasing load in the Calgary Business District, the Transmission Cables will be overloaded by 2012 under certain contingencies. The AESO also stated that there would be increasing maintenance issues due to the age of these cables. The AESO concluded that the Transmission Cables are close to the end of their useful lives.

11. The AESO initially proposed two alternatives to address the issues of the load growth in the Calgary Business District as well as the deterioration of the Transmission Cables:

- Alternative 1 - Replacement and upgrade of the existing cables.
- Alternative 2 - Addition of a new overhead and underground 138-kV circuit from ENMAX's No. 13 Substation to No. 8 Substation feeding the Calgary Business District from the transmission system in North Calgary.

12. The AESO's recommended option is Alternative 1 because the addition of more capacity to the Transmission Cables would also allow future flexibility in meeting the expected increasing load in the Calgary Business District. In addition, the AESO stated that this alternative would not preclude other alternatives in the future while simultaneously addressing the aging issue of the Transmission Cables. The AESO also submitted that implementation of Alternative 1 would not require a new transmission circuit.

13. The AESO rejected Alternative 2 because it did not address the problems with the existing Transmission Cables and would not eliminate the need to replace those cables in the near future.

### **2.3 The Facility Application**

14. To meet the need specified by the AESO in the NID, ENMAX proposes to:

- Install approximately 2 kilometres of 138-kV new XLPE underground power cable designated as 138-1.82L from No. 5 substation to No. 1 substation.
- Install approximately 2 kilometres of 138-kV new XLPE underground power cable designated as 138-1.84L from No. 5 substation to No. 1 substation.
- Install approximately 0.7 kilometres of 138-kV new XLPE underground power cable designated as 138-1.83L from No. 8 substation to No. 1 substation.
- Install approximately 0.7 kilometres of 138-kV new XLPE underground power cable designated as 138-1.85L from No. 8 substation to No. 1 substation.
- Install 138-kV line termination equipment at No. 5, No. 8, and No. 1 substations.
- Install appropriate protection and control updates as required to accommodate new conductors at No. 5, No. 8, and No. 1 substations.
- Salvage existing 138-1.82L, 138-1.84L, 138-1.83L and 138-1.85L transmission lines including termination and protection equipment at No. 5, No. 8, and No. 1 substations.

15. ENMAX specified that each segment of the new XLPE underground cables will have a minimum capacity of 300 MVA at any time of the year.

16. The estimated total cost of the Project submitted by ENMAX is \$57,239,574 (+20%/-10%).

17. In Appendix 3 of the Facility Application, ENMAX included its proposal to provide service to the AESO, which stated that ENMAX proposed to install a temporary overhead transmission line along 10th Avenue, Southwest between No. 5 Substation and No. 1 Substation. ENMAX stated that the temporary line would be in place to maintain the integrity of the downtown network system while transmission circuits 138-1.82L and 138-1.84L were being replaced. ENMAX also presented the consideration of the temporary transmission line during its participant involvement program with stakeholders.

18. On September 30, 2009, ENMAX sent a letter to all stakeholders informing them that ENMAX would no longer require the proposed temporary transmission line.

19. On October 8, 2009, ENMAX filed a letter with the Commission stating that ENMAX further evaluated the need for a temporary transmission line during the planning stages for the Project and determined that a temporary line was not necessary to ensure system reliability; it therefore withdrew its request for a temporary line in the final version of the Facility Application. ENMAX submitted in its letter that the \$1.2 million expenditure for the temporary transmission line would not be prudent given the low probability of shedding downtown load during the construction period.

20. The AESO, in conjunction with ENMAX, conducted a participation involvement program for the Project before the NID Application and Facility Application were filed with the Commission. The AESO stated that no objections were received regarding the need for this project. Likewise, ENMAX confirmed that, following completion of the participation involvement program, no objections or unresolved concerns regarding the Project were presented.

### **2.3 Information Requests, Notice, Objections and the Cancellation of the Public Hearing**

21. On October 23, 2009 the Commission issued information requests to the AESO and ENMAX. Both the AESO and ENMAX responded to the Commission's information requests on October 30, 2009. On November 20, 2009 the Commission issued a follow-up information request to ENMAX. ENMAX filed its response to this request on December 7, 2009.

22. The Commission issued a single Notice of Hearing to all interested parties on November 12, 2009. The Notice of Hearing was also published in the Calgary Herald and the Calgary Sun. The AUC also held two information sessions in downtown Calgary on November 23 and November 24, 2009, as announced in the Notice of Hearing.

23. On December 9, 2009 Mr. Jesse Brook, Facility Coordinator for CB Richard Ellis Global Corporate Services, wrote to the Commission to express concerns about the project. On December 18, 2010, the Commission received a second letter from Mr. Brook stating that ENMAX had addressed his company's concerns and that he had no objections to the Project. No other letters of objection or concern were received by the Commission.

24. As there were no outstanding objections to the Applications on Friday, December 18, 2009, deadline for submissions, and because the Commission was satisfied that a public hearing was not required to complete the record on either of the Applications, the AUC cancelled the scheduled hearing. A Notice of Hearing Cancellation was issued to all registered parties on January 13, 2010.

### 3 FINDINGS

#### 3.1 The NID Application

25. As no interested party has demonstrated that the AESO's assessment of the need to reinforce and enhance the transmission system in the Calgary Business District is technically deficient or that approval of the NID is not in the public interest, the Commission must therefore consider the AESO's assessment of need to be correct, in accordance with subsection 38(e) of the *Transmission Regulation*.

#### 3.2 The Facility Application

26. In its first and second information requests to ENMAX the Commission requested additional information regarding ENMAX's proposed soil/waste management plan. In response, ENMAX provided an outline of a management plan for testing, transportation, temporary storage and disposal of clean and affected soil. ENMAX stated that all excavated materials will be tested and disposed of at an appropriate waste handling facility. ENMAX further provided that any occurrences of contamination in the right-of-way of the Transmission Cables will be reported to the City of Calgary and Alberta Environment. ENMAX also stated it would ensure the trench would not act as a conduit for further migration of contaminants.

27. The Commission is satisfied that ENMAX has identified a prudent plan for the identification and disposal of any potential contaminants encountered in this replacement project. The Commission notes in this respect that ENMAX has acknowledged its obligation to report any contamination encountered in the course of the Project to the City of Calgary and to Alberta Environment. In the event that contamination is encountered, the Commission also requires notification. Should ENMAX encounter contaminated soils, ENMAX shall provide the Commission with a copy of all written reports filed with Alberta Environment pursuant to section 4 of the *Release Reporting Regulation*.

28. Having regard to the foregoing, the Commission finds that the Facility Application is technically complete and complies with the requirements prescribed by sections 14 and 15 of the *Hydro and Electric Energy Act* and by AUC Rule 007. The Commission also finds that the transmission development applied-for by ENMAX will fulfill the need identified in the NID. The Commission is satisfied that the Project is in the public interest, having regard to its social, economic and environmental impacts. In this respect the Commission observes that completion of the Project will enhance the capability and improve the reliability of the transmission system in an area that has been subject to significant growth. The Commission further notes that the Project is a replacement of existing facilities in an area that is already highly developed. Accordingly, the Commission is satisfied that the environmental impacts associated with the Project will be minimal. Finally, the Commission observes that it has received no objections to the Project notwithstanding the large number of parties that were given direct notice of the Applications. While lack of objections is not conclusive proof that a project will not have significant environmental, social or economic impacts, it is evidence that informed parties have not identified such concerns with the Project.

#### **4 DECISION**

29. As there are no objections or evidence from interested parties that the AESO's assessment of the need for and selection of Alternative 1 is technically deficient or not in the public interest, the Commission approves the NID as filed, pursuant to section 34 of the *Electric Utilities Act*.

30. The Commission also approves ENMAX's Facility Application subject to the following condition:

- If ENMAX encounters contaminated soils in the course of decommissioning and salvaging the existing underground oil insulated cables and installing the new XLPE cables, it shall immediately notify the Commission of such contamination and provide the Commission with any release reports prepared by ENMAX pursuant to section 4 of the *Release Reporting Regulation*.

31. Respective approvals set out in the Appendices are granted (the Appendices will be distributed separately).

Dated on February 12, 2010.

#### **ALBERTA UTILITIES COMMISSION**

*(original signed by)*

Willie Grieve  
Chair

*(original signed by)*

Tudor Beattie  
Commissioner

*(original signed by)*

Anne Michaud  
Commissioner