



**Alberta Electric System Operator  
Needs Identification Document Application**

**EPCOR Distribution & Transmission Inc.  
Facility Applications**

**Clover Bar Interconnection Project**

**July 19, 2023**

**Alberta Utilities Commission**

Decision 27676-D01-2023: Clover Bar Interconnection Project

Alberta Electric System Operator  
Needs Identification Document Application  
Proceeding 27676  
Application 27676-A001

EPCOR Distribution & Transmission Inc.  
Facility Applications  
Proceeding 27676  
Applications 27676-A002 to 27676-A004

July 19, 2023

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## **1 Decision summary**

1. In this decision, the Alberta Utilities Commission approves a needs identification document application from the Alberta Electric System Operator (AESO) and transmission facility applications from EPCOR Distribution & Transmission Inc. (EDTI) for the proposed Clover Bar Interconnection Project.

2. For the reasons outlined in this decision, the Commission finds the AESO's assessment of the need for the Clover Bar Interconnection Project to be correct and approves the AESO's needs identification document application. The Commission also approves applications from EDTI to construct and operate Transmission Line 1191L, including installing a fibre optic cable for communications, along the preferred route, to modify Clover Bar E987S Substation and to connect Transmission Line 1191L to Air Products Canada Ltd.'s (Air Products) new hydrogen production facility called the Edmonton 3 H2 Plant (hydrogen plant).

## **2 Introduction and background**

3. Air Products was granted approval<sup>1</sup> to construct and operate an electric system, designated as an industrial system, at its hydrogen plant, which includes a 90.5-megawatt (MW) combined-cycle power plant and a substation designated as Aurum Park 1007S Substation in northeast Edmonton.

4. To connect Air Products' hydrogen plant to the Alberta Interconnected Electric System, EDTI, the legal owner of the electric distribution and transmission systems of northeast Edmonton, and Air Products requested system access service from the AESO.

5. The AESO filed a needs identification document application with the Commission, under Section 34 of the *Electric Utilities Act*, for approval of the need to connect Air Products' hydrogen plant by a new 240-kilovolt (kV) transmission line.

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<sup>1</sup> Decision 27380-D01-2023: Air Products Canada Ltd. - Edmonton 3 H2 Power Plant, Substation and Industrial System Designation, Proceeding 27380, Applications 27380-A001 and 27380-A002, May 16, 2023.

6. EDTI filed three applications for the facilities to meet the need identified by the AESO as follows:

- Application 27676-A004, EDTI applied to add one new 240-kV, four-kilometre-long transmission line, designated as 1191L, to connect Air Product's approved Aurum Park 1007S Substation to EDTI's existing Clover Bar E987S Substation. In addition, it applied to add a new overhead optical ground wire, designated as Fibre Optic Cable FO-159.
- Application 27676-A003, EDTI applied to modify the existing Clover Bar E987S Substation, including adding two 240-kV circuit breakers and associated equipment.
- Application 27676-A002, EDTI applied to interconnect EDTI's proposed transmission line to Air Products' approved Aurum Park 1007S substation.

7. Under Section 15.4 of the *Hydro and Electric Energy Act*, the AESO and EDTI requested that the Commission consider the needs identification document application and the facility applications jointly. The Commission advised the AESO and EDTI that the applications had been combined and were being considered jointly as Proceeding 27676.

8. The Commission issued a notice of applications on October 27, 2022, in accordance with Rule 001: *Rules of Practice*. The Lac Ste. Anne Métis Community Association (LSAMCA) filed a statement of intent to participate objecting to the proposed transmission development.<sup>2</sup> The Commission denied LSAMCA standing as it did not demonstrate how construction of the transmission line and modifications to the existing substation may directly and adversely impact LSAMCA's asserted rights and interests.<sup>3</sup> The Commission did not hold a hearing given that the Commission considered that its decision on the proceeding would not directly and adversely affect the rights of a person pursuant to Section 9 of the *Alberta Utilities Commission Act*.

9. On January 13, 2023, the Commission placed Proceeding 27676 in abeyance because a decision on Air Products' combined-cycle power plant and substation had not yet been made in Proceeding 27380.

10. On May 17, 2023, the Commission resumed Proceeding 27676. However, the proceeding was again put in abeyance on May 26, 2023, at the request of EDTI for additional time to file updates to its applications. The Commission resumed processing the interconnection project applications on June 28, 2023, following the AESO's filing of confirmation that EDTI's updates did not require amendments to the needs identification document application.

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<sup>2</sup> Exhibit 27676-X0047, 2022 11 23 LT LSAMCA to AUC re LSAMCA SIP.

<sup>3</sup> Exhibit 27676-X0054, AUC letter - Ruling on standing.

### 3 Needs identification document application

11. To connect Air Products' hydrogen plant to the Alberta Interconnected Electric System, EDTI and Air Products submitted two separate system access service requests to the AESO.<sup>4</sup> EDTI's request included a new demand transmission service (DTS) with a contract capacity of 50 MW and a request for transmission development. Air Products' request included a new supply transmission service (STS) with a contract capacity of 20 MW and a request for transmission development.

12. In response to the system access service requests from EDTI and Air Products, the AESO examined nine alternatives to meet the need.

13. Alternatives 1 to 7 and 9 were ultimately eliminated.<sup>5</sup> The AESO selected Alternative 8 as the proposed transmission development, which includes the following major transmission system elements:

- Modification of the existing Clover Bar E987S Substation, including adding two 240-kV circuit breakers.
- Addition of one 240-kV circuit, approximately four kilometres in length, to connect Air Product's hydrogen plant to Clover Bar E987S Substation using a radial configuration.

14. The AESO stated that its proposed transmission development provides a reasonable opportunity for EDTI and Air Products to exchange electric energy and ancillary services, is consistent with its long-term plans for the Edmonton Planning Region, and will also address the distribution deficiencies that EDTI has identified under Section 105(1)(b) of the *Electric Utilities Act*.

15. The Commission finds that the needs identification document application filed by the AESO contains all the information required by the *Electric Utilities Act*, the *Transmission Regulation* and Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*.

16. The AESO directed EDTI to assist it in conducting a participant involvement program.<sup>6</sup> The Commission has reviewed the participant involvement program and finds that it meets the requirements of Rule 007.

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<sup>4</sup> The AESO explained that EDTI did not provide approval to Air Products to enter into an arrangement directly with the AESO for the provision of system access service under Section 101(2) of the *Electric Utilities Act*. EDTI will arrange for DTS from the AESO and provide service to Air Products pursuant to the applicable rates, and terms and conditions of its own distribution facility owner tariff.

<sup>5</sup> Air Products ruled out Alternative 1 due to lower reliability and potential limitations in future expandability. Alternatives 2 and 4 would result in Category B thermal criteria violations beyond emergency ratings, while Alternative 6 would result in lower reliability. Alternatives 3, 5 and 7 are electrically similar but require greater transmission development scope and higher cost; and Alternative 9 would require substation expansion and transmission line termination difficulties.

<sup>6</sup> Exhibit 27676-X0010, Appendix A-1 ISO Direction Letter, PDF page 1.

17. Section 38(e) of the *Transmission Regulation* provides that the Commission must consider the AESO's assessment of the need to be correct unless an interested person satisfies it that the AESO's assessment of the need is technically deficient, or approval of the needs identification document application is not in the public interest.

18. LSAMCA filed a statement of intent to participate objecting to the proposed transmission development; however, it was not granted standing in the proceeding and it failed to convince the Commission that approval of the need is not in the public interest or that the need is technically deficient. No other persons intervened in the proceeding to dispute the AESO's assessment of the need. The Commission, therefore, considers that the AESO's assessment of the need is correct and approves the AESO's needs identification document application.

#### **4 Facility applications**

19. The AESO directed EDTI to file facility applications for the development to meet the identified need. EDTI filed the three applications described in paragraph 6 of this decision.

20. The Commission finds that the facility applications filed by EDTI comply with the information requirements prescribed in Rule 007 and are consistent with the need identified by the AESO.

21. EDTI stated that it notified landowners, occupants, residents, mineral rights holders, industry stakeholders and other interested parties within 850 metres of the proposed transmission line and 200 metres of the Clover Bar E987S Substation, as well as elected officials and government agencies. EDTI also notified Enoch Cree Nation and Paul First Nation. The Commission is satisfied that EDTI's participant involvement program for the proposed transmission development meets the requirements of Rule 007.

22. EDTI retained Maskwa Environmental Consulting Ltd. (Maskwa) to provide siting support for the proposed Clover Bar Interconnection Project. As part of its route selection process, Maskwa identified three preliminary routes. One of these routes was rejected because of its higher overall impact.<sup>7</sup> Maskwa developed the preferred and alternate routes as shown in Figure 1. A portion of both routes is located in a transportation and utility corridor, shown by the purple lines in Figure 1.

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<sup>7</sup> Exhibit 27676-X0018, Appendix E-2 CloverBar\_Siting\_Technical\_Report\_20221013, PDF page 19.

Figure 1. Proposed preferred and alternate routes<sup>8</sup>

23. On June 14, 2023, EDTI filed an application update requesting approval to revise three structure locations approximately 15 metres to the east to align with the interconnection point at the Aurum Park 1007S Substation.<sup>9</sup> <sup>10</sup> EDTI stated that it notified the owners of the adjacent properties and there are no unresolved concerns from these stakeholders about the change in location of the three transmission line structures. EDTI also stated that no new environmental permitting or regulatory considerations are required for this change.

24. EDTI also retained Maskwa to conduct an environmental evaluation and to develop an environmental protection plan for its proposed Clover Bar Interconnection Project. The environmental evaluation concluded that after implementing mitigation measures residual effects for the preferred and alternate routes are limited and not significant. The Commission accepts that with EDTI's implementation of the mitigation measures outlined in the environmental protection plan, the environmental effects of the proposed transmission development, which is located in an urban, industrial area, can be minimized to an acceptable level.

<sup>8</sup> Routing map filed October 13, 2022, as PDF page 2 of Exhibit 27676-X0023.

<sup>9</sup> Exhibit 27676-X0069, 2023-06-14 EDTI Application Update.

<sup>10</sup> Exhibit 27676-X0071, Attachment 2 Revised Clover Bar Interconnection.

25. Maskwa stated that the preferred route is supported by its lower estimated cost, lower environmental impact, and a higher percentage of the route being located along existing developed roads. This will make the preferred route more accessible from an operations and maintenance perspective. It also has a lower potential for electrical effects and is the route preferred by the City of Edmonton. The alternate route, on the other hand, has higher estimated costs, higher environmental impacts, will require private land easements and will likely require pipeline mitigation due to paralleling a pipeline corridor for 800 metres.

26. The Commission agrees that the preferred route is environmentally preferable because it is proposed entirely along previous linear disturbances, avoids encroaching riparian areas and will likely require less tree clearing. In addition, the alternate route would require Edmonton City Council approval, as a portion of that route is located on city-owned parkland within the North Saskatchewan River Valley and Ravine System boundary.

27. The Commission finds that the interconnection of the proposed transmission line will result in negligible incremental environmental effects since the interconnection point will be located within the approved Aurum Park 1007S Substation site.

28. The proposed modifications at the existing Clover Bar E987S Substation, which include installing new equipment and extending the switchyard 25 metres east, will be within the existing fenceline on EDTI-owned property, and no new land or right-of-way acquisitions will be required. Since the proposed substation modifications will occur within the existing footprint of the substation, the Commission considers that this modification is unlikely to cause any incremental negative impacts on stakeholders or on the environment.

29. The Commission approves EDTI's proposed transmission development having regard for its social, economic and other effects, including its effects on the environment. The Commission finds approval of EDTI's applications to construct and operate and connect the proposed transmission development, specifically the preferred route and to alter the substation, to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.

## 5 Decision

30. Under Section 34 of the *Electric Utilities Act*, the Commission approves the need outlined in Application 27676-A001 and grants the Alberta Electric System Operator the approval set out in Appendix 1 – Needs Identification Document Approval 27676-D02-2023.

31. Under sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 27676-A003 and grants EPCOR Distribution & Transmission Inc. the approval set out in Appendix 2 – Substation Permit and Licence 27676-D03-2023 to alter the Clover Bar E987S Substation.

32. The appendices will be distributed separately.

33. Under sections 14, 15, 18 and 19 of the *Hydro and Electric Energy Act*, the Commission approves applications 27676-A002 and 27676-A004. Under Section 4 of the *Edmonton Restricted Development Area Regulations*, the Commission cannot issue a permit and licence for transmission facilities within the transportation and utility corridor without the prior written



consent of the Minister of Infrastructure. Therefore, the Commission approves the applications conditional to the Commission receiving ministerial consent from Alberta Infrastructure. The Commission will proceed to request ministerial consent from Alberta Infrastructure.

34. If Alberta Infrastructure decides to grant consent, a permit and licence for new Transmission Line 1191L and the associated Fibre Optic Cable FO-159 and an order for the interconnection will be issued as appendices 3 and 4 to this decision.

Dated on July 19, 2023.

**Alberta Utilities Commission**

*(original signed by)*

Cairns Price  
Commission Member