



Alberta Utilities Commission

In the Matter of the Need for the

Wheatland Wind Project Connection

**And in the matter of the *Electric Utilities Act*, S.A. 2003, c. E-5.1,
the *Alberta Utilities Commission Act*, S.A. 2007, c. A-37.2,
the *Hydro and Electric Energy Act*, R.S.A. 2000, c. H-16,
the Regulations made thereunder, and
Alberta Utilities Commission Rule 007**

**Application of the Alberta Electric System Operator for
Approval of the
Wheatland Wind Project Connection
Needs Identification Document**

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PART A - APPLICATION

1 Introduction

1.1 Application – Pursuant to Section 34(1)(c) of the *Electric Utilities Act* (Act), and in accordance with further provisions set out in legislation,¹ the Alberta Electric System Operator (AESO) applies to the Alberta Utilities Commission (Commission) for approval of the *Wheatland Wind Project Connection Needs Identification Document* (Application).

1.2 Application Overview – Wheatland Wind Project L.P., by its General Partner, Wheatland Wind Project Ltd., (market participant), has requested system access service (request) to connect its approved Wheatland Wind Project² (the Facility) to the transmission system in the Dorothy area (AESO Planning Area 43, Sheerness). The market participant expects the Facility to be commercially operational in Q4 2019.

The market participant's request includes a new Rate STS, *Supply Transmission Service*, contract capacity of 120 MW and a new Rate DTS, *Demand Transmission Service*, contract capacity of 1 MW in the Dorothy area. The market participant's request can be met by: adding the Parker 2072S substation with three 144 kilovolt (kV) circuit breakers; adding two 144 kV circuits to connect the proposed Parker 2072S substation to the existing 144 kV transmission line 7L85 using an in-and-out configuration; and adding a 144 kV circuit to connect the Facility to the proposed Parker 2072S substation (the "Proposed Transmission Development", as further described in Section 2.2). The scheduled in-service date for the Proposed Transmission Development is December 31, 2019.

This Application describes the need to respond to the market participant's request for system access service. Having followed the AESO Connection Process,³ the AESO has

¹ The *Alberta Utilities Commission Act*, S.A. 2007, c. A-37.2, the *Hydro and Electric Energy Act*, R.S.A. 2000, c. H-16, the Regulations made thereunder, and Alberta Utilities Commission Rule 007 (AUC Rule 007).

² The *Wheatland Wind Project* was originally approved by the Commission on September 7, 2018 in Decision 22643-D01-2018 and Power Plant Approval 22643-D02-2018.

³ For information purposes, refer to note iv of Part C of this Application for more information on the AESO Connection Process.

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determined that the Proposed Transmission Development provides a reasonable opportunity for the market participant to exchange electric energy and ancillary services. The Proposed Transmission Development is consistent with the AESO's long-term plans for the Central Planning Region, which includes the Dorothy area. The AESO, in accordance with its responsibility to respond to requests for system access service, submits this Application to the Commission for approval.^{4,5}

1.3 AESO Directions to the TFOs – During the AESO Connection Process, the AESO issued various directions to the legal owners of transmission facilities (TFOs) in the applicable service areas, including directions to assist the AESO in preparing this Application.⁶ In this case, the TFOs were ATCO Electric Ltd. (ATCO), and AltaLink Management Ltd. (AltaLink), in its capacity as general partner of AltaLink, L.P.

⁴ For information purposes, some of the legislative provisions relating to the AESO's planning duties and duty to provide system access service are referenced in notes i and ii of Part C of this Application.

⁵ Note v of Part C of this Application describes the Application scope in more detail.

⁶ The directions are described in more detail in the following sections of this Application and in Part C, note vi.

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2 Need Overview and Proposed Transmission Development

2.1 Duty to Provide Transmission System Access Service – The AESO, pursuant to its responsibilities under Section 29 of the Act, must provide system access service on the transmission system in a manner that gives all market participants a reasonable opportunity to exchange electric energy and ancillary services.

The market participant has requested system access service through a connection to the transmission system. In accordance with Section 34 of the Act, the AESO has determined that an expansion or enhancement of the transmission system is required to respond to the request, thereby establishing the need for this Application. The market participant has made the appropriate applications to the AESO to obtain transmission system access service.

The AESO, in consultation with the market participant and the TFOs, has determined that the Proposed Transmission Development is the preferred option to meet the market participant's request for system access service.

Through the AESO Connection Process, the AESO, in consultation with the market participant and the TFOs, has determined the characteristics of the Proposed Transmission Development and assessed the impacts that the Proposed Transmission Development and the associated generation would have on the transmission system. The AESO has issued directions to ATCO to prepare a transmission facility proposal⁷ (Facility Proposal) to meet the need to respond to the market participant's request.⁸

2.2 Proposed Transmission Development – The Proposed Transmission Development involves connecting the Facility to the transmission system, and consists of the following elements:

A. Proposed ATCO Development

1. Add one substation, to be designated as Parker 2072S, with three 144 kV circuit

⁷ Also referred to as facility application, or FA, under AUC Rule 007.

⁸ AltaLink has advised the AESO that its scope will not require the preparation of a Facility Proposal. As a result, the AESO did not direct AltaLink to prepare a Facility Proposal for this scope of work.

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breakers;

2. Add two 144 kV circuits to connect the proposed Parker 2072S substation to the existing 144 kV transmission line 7L85 using an in-and-out configuration with a minimum normal rating the same as, or higher than, the normal rating of the existing 144 kV transmission line 7L85;⁹
3. Add one 144 kV circuit to connect the Facility to the proposed Parker 2072S substation with a minimum rating of 134 MVA; and¹⁰
4. Modify, alter, add or remove equipment, including switchgear, and any operational, protection, control and telecommunication devices required to undertake the work as planned and ensure proper integration with the transmission system.¹¹

B. Proposed AltaLink Developments¹²

1. Add two relays (SEL 351S) and telecom equipment at the existing Bardo 197S substation, add an antenna to both existing telecom towers at the existing Bardo 197S substation and Camrose 9285R; and
2. Modify, alter, add or remove other equipment, including switchgear, and any

⁹ ATCO has estimated that the two 144 kV circuit that will connect the proposed Parker 2072S substation to the existing 144 kV transmission line 7L85, will each have a length of approximately 200 metres. This is subject to change as routing and/or siting is finalized by ATCO.

¹⁰ ATCO has estimated that the 144 kV circuit that will connect the proposed Parker 2072S substation to the market participant's approved Badlands 918S substation, which is part of the Facility, will have a length of approximately 20 metres. This is subject to change as routing and/or siting is finalized by ATCO.

¹¹ Details and configuration of equipment required for the Proposed Transmission Development, including substation single-line diagrams, are more specifically described in the AESO's Functional Specification included in ATCO's Facility Proposal. Also, further details will be determined as detailed engineering progresses and the market participant's operating requirements are finalized. Routing and/or siting of transmission facilities do not form part of this Application and are addressed in ATCO's Facility Proposal. Line numbering and substation names provided here are for ease of reference and are subject to change as engineering and design progresses. All aspects of the market participant facilities that may subsequently be connected to the Proposed Transmission Development are the responsibility of the market participant and are not included in the Application.

¹² AltaLink has advised that this is the scope of work that would be required to meet the AESO's Functional Specification. Since AltaLink will not be providing a Facility Proposal, an additional level of detail has been provided for the AltaLink scope of work.

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operational, protection, control and telecommunication devices required to undertake the work as planned and ensure proper integration with the transmission system.

2.3 Proposed Transmission Development Cost Estimate – The AESO directed the TFOs to prepare cost estimates for the Proposed Transmission Development, described in Section 2.2. ATCO has estimated the cost of its scope of work to be approximately \$9 million.¹³ In addition, AltaLink has estimated the cost of its scope of work to be approximately \$1 million.¹⁴ In accordance with the ISO tariff, the AESO has determined that all costs associated with the Proposed Transmission Development will be classified as participant-related.

2.4 Transmission Development Alternatives – In addition to the Proposed Transmission Development, four other transmission alternatives to respond to the market participant's request for system access service were examined:

1. **T-tap connection to the 144 kV transmission line 7L85** – This alternative involves connecting the Facility to the existing 144 kV transmission line 7L85 (between the Wintering Hills 804S substation and the Bullpound 803S tap point) using a t-tap configuration. This alternative would require the addition of a 144 kV circuit, approximately 200 metres in length. Although technically feasible, this alternative was rejected by the market participant due to the AESO's market participant requirements for a t-tap configuration that they would be required to implement.
2. **Radial connection to Wintering Hills 804S substation** – This alternative involves modifying the existing Wintering Hills 804S substation including adding one 144 kV circuit breaker, and connecting the Facility to the Wintering Hills 804S

¹³ The cost is in nominal dollars using a base year of 2018 with escalation considered. Further details of this cost estimate, which has an accuracy level of +20%/-10%, can be found in Appendix B.

¹⁴ The cost is in nominal dollars using a base year of 2018 with escalation considered. Further details of this cost estimate, which has an accuracy level of +30%/-30%, can be found in Appendix B.

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substation. This alternative would require the addition of a new 144 kV circuit, approximately 12 kilometres (km) in length. This alternative was ruled out due to increased transmission development, and hence increased overall cost, compared to the Proposed Transmission Development.

3. **Radial connection to Coyote Lake 963S substation** – This alternative involves modifying the existing Coyote Lake 963S substation, including adding one 144 kV circuit breaker and connecting the Facility to the Coyote Lake 963S substation. This alternative would require the addition of a 144 kV circuit, approximately 30 km in length. This alternative was ruled out due to increased transmission development, and hence increased overall cost, compared to the Proposed Transmission Development.
4. **Radial connection to Oakland 946S substation** – This alternative involves modifying the existing Oakland 946S substation, including adding one 144 kV circuit breaker and connecting the Facility to the Oakland 946S substation. This alternative would require the addition of a 144 kV circuit, approximately 66 km in length. This alternative was ruled out due to increased transmission development, and hence increased overall cost, compared to the Proposed Transmission Development.

The Proposed Transmission Development was selected as the preferred transmission alternative and forms the basis for the cost estimates and the connection assessment described herein.

2.5 Connection Assessment – Power flow, transient stability and short-circuit studies were conducted to assess the impact that the Proposed Transmission Development and the associated generation (the Project) would have on the transmission system.¹⁵ Power flow and short-circuit studies were conducted prior to and following connection of the Project and transient stability studies were performed for a post-connection scenario.

¹⁵ The connection assessment is included as Appendix A.

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These post-connection studies indicated that to mitigate Reliability Criteria violations under certain Category B contingencies, generation curtailment above the current Most Severe Single Contingency (MSSC) level may be required. This relates to thermal criteria violations observed on the 144 kV transmission line 7L50. Should this occur in real time, it would result in pre-contingency generation curtailment under Category A conditions.

However, at this time, the actual impact of the Project will depend on the actual energization timing of the Project as well as other planned generation facilities in the area. If the AESO anticipates that congestion under system normal (Category A) conditions will arise on the transmission system, then the AESO is required to file and obtain approval from the Commission for an “exception” under Section 15(2) of the *Transmission Regulation*. The AESO will notify market participants if and when the AESO determines it is necessary to apply to the Commission for approval of such an exception.

As a result of the post-connection study conclusions, post-connection power flow sensitivity studies were performed with the proposed Provost to Edgerton and Nilrem to Vermilion Transmission System Reinforcement (PENV) project¹⁶ in service to assess the ability of the PENV project to prevent pre-contingency generation curtailment.

Pre-Connection Assessment

The pre-connection assessment identified system performance issues. Under certain Category B conditions, Reliability Criteria violations were observed. In the studies, the following mitigation measures were identified as being effective in managing the pre-connection system performance issues:

- real-time operational practices;
- existing remedial action scheme (RAS) 32;

¹⁶ The PENV project was proposed in the AESO's *Needs Identification Document for the Provost to Edgerton and Nilrem to Vermilion Transmission System Reinforcement* (PENV NID), which was originally considered by the Commission in AUC Proceeding 22274. An amended version of the PENV NID is currently being considered by the Commission in AUC Proceeding 23429.

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- planned RAS 134;¹⁷
- planned RAS 138;¹⁸ and
- planned RAS 139.¹⁹

Post-Connection Assessment

Most of the system performance issues identified in the pre-connection assessment were identified in the post-connection assessment. In addition, new system performance issues were observed under certain Category B conditions. Most Reliability Criteria violations were exacerbated in the post-connection assessment compared to the pre-connection assessment and new Reliability Criteria violations were observed.

These Reliability Criteria violations relate to transmission constraints in the PENV area;²⁰ transmission constraints in the AESO planning areas of Hanna (Area 42) and Sheerness (Area 43); and limited transmission system transfer out capability from the Central East Sub-region to load centres in the rest of the AIES.

The observed Reliability Criteria violations on the 144 kV transmission line 7L50 relate to transmission constraints in the PENV area. Studies show that the combined mitigation

¹⁷ RAS 134 is an existing RAS. Modifications to existing RAS 134 were proposed by the AESO as a result of operational studies performed after the Sharp Hills Wind Farm Connection NID was submitted to the AUC for approval. The Sharp Hills Wind Farm Connection NID was approved on October 4, 2018 in AUC Decision 23066-D01-2018 and Approval 23066-D02-2018. This modified version of RAS 134 is referred to herein as “Planned RAS 134”. This RAS monitors the flow on the 138 kV transmission line 174L.

¹⁸ RAS 138 is an existing RAS. Modifications to existing RAS 138 were proposed for the approved Sharp Hills Wind Farm connection. These modifications to RAS 138 were identified in the approved Sharp Hills Wind Farm Connection NID. This modified version of RAS 138 is referred to herein as “Planned RAS 138”. This RAS monitors the flow on the 144 kV transmission line 7L50.

¹⁹ RAS 139 is an existing RAS. Modifications to existing RAS 139 were proposed for the approved Suncor Hand Hills Wind Project and BluEarth Hand Hills Wind Project connections. These modifications to RAS 139 were identified in the approved Suncor Hand Hills Wind Energy Connection NID and the approved BluEarth Hand Hills Wind Energy Connection NID, as originally approved by AUC Decision 2482-D01-2015 and Approval 2482-D03-2015 and Approval 2482-D02-2015, respectively. Further modifications to RAS 139 were proposed for the approved Sharp Hills Wind Farm connection. These modifications to RAS 139 were identified in the approved Sharp Hills Wind Farm Connection NID. This modified version of RAS 139 is referred to herein as “Planned RAS 139”. This RAS monitors the flow on the Nevis 766S transformer 901T.

²⁰ The PENV area includes the following five AESO Planning Areas: Vegreville (Area 56), Lloydminster (Area 13); Wainwright (Area 32); Provost (Area 37); and Alliance/Battle River (Area 36).

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measures of a modified planned RAS 134 and the planned RAS 138 could be used to manage these issues. The generation tied to these RAS will exceed the current MSSC level. When activated, studies show that generation curtailment in excess of the current MSSC level may be needed. To prevent this from occurring, in real time, pre-contingency generation curtailment under Category A conditions²¹ may be needed.

The observed Reliability Criteria violations on the 144 kV transmission line 7L171 and the Anderson 801S transformer 901T relate to transmission constraints in the AESO planning areas of Hanna (Area 42) and Sheerness (Area 43). These constraints are directly related to the Project and will be addressed by two new proposed RASs (currently designated as 7L171 RAS and Anderson 801S RAS).

The Reliability Criteria violations that were observed that are related to the limited transmission system transfer out capability from the Central East Sub-region include thermal violations on the 138 kV transmission line 174L and the Nevis 766S transformer 901T. To mitigate these observed Reliability Criteria violations, RASs that involve generation curtailment would be needed. The generation tied to these RASs will exceed the current MSSC level.

Studies show that the following mitigation measures are effective in managing the post-connection system performance issues:

- real-time operational practices;
- modifications to the planned RAS 134;
- planned RAS 138;
- existing RAS 32;
- modifications to the planned RAS 139;
- new 7L171 RAS; and

²¹ Category A conditions are also referred to as “normal operating conditions” and “system normal” in this Application.

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- new Anderson 801S RAS.

Sensitivity studies were performed to assess the ability of the proposed PENV project to prevent pre-contingency generation curtailment by alleviating Reliability Criteria violations on the 144 kV transmission line 7L50.

Post-Connection Assessment with the PENV Project

With the proposed PENV project in service, all the Reliability Criteria violations in the PENV area, including the 144 kV transmission line 7L50 that were observed in the post-connection assessment without the proposed PENV project were alleviated. As a result, once the proposed PENV project is in service, pre-contingency generation curtailment is not expected.

The observed Reliability Criteria violations on the 144 kV transmission line 7L171 and the Anderson 801S transformer 901T will still be addressed by the two proposed new RASs mentioned above.

The Reliability Criteria violations that were observed that are related to the limited transmission system transfer out capability from the Central East Sub-region, will still be managed by the same planned RASs. The generation tied to these RASs will still exceed the current MSSC level. The AESO plans to address the Central East Sub-region transfer out capability issues through future transmission projects.²²

Studies show that the following mitigation measures will continue to be effective in managing the remaining Reliability Criteria violations after PENV is in service:

- modifications to the planned RAS 134;
- modifications to the planned RAS 139;
- new 7L171 RAS; and
- new Anderson 801S RAS.

²² As described in the *AESO 2017 Long-term Transmission Plan*, available on the AESO website.

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2.6 AESO Forecast and Transmission System Plans – The AESO’s corporate forecast for the Central Planning Region is consistent with the generation and load associated with the Proposed Transmission Development.²³ The AESO’s corporate forecasts are used by the AESO to assess the adequacy of the regional transmission system and as a basis for identifying the need for transmission system expansion or enhancement. Therefore, the need associated with the Proposed Transmission Development is consistent with the AESO’s long-term plans for this region.

2.7 Transmission Dependencies – The Proposed Transmission Development does not require the completion of any AESO plans to expand or enhance the transmission system prior to connection. However, as stated above, it is anticipated that prior to the completion of the proposed PENV project, under certain conditions, generation curtailment above the current MSSC level may be needed to remove certain observed Reliability Criteria violations. Real time operation practices, which could include pre-contingency generation curtailment, would be required under such conditions until the proposed PENV project is in service. The anticipated in-service date for the PENV project is June 30, 2022.

The Reliability Criteria violations that relate to the limited transmission system transfer out capability from the Central East Sub-region to load centres in the rest of the AIES can continue to be mitigated through modified planned RAS 134 and modified planned RAS 139. As mentioned above, addressing these issues will be part of future AESO projects in the Central East Sub-region.

2.8 AESO Participant Involvement Program – The AESO directed ATCO to assist the AESO in conducting a participant involvement program (PIP). Between June and September 2018, ATCO and the AESO used various methods to notify stakeholders about the need for development and the AESO’s preferred option to respond to the system access service request. This included a notification to market participants that may be affected by the Project. In October 2018, the AESO notified stakeholders of its intention to

²³ The *AESO 2017 Long-term Outlook* provides forecasting information for the Central Planning Region, which includes the Proposed Transmission Development area.

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file this Application with the Commission. No outstanding concerns or objections have been raised regarding the need for the Proposed Transmission Development or the AESO's preferred option to respond to the system access service request. In addition, no concerns have been raised by the notified market participants.²⁴

2.9 Information Regarding AUC Rule 007, Section 6.2.2, NID23(3) – The AESO has been advised that ATCO's Facility Proposal addresses the requirements of AUC Rule 007, Section 6.2.2, NID23(3).²⁵ In consideration of this fact, and as the filing of the Application is combined with ATCO's Facility Proposal, the AESO has not undertaken a separate assessment of the sort contemplated in AUC Rule 007, Section 6.2.2, NID23(3).

2.10 Confirmation Date – In the event that the proposed facilities are not in service by December 31, 2019, which is the scheduled in-service date of the Project, the AESO will inform the Commission in writing if the need to expand or enhance the transmission system described in this Application continues, and if the technical solution described in this Application continues to be the AESO's preferred technical solution.²⁶ In addition, in the event that the AESO believes that the in-service date will not be met, and such delay will have a material impact on this Application, the AESO will advise the Commission of the same.

The AESO has been advised that the ATCO's Facility Proposal addresses the requirements of AUC Rule 007, Section 6.2.2, NID25(2). In consideration of this fact, and as the filing of this Application is combined with ATCO's Facility Proposal, the AESO has not included an implementation schedule of the sort contemplated in AUC Rule 007, Section 6.2.2, NID25(2).

²⁴ Further information regarding the AESO's PIP for this Application is included in Appendix C.

²⁵ Please refer to the letter included as Appendix D of this Application.

²⁶ A detailed project schedule, which includes potential limitations or constraints as contemplated in AUC Rule 007, NID25(2), can be found in ATCO's Facility Proposal.

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2.11 Approval is in the Public Interest – Having regard to the following:

- the transmission planning duties of the AESO as described in Sections 29, 33 and 34 of the Act;
- the market participant's request for system access service;
- the AESO's connection assessment;
- the TFOs' cost estimates for the Proposed Transmission Development;
- information obtained from AESO PIP activities; and
- the AESO's long-term transmission system plans;

it is the conclusion of the AESO that the Proposed Transmission Development provides a reasonable opportunity for the market participant to exchange electric energy and ancillary services. In consideration of these factors, the AESO submits that approval of this Application is in the public interest.

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3 Request to Combine this Application with the Facility Proposal for Consideration in a Single Process

3.1 Pursuant to Subsection 35(1) of the Act, the AESO has directed ATCO to prepare a Facility Proposal to meet the need identified. The AESO understands that ATCO's Facility Proposal will be filed shortly.²⁷ The AESO requests, and expects ATCO will request, that this Application be combined with the Facility Proposal for consideration by the Commission in a single process. This request is consistent with Section 15.4 of the *Hydro and Electric Energy Act* and Section 6 of AUC Rule 007.

3.2 While it is believed that this Application and the Facility Proposal will be materially consistent, the AESO respectfully requests that in its consideration of both, the Commission be mindful of the fact that the documents have been prepared separately and for different purposes. The purpose of this Application is to obtain approval of the need to respond to the market participant's request for system access service and provide a preliminary description of the manner proposed to meet that need. In contrast, the Facility Proposal will contain more detailed engineering and designs for the Proposed Transmission Development and seek approval for the construction and operation of specific facilities.

²⁷ The AESO understands that ATCO intends to file a Facility Proposal relating to this Application to be titled *Wheatland Transmission Project*.

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4 Relief Requested

4.1 The AESO submits that its assessment of the need to meet the market participant's request for system access service is technically complete and that approval is in the public interest.

4.2 In the event that the proposed facilities are not in service by December 31, 2019, which is the scheduled in-service date of the Project, the AESO will inform the Commission in writing if the need to expand or enhance the transmission system described in this Application continues, and if the technical solution described in this Application continues to be the AESO's preferred technical solution.

4.3 For the reasons set out herein, and pursuant to Section 34 of the Act, the AESO requests that the Commission approve this Application, including issuing an approval of the need to respond to the market participant's request for system access service, and to connect the Facility to the transmission system, by means of the following transmission development:

- A. The addition of one substation, to be designated as Parker 2072S, with three 144 kV circuit breakers;
- B. The addition of two 144 kV circuits to connect the proposed Parker 2072S substation to the existing 144 kV transmission line 7L85 using an in-and-out configuration with a minimum normal rating the same as, or higher than, the normal rating of the existing 144 kV transmission line 7L85;
- C. The addition of one 144 kV circuit to connect the Facility to the proposed Parker 2072S substation with a minimum rating of 134 MVA; and
- D. The modification, alteration, addition or removal of equipment, including switchgear, and any operational, protection, control and telecommunication devices required to undertake the work as planned and ensure proper integration with the transmission system.

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All of which is respectfully submitted this 8th day of November, 2018.

Alberta Electric System Operator

“Electronically submitted by”

Robert Davidson, P.Eng.
Director, Transmission Connection Projects

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PART B – APPLICATION APPENDICES

The following appended documents support the Application (Part A).

APPENDIX A **Connection Assessment** – Appendix A contains the *AESO Engineering Connection Assessment – Wheatland Wind Project Connection* that assesses the transmission system performance prior to and following the connection of the Proposed Transmission Development and the associated generation on the transmission system. As part of the AESO Connection Process, the market participant engaged a consultant to conduct the connection assessment studies. The AESO defined the study scope, and provided the system models and study assumptions. The AESO also reviewed the Connection Assessment Results report prepared by the consultant, and finds the Connection Assessment Results report acceptable for the purposes of assessing the impacts of the Proposed Transmission Development and the associated generation on the transmission system.

APPENDIX B **TFO Capital Cost Estimates** – Appendix B contains detailed cost estimates corresponding to the Proposed Transmission Development. These estimates have been prepared by the TFOs at the direction of the AESO, to an accuracy level of +20%/-10%, which exceeds the accuracy required by AUC Rule 007, NID24.

APPENDIX C **AESO PIP** – Appendix C contains a summary of the PIP activities conducted, in accordance with requirement NID27 and Appendix A2 of AUC Rule 007, regarding the need to respond to the market participant’s request for system access service. Copies of the relevant materials distributed during the PIP are attached for reference.

APPENDIX D **ATCO Information Regarding AUC Rule 007, Section 6.2.2, NID23(3)** – Appendix D contains a letter provided by ATCO confirming that the requirements of AUC Rule 007, NID23(3) will be addressed within the TFO’s Facility Proposal.

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PART C – REFERENCES

- i. **AESO Planning Duties and Responsibilities** – Certain aspects of the AESO’s duties and responsibilities with respect to planning the transmission system are described in the Act. For example, Section 17, Subsections (g), (h), (i), and (j), describe the general planning duties of the AESO.²⁸ Section 33 of the Act states that the AESO “must forecast the needs of Alberta and develop plans for the transmission system to provide efficient, reliable, and non-discriminatory system access service and the timely implementation of required transmission system expansions and enhancements.” Where, as in this case, the market participant (refer to note ii below) is requesting system access service, and the request requires or may require the expansion or enhancement of the capability of the transmission system, the AESO must prepare and submit for Commission approval, as per Section 34(1)(c), a needs identification document that describes the need to respond to requests for system access service, including the assessments undertaken by the AESO regarding the manner proposed to address that need. Other aspects of the AESO’s transmission planning duties and responsibilities are set out in Sections 8, 10, 11, and 15 of the *Transmission Regulation*.
- ii. **Duty to Provide Transmission System Access** – Section 29 of the Act states that the AESO “must provide system access service on the transmission system in a manner that gives all market participants [Wheatland Wind Project L.P. in this case] wishing to exchange electric energy and ancillary services a reasonable opportunity to do so.”
- iii. **AESO Planning Criteria** – In accordance with the Act, the AESO is required to plan a transmission system that satisfies applicable reliability standards. Transmission Planning (TPL) standards are included in the Alberta Reliability Standards, and are generally described at:
<https://www.aeso.ca/rules-standards-and-tariff/alberta-reliability-standards/>²⁹

In addition, the AESO’s *Transmission Planning Criteria – Basis and Assumptions* is included in Appendix A.

²⁸ The legislation and regulations refer to the Independent System Operator or ISO. "AESO" and "Alberta Electric System Operator" are the registered trade names of the Independent System Operator.

²⁹ This link is provided for ease of reference and does not form part of this Application.

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- iv. **AESO Connection Process** – For information purposes, the AESO Connection Process, which changes from time to time, is generally described at: <https://www.aeso.ca/grid/connecting-to-the-grid/connection-process/>³⁰
- v. **Application for Approval of the Need to Respond to a Request for System Access Service** – This Application is directed solely to the question of the need to respond to a request for system access service, as more fully described in the Act and the *Transmission Regulation*. This Application does not seek approval of those aspects of transmission development that are managed and executed separately from the needs identification document approval process. Other aspects of the AESO’s responsibilities regarding transmission development are managed under the appropriate processes, including the ISO rules, Alberta reliability standards and the ISO tariff, which are also subject to specific regulatory approvals. While the Application or its supporting appendices may refer to other processes or information from time to time, the inclusion of this information is for context and reference only.
- Any reference within the Application to market participants or other parties and/or the facilities they may own and operate or may wish to own and operate, does not constitute an application for approval of such facilities. The responsibility for seeking such regulatory or other approval remains the responsibility of the market participants or other parties.
- vi. **Directions to the TFOs** – Pursuant to Subsection 35(1) of the Act, the AESO has directed ATCO, in its capacity as a TFO in whose service territories the need is located, to prepare a Facility Proposal to meet the need identified. The Facility Proposal is also submitted to the Commission for approval. The AESO has also directed ATCO and AltaLink, pursuant to Section 39 of the Act and Section 14 of the *Transmission Regulation*, to assist in the preparation of the AESO’s Application. ATCO and AltaLink have also been directed by the AESO under Section 39 of the Act to prepare service proposals to address the need for the Proposed Transmission Development.
- vii. **Capital Cost Estimates** – The provision of capital costs estimates in the Application is for the purposes of relative comparison and context only. The requirements applicable to cost estimates that are used for transmission system planning purposes are set out in Section 25 of the *Transmission Regulation*, AUC Rule 007, and Section 504.5 of the ISO rules, *Service Proposals and Cost Estimating*.

³⁰ This link is provided for ease of reference and does not form part of this Application.