In the Matter of the Need for the Windrise Wind Power 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

Windrise Wind Power Project Connection

Needs Identification Document

Date: November 28, 2019

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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 *Windrise Wind Power Project Connection Needs Identification Document* (Application). This application is submitted in accordance with AUC Rule 007, Section 6.2.2, *ISO Abbreviated Needs Identification Document Application Information Requirements for System Access Service Requests by Generators*.

1.2 Application Overview – The market participant, Windrise Wind L.P. by its general partner Windrise Wind Energy Inc. (Windrise), a wholly owned subsidiary of TransAlta Corporation, has requested system access service to connect its approved Windrise Wind Power Project[2] (the Facility) to the transmission system in the Fort Macleod area (AESO Planning Area 53). The Facility includes Windrise's approved collector substation, designated as the Windrise 1063S substation. Windrise expects the Facility to be commercially operational in June 2021.

Windrise's request includes a new Rate STS, *Supply Transmission Service*, contract capacity of 207 MW and a new Rate DTS, *Demand Transmission Service*, contract capacity of 3 MW in the Fort Macleod area. Windrise's request indicated their intention to submit a proposal to construct and to temporarily operate some transmission facilities, as contemplated in Section 24.31 of the *Transmission Regulation* (TReg). Windrise's request can be met by adding one 138 kV circuit to connect the Facility to the existing Windy Flats 138S substation using a radial configuration, and upgrading the Windy Flats 138S substation (the Proposed Transmission Development, as further

[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] Decision 24699-D01-2019: Windrise Wind Energy Inc., on behalf of its general partner, Windrise Wind L.P. - Windrise Wind Power Project, Proceeding 24699, Applications 24699-A001 and 24699-A002, October 18, 2019

described in Section 2.2). The scheduled in-service date for the Proposed Transmission Development is December 17, 2020.

This Application describes the need to respond to Windrise's request for system access service, and the AESO's determination of the manner in which to respond to the request. Having followed the AESO Connection Process,[3] the AESO has determined that the Proposed Transmission Development provides a reasonable opportunity for Windrise to exchange electric energy and ancillary services. The Proposed Transmission Development is consistent with the AESO's long-term plans for the South Planning Region, which includes the Fort Macleod area. The AESO submits this Application to the Commission for approval in accordance with the AESO's responsibility to respond to requests for system access service, and having determined that transmission development is required and is in the public interest.[4,5]

1.3 Market Participant Proposal – Windrise submitted a proposal to the AESO, pursuant to Section 24.31 of the TReg (Market Participant Proposal), for the construction and temporary operation of a transmission facility, specifically the Proposed Windrise Development defined in Section 2.2 below.

A completed Market Participant Proposal was submitted by Windrise on November 26, 2019. Subsequently, on November 27, 2019, the AESO conditionally approved the Market Participant Proposal pursuant to Section 36 of the Act, and in accordance with Section 35(1)(b) of the Act, specified the time within which Windrise was to submit, for Commission approval under the *Hydro and Electric Energy Act* (HEEA), a transmission facility proposal[6] (Facility Proposal) for the Proposed Windrise Development.

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

[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] Also referred to as facility application under AUC Rule 007.

1.4 AESO Directions to the TFO – During the AESO Connection Process, the AESO issued various directions to the legal owner of transmission facilities (TFO), in this case, AltaLink Management Ltd. (AltaLink), in its capacity as general partner of AltaLink L.P., including direction to submit, for Commission approval under the HEEA, a Facility Proposal for the Proposed AltaLink Development, as defined in Section 2.2.[7]

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

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 AESO, in consultation with Windrise and the TFO, has determined that the Proposed Transmission Development is the preferred option to provide Windrise with a reasonable opportunity to exchange electric energy and ancillary services. In accordance with Section 34 of the Act, the AESO has determined that the Proposed Transmission Development will result in an expansion or enhancement of the transmission system thereby establishing the need for this Application. Windrise has made the appropriate applications to the AESO to obtain transmission system access service.

Through the AESO Connection Process, the AESO, in consultation with Windrise and the TFO, has determined the Proposed Transmission Development and has assessed the impacts that the Proposed Transmission Development and the associated generation would have on the Alberta interconnected electric system.

2.2 Proposed Transmission Development – The Proposed Transmission Development involves connecting the Facility to the transmission system, and consists of: [8]

A. The Proposed Windrise Development, which includes transmission facilities that, as contemplated by Section 24.31 of the TReg, will be constructed by

[8] 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 Windrise's Facility Proposal and AltaLink's Facility Proposal. Also, further details will be determined as detailed engineering progresses and Windrise's operating requirements are finalized. Routing and/or siting of transmission facilities do not form part of this Application and are addressed in Windrise's Facility Proposal and AltaLink'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. Windrise facilities that may subsequently be connected to the Proposed Transmission Development are the responsibility of Windrise and are not included in the Application.

Windrise, and, thereafter, jointly operated by Windrise and the TFO for a temporary period of time specified in the Market Participant Proposal;[9] and

B. The Proposed AltaLink Development.

The scope of the Proposed Windrise Development and the Proposed AltaLink Development is described further below.

A. <u>The Proposed Windrise Development:</u>

1. Add one 138 kV circuit, with a minimum capacity of 230 MVA, to connect the Facility to the existing Windy Flats 138S substation using a radial configuration;[10] and
2. 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.

B. <u>The Proposed AltaLink Development:</u>

1. Upgrade the Windy Flats 138S substation, including adding one 240/138 kV transformer with a transformation capability of 400 MVA, and one 138 kV circuit breaker; and
2. 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.

[9] Where the AESO approves a proposal per section 24.31(7) of the TReg, Windrise and the incumbent TFO must, (a) before applying for any permit, licence or approval under the HEEA to construct or operate the transmission facility, enter into a written agreement under which ownership of the transmission facility will transfer from Windrise to the incumbent TFO on the expiry of the temporary period referred to in subsection (3)(c) of the TReg.

[10] The 138 kV circuit will connect to Windrise's approved Windrise 1063S substation, which is part of the Facility. Windrise has estimated that the 138 kV circuit will have a length of approximately 21 kilometres. This is subject to change as routing and/or siting is finalized by Windrise.

2.3 Transmission Development Alternatives – In addition to the Proposed Transmission Development, the AESO, in consultation with Windrise and the TFO, examined seven other transmission development alternatives to respond to Windrise's request for system access service:

1. **Radial 240 kV Connection to Windy Flats 138S substation** – This alternative involves connecting the Facility to the existing Windy Flats 138S substation using a radial 240 kV configuration. This alternative requires the addition of one 240 kV circuit, approximately 21 kilometres in length, and modifying the Windy Flats 138S substation, including adding one 240 kV circuit breaker. This alternative was selected for further consideration.
2. **Radial 138 kV Connection to Peigan 59S substation** – This alternative involves connecting the Facility to the existing Peigan 59S substation using a radial 138 kV configuration. This alternative requires the addition of one 138 kV circuit, approximately 24 kilometres in length, and upgrading the Peigan 59S substation, including adding one 240/138 kV transformer, one 240 kV circuit breaker, and one 138 kV circuit breaker. This alternative was selected for further consideration.
3. **Radial 240 kV Connection to Peigan 59S substation** – This alternative involves connecting the Facility to the existing Peigan 59S substation using a radial 240 kV configuration. This alternative requires the addition of one 240 kV circuit, approximately 24 kilometres in length, and modifying the Peigan 59S substation, including adding one 240 kV circuit breaker. This alternative was selected for further consideration.
4. **Radial 138 kV Connection to Goose Lake 103S substation –** This alternative involves connecting the Facility to the existing Goose Lake 103S substation using a radial 138 kV configuration. This alternative requires the addition of one 138 kV circuit, approximately 37 kilometres in length, and modifying the Goose Lake 103S substation, including adding one 138 kV circuit breaker. This alternative was ruled out due to increased transmission

development, and hence overall increased cost, compared to the alternatives selected for further consideration.

5. **Radial 240 kV Connection to Goose Lake 103S substation** – This alternative involves connecting the Facility to the existing Goose Lake 103S substation using a radial 240 kV configuration. This alternative requires the addition of one 240 kV circuit, approximately 37 kilometres in length, and modifying the Goose Lake 103S substation, including adding one 240 kV circuit breaker. This alternative was ruled out due to increased transmission development, and hence overall increased cost, compared to the alternatives selected for further consideration.

6. **Radial 138 kV Connection to Soderglen 243S substation** – This alternative involves connecting the Facility to CNOOC Petroleum North America ULC's and Canadian Hydro Developers, Inc.'s existing Soderglen 243S substation using a radial 138 kV configuration. This alternative requires the addition of one 138 kV circuit, approximately 10 kilometres in length, the rebuild of approximately 14 kilometres of existing 138 kV circuit to 240 kV circuit, and upgrading the Soderglen 243S substation, including adding one 240/138 kV transformer, one 240 kV circuit breaker, and one 138 kV circuit breaker. This alternative also requires modifying the existing Windy Flats 138S substation, including adding one 240 kV circuit breaker. This alternative was ruled out due to increased transmission development, and hence overall increased cost, compared to the alternatives selected for further consideration.

7. **Radial 138 kV Connection to Ardenville 418S substation** – This alternative involves connecting the Facility to TransAlta's existing Ardenville 418S substation using a radial configuration. This alternative requires the addition of one 138 kV circuit, approximately 13 kilometres in length, the addition of one 240 kV circuit, approximately 3 kilometres in length, and the rebuild of approximately 11 kilometres of existing 138 kV circuit to 240 kV circuit. This alternative also involves upgrading the Ardenville 418S substation by adding

one 240/138 kV transformer, one 240 kV circuit breaker and one 138 kV circuit breaker and modifying the existing Windy Flats 138S substation, including adding one 240 kV circuit breaker. This alternative was ruled out due to increased transmission development, and hence overall increased cost, compared to the alternatives selected for further consideration.

The Proposed Transmission Development and the alternatives connecting to the Windy Flats 138S and Peigan 59S substations, (collectively, the Considered Alternatives) were selected for further consideration.

2.4 Cost Estimates for the Considered Alternatives – The AESO requested that Windrise prepare cost estimates for the Considered Alternatives.

Windrise estimated the in-service cost of Proposed Transmission Development described in Section 2.2, to be approximately [redacted][11]

Windrise estimated the in-service cost of the radial 240 kV connection to Windy Flats 138S substation described in Section 2.3, to be approximately [redacted][12]

Windrise estimated the in-service cost of the radial 138 kV connection to Peigan 59S substation alternative described in Section 2.3, to be approximately [redacted][13]

Windrise estimated the in-service cost of the radial 240 kV connection to Peigan 59S substation alternative described in Section 2.3, to be approximately [redacted][14]

The estimated in-service cost of alternatives connecting to the Peigan 59S substation exceeds the total estimated in-service cost of the alternatives connecting to the Windy

[11] The cost is in nominal dollars using a base year of 2019 with escalation considered. Further details of this cost estimate, which has an accuracy level of +50%/-30%, can be found in Appendix B.

[12] The cost is in nominal dollars using a base year of 2019 with escalation considered. Further details of this cost estimate, which has an accuracy level of +50%/-30%, can be found in Appendix B.

[13] The cost is in nominal dollars using a base year of 2019 with escalation considered. Further details of this cost estimate, which has an accuracy level of +50%/-30%, can be found in Appendix B.

[14] The cost is in nominal dollars using a base year of 2019 with escalation considered. Further details of this cost estimate, which has an accuracy level of +50%/-30%, can be found in Appendix B.

Flats 138S substation; therefore the alternatives connecting to the Peigan 59S substation were ruled out.

The Proposed Transmission Development and the radial 240 kV connection to Windy Flats 138S substation alternative were considered further, including the connection assessment, and the environmental and land use effects assessment, described herein.

2.5 Connection Assessment – Only the Proposed Transmission Development was studied as part of the connection assessment because the performance of the radial 240 kV connection to Windy Flats 138S substation alternative is expected to be similar to that of the Proposed Transmission Development.

Power flow, transient stability and short-circuit studies were conducted to assess the impact that the Proposed Transmission Development and the associated generation would have on the transmission system. Power flow and short-circuit studies were conducted prior to and following the connection of the Proposed Transmission Development, and transient stability studies were performed following connection of the Proposed Transmission Development.[15]

The pre-connection assessment identified some system performance issues. Under certain Category B conditions, thermal criteria violations were observed. The following mitigation measures can be used to mitigate the pre-connection system performance issues:

- real-time operational practices;
- existing remedial action scheme (RAS) 36;
- existing RAS 126; and
- planned 820L RAS.[16]

[15] The connection assessment is included as Appendix A.

[16] Planned 820L RAS was proposed for the approved Stirling Wind Project in the Stirling Wind Project Connection NID, as originally approved by AUC Decision 22546-D01-2019 and NID Approval 22546-D02-2019.

Most of the system performance issues identified in the pre-connection assessment were also identified in the post-connection assessment. In addition, new system performance issues were observed. Under certain Category B conditions, most of the thermal criteria violations that were observed in the pre-connection assessment were exacerbated in the post-connection assessment. The following mitigation measures can be used to mitigate the post-connection system performance issues:

- real-time operational practices;
- existing RAS 36;
- existing RAS 126;
- planned 820L RAS;[17] and
- planned 172L RAS.[18]

2.6 Environmental and Land Use Effects Assessment – The AESO requested that Windrise prepare an environmental and land use effects assessment for the Proposed Transmission Development, and the radial 240 kV connection to Windy Flats 138S substation alternative, which meets the requirements of AUC Rule 007, Section 6.2.2, NID23(3) (referred to herein as the "Windrise Assessment").[19] The Windrise Assessment indicates that both the Proposed Transmission Development and the radial 240 kV connection to Windy Flats 138S substation alternative are feasible from an environmental and land use perspective. The Windrise Assessment concluded that the Proposed Transmission Development would have lower overall environmental and land use effects, compared to the radial 240 kV connection to Windy Flats 138S substation alternative. For this reason, the radial 240 kV connection to Windy Flats 138S substation alternative was ruled out.

[17] Planned 820L RAS was proposed for the approved Stirling Wind Project in the Stirling Wind Project Connection NID, as originally approved by AUC Decision 22546-D01-2019 and NID Approval 22546-D02-2019.

[18] Planned 172L RAS was proposed for the approved Stirling Wind Project in the Stirling Wind Project Connection NID, as originally approved by AUC Decision 22546-D01-2019 and NID Approval 22546-D02-2019.

[19] The Windrise environmental and land use effects assessment is included as Appendix D.

2.7 Selection of the preferred transmission alternative – Based on the cost estimates, the connection assessment, and the environmental and land use effects assessment, the Proposed Transmission Development was selected as the preferred transmission alternative.

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.

2.8 AESO Forecast and Transmission System Plans – The AESO's corporate forecast for the South Planning Region is consistent with generation associated with the Proposed Transmission Development.[20] 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. The need associated with the Proposed Transmission Development is consistent with the AESO's long-term plans for this region.

2.9 Transmission Dependencies – The Proposed Transmission Development does not require the completion of any other AESO plans to expand or enhance the transmission system prior to connection.

2.10 AESO Participant Involvement Program – The AESO directed the TFO to assist the AESO in conducting the AESO's participant involvement program (PIP). The AESO also required Windrise to assist the AESO in conducting the AESO's PIP as a condition to the AESO's approval of the Market Participant Proposal.

Between August and October 2019, the TFO, Windrise 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. Two of the notified stakeholders raised questions and concerns to Windrise regarding the alternatives considered to connect the Facility, which the AESO responded to. One additional

[20] The *AESO 2019 Long-term Outlook* provides forecasting information for the South Planning Region, which includes the Proposed Transmission Development area.

stakeholder raised a question directly to the AESO regarding cost allocation, which the AESO has responded to. No other questions or concerns have been raised by the other notified stakeholders.

Apart from the inquiries above, there are no outstanding concerns or objections regarding the need for the Proposed Transmission Development or the AESO's preferred option to respond to the system access service request. In November 2019, the AESO notified stakeholders of its intention to file this Application with the Commission.[21]

2.11 Information Regarding AUC Rule 007, Section 6.2.2 NID 23(3) – The requirements of AUC Rule 007, Section 6.2.2, NID23(3) have been addressed in the environmental and land use effects assessment for the Proposed Windrise Development.[22] The AESO has been advised that the TFO Facility Proposal addresses the requirements of AUC Rule 007, Section 6.2.2, NID23(3) for the Proposed AltaLink Development.[23] In consideration of this fact, and as the filing of the Application is combined with both the TFO's Facility Proposal and Windrise'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).

2.12 Confirmation Date – In the event that the proposed facilities are not in service by December 17, 2020, 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. 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.

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

[22] Please refer to the environmental and land use effects assessment included as Appendix D of this Application.

[23] Please refer to the letter included as Appendix E of this Application.

The AESO has been advised that both the TFO's Facility Proposal and Windrise's Facility Proposal address 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 both the TFO's Facility Proposal and Windrise's Facility Proposal, the AESO has not undertaken an implementation schedule of the sort contemplated in AUC Rule 007, Section 6.2.2, NID25(2).

2.13 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;
- Windrise's request for system access service and the AESO's assessment thereof;
- the Windrise cost estimate for the Proposed Transmission Development;
- the AESO's connection assessment;
- the environmental and land use effects assessment for the Proposed Windrise Development;
- the TFO's confirmation that it has addressed AUC Rule 007, Section 6.2.2, NID23(3) for the Proposed AltaLink 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 Windrise 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.

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

3.1 Pursuant to Subsection 35(1) of the Act, the AESO has directed AltaLink to prepare a Facility Proposal corresponding with this Application. Pursuant to Section 36 of the Act, the AESO has conditionally approved the Market Participant Proposal, and has specified the time within which Windrise must apply for a permit to construct, and a licence to jointly operate with the TFO, the Proposed Windrise Development.

The AESO understands that the TFO and Windrise Facility Proposals will be filed shortly.[24] The AESO requests, and expects the TFO and Windrise will request, that this Application be combined with the Facility Proposals for consideration by the Commission in a single process. This request is consistent with Section 15.4 of HEEA and Section 6 of AUC Rule 007.

3.2 While the AESO expects that this Application and the related Facility Proposals will be materially consistent, the AESO respectfully requests that in its consideration of each, 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 Windrise's request for system access service and provide a preliminary description of the manner proposed to meet that need having regard for the AESO's determination that the Proposed Transmission Development is required to provide Windrise with a reasonable opportunity to exchange electric energy and ancillary services. In contrast, the Facility Proposals will contain more detailed engineering and designs for the Proposed Transmission Development and seek approval for the construction and operation of specific facilities.

[24] The AESO understands that the TFO intends to file a Facility Proposal relating to this Application to be titled *TransAlta Windrise MPC Wind*. The AESO understands that Windrise intends to file a Facility Proposal relating to this Application to be titled *Windrise Wind Transmission Line Project*.

4 Relief Requested

4.1 The AESO submits that its assessment of the need to meet Windrise'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 17, 2020, 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 Windrise's request for system access service, and to connect the Facility to the transmission system, by means of the following transmission development:

A. Add one 138 kV circuit to connect the Facility to the existing Windy Flats 138S substation using a radial configuration;

B. Upgrade the Windy Flats 138S substation, including adding one 240/138 kV transformer and one 138 kV circuit breaker; and

C. 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.

All of which is respectfully submitted this 28th day of November, 2019.

Alberta Electric System Operator

"Electronically Submitted by"

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Robert Davidson, P.Eng.
Director, Customer Grid Access

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 – Windrise Wind Power Project Connection* that assesses the transmission system performance prior to and following the connection of the Proposed Transmission Development. As part of the AESO Connection Process, the AESO defined the study scope, and provided the system models and study assumptions to Windrise who engaged a consultant to conduct the connection assessment studies. The AESO reviewed the results of the connection assessment studies prepared by the consultant, and finds the results of the connection assessment acceptable for the purposes of assessing the impacts of the Proposed Transmission Development on the transmission system.

APPENDIX B **Capital Cost Estimates –** Appendix B contains detailed cost estimates corresponding to the Proposed Transmission Development and the Considered Alternatives. These estimates have been prepared by Windrise. The cost estimates have an accuracy level which meets 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 requirements of NID27 and Appendix A2 of AUC Rule 007, regarding the need to respond to Windrise's request for system access service. Copies of the relevant materials distributed during the PIP are attached for reference.

APPENDIX D **Environmental and Land Use Effects Assessment –** Appendix D contains the Environmental and Land Use Effects Assessment report provided by Windrise for the Proposed Transmission Development, and the radial 240 kV connection to Windy Flats 138S substation alternative. The Environmental and Land Use Effects Assessment meets the requirements of AUC Rule 007, Section 6.2.2, NID23(3).

APPENDIX E **Information Regarding AUC Rule 007, Section 6.2.2, NID23(3) and NID25(2) –** Appendix D contains a letter provided by the TFO confirming that the requirements of AUC Rule 007, NID23(3) and NID25(2) will be addressed within the TFO's Facility Proposal for the Proposed AltaLink Development.

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.[25] 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, Windrise (refer to note ii below) is requesting system access service, and the AESO has determined that 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 [Windrise Wind L.P. by its general partner Windrise Wind Energy Inc. 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/ [26]

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

[25] 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.

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

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/ [27]

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* and the AESO's determination of the manner in which to respond to the request. 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 TFO –** Pursuant to Subsection 35(1) of the Act, the AESO has directed AltaLink, in its capacity as a legal owner of transmission facilities, 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 the TFO, pursuant to Section 39 of the Act and Section 14 of the *Transmission Regulation*, to assist in the preparation of the AESO's Application. The TFO has also been directed by the AESO under Section 39 of the Act to prepare a service proposal 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*.

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