

Date: March 17, 2026

Applicant reference: P2602 – Collisard Gas Generation Project Connection

<p>Identification</p> <p>Company name: Alberta Electric System Operator (AESO)</p> <p>Name, position and contact information of applicant contact: Brenda Hill Regulatory Administrator 403-539-2850 Brenda.Hill@aeso.ca</p>
<p>Project details</p> <p>This application is for:</p> <p>Generation connection <input checked="" type="checkbox"/> Non-distribution facility owner load <input type="checkbox"/></p>
<p>Project written description, including the need, nature and extent of the project and the Alberta Electric System Operator's (AESO) preferred option:</p> <p>Collisard Power Limited Partnership (Collisard Power) has applied to the AESO for transmission system access to connect its proposed Collisard Gas Generation Project (the Facility) in the Red Deer area (AESO Planning Area 35, Red Deer, which is part of the AESO Central Planning Region). The Facility includes a natural gas-fired power plant and a collector substation, to be designated the Collisard 1079S substation (Power Plant Application 30450-A001 and Substation Application 30450-A002). Collisard Power expects the Facility to be commercially operational by Q1 of 2029.</p> <p>Collisard Power's request includes a new Rate STS, <i>Supply Transmission Service</i>, contract capacity of 120 MW and a new Rate DTS, <i>Demand Transmission Service</i>, contract capacity of 3 MW.</p> <p>Collisard Power submitted a proposal to the AESO, pursuant to Section 24.31 of the <i>Transmission Regulation</i> (TReg) (Market Participant Proposal), for the construction and temporary operation of a transmission facility, specifically the Proposed Collisard Power Development defined below. A completed Market Participant Proposal was submitted by Collisard Power on March 11, 2026. Subsequently, on March 16, 2026, the AESO conditionally approved the Market Participant Proposal pursuant to Section 36(1) of the <i>Electric Utilities Act</i> (the Act), and in accordance with Section 36(2) of the Act, specified the time within which the market participant was to submit, for Commission approval under the <i>Hydro and Electric Energy Act</i>, a transmission facility proposal for the Proposed Market Participant Development.</p> <p>The Proposed Transmission Development consists of two components:</p> <ol style="list-style-type: none"> 1. The Proposed Collisard Power Development, which includes transmission facilities that, as contemplated by Section 24.31 of the TReg, will be constructed by Collisard Power, and, thereafter, jointly operated by Collisard Power and AltaLink for a temporary period of time specified (as per Section 24.31(7)) of the TReg: <ul style="list-style-type: none"> • Add one 138 kV circuit, approximately 5.7 km in length, to connect the Facility to the existing Benalto 17S substation using a radial configuration; and • 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.

2. The Proposed AltaLink Development:

- Modify Benalto 17S substation, including adding one 138 kV circuit breaker; and
- 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.

Applicable ratings/capability of any proposed major elements:

The 138 kV transmission circuit shall have a minimum capacity of 138 MVA to meet Collisard Power's requested STS contract capacity.

Proposed in-service date: 1/31/2029

Cost estimate for the preferred option for the project is attached.

Yes No

AltaLink's cost estimate is attached. Collisard Power has requested their cost estimate not be provided due to confidentiality and commercial sensitivity. 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 and that Collisard Power is eligible for approximately \$100,000 of local investment.

Technical considerations

Single line diagram(s) of the proposed development and study area is attached.

Yes No

The AESO has conducted appropriate studies and considers that the project will not result in adverse impacts to the Alberta Interconnected Electric System.

Yes No

List any new or exacerbated Category B system impacts that occur as a result of the project and provide a description of how they will be addressed (e.g. description of remedial action schemes that will be used):

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 the connection of the Proposed Transmission Development.

The post-connection assessment identified thermal criteria violations under certain Category B conditions. Thermal criteria violations on the 138 kV transmission line 174L (Bardo 197S to North Holden 395S) were exacerbated by the connection of the project.

Existing remedial action scheme 134 and real-time operational practices can be used, alone or in combination as appropriate, to mitigate the post-connection thermal criteria violations.

Briefly describe any alternatives to the AESO's preferred option that the AESO considered and why they were ruled out:

In addition to the Proposed Transmission Development, the AESO examined three other transmission development alternatives, in consultation with Collisard Power and AltaLink:

1. **Radial 240 kV connection to Benalto 17S substation** – This alternative involves connecting the Facility to the existing Benalto 17S substation using a radial configuration. This alternative requires adding one 240 kV circuit, approximately 5.7 km in length, to connect the Facility to the existing Benalto 17S substation. This alternative involves modifying Benalto 17S 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 Proposed Transmission Development.

2. T-tap connection to the 138 kV transmission line 848L – This alternative involves connecting the Facility to the existing 138 kV transmission line 848L using a T-tap configuration. This alternative involves adding one 138 kV circuit, approximately 0.25 km in length, to connect the Facility to the existing transmission line.

This alternative creates a four-terminal 138 kV transmission line. Four-terminal transmission lines pose protection coordination challenges and result in adverse impacts on system stability and reliability. Faults on any section of line with multiple taps negatively impact other facilities connecting to the same line and result in lower overall reliability. Therefore, this alternative was ruled out.

3. T-tap connection to the 138 kV transmission line 717L – This alternative involves connecting the Facility to the existing 138 kV transmission line 717L using a T-tap configuration. This alternative involves adding one 138 kV circuit, approximately 3 km in length, to connect the Facility to the existing transmission line.

This alternative would cause Category A violations on transmission line 717L, which would require additional transmission development to alleviate. This alternative would also require a new RAS which results in generation curtailments and worse technical performance compared to the Proposed Transmission Development. This alternative was therefore ruled out.

Participant involvement requirements

Notification requirements have been met and there are no unresolved objections.

Yes No

Environmental requirements

The AESO does not anticipate significant environmental effects as a result of the project.

Yes No

Other considerations

If you answered no to any of the questions above, please explain:

N/A

The project raises issues not addressed by the preceding questions.

Yes No

If yes, please explain:

N/A

When complete, save a copy of this form as a PDF file and submit the file to the AUC through the eFiling System.