



**Pteragen Canada Inc.**

**Peace Butte Wind Power Project**

**December 22, 2021**



**Alberta Utilities Commission**

Decision 26787-D01-2021

Pteragen Canada Inc.

Peace Butte Wind Power Project

Applications 26787-A001 and 26787-A002

December 22, 2021

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## **1 Decision summary**

1. In this decision, the Alberta Utilities Commission approves applications from Pteragen Canada Inc. to construct and operate a 122-megawatt wind power plant and a collector substation, designated as the Tothill 219S Substation. The Commission also approved the connection of four wind turbines to FortisAlberta Inc.'s distribution system. A connection order to AltaLink Management Ltd.'s transmission system was not issued as that connection is subject to future needs identification document and facility applications.

## **2 Applications**

2. In 2013, Pteragen Canada Inc. received approvals from the Commission for the original Peace Butte Wind Power Project. In Decision 24127-D01-2021,<sup>1</sup> the Commission rescinded Pteragen's approvals for the original project because a significant length of time had elapsed since the original approvals were issued and Pteragen was planning to file a project amendment due to project design and layout revisions. The Commission stated that the rescission of the project approvals were without prejudice to any future applications, which Pteragen may file when it is ready to do so.

3. On August 21, 2021, Pteragen filed applications with the Commission for approval to construct and operate a 122-megawatt (MW) wind power plant, designated as the Peace Butte Wind Power Plant and a collector substation, designated as the Tothill 219S Substation (collectively, the Peace Butte Wind Power Project or the project). Pteragen also applied to connect the project to AltaLink Management Ltd.'s transmission system and to FortisAlberta Inc.'s distribution system.

4. The wind power plant would consist of 22 Enercon E-160 5.54-MW wind turbines, with a hub height of 114 metres and a rotor blade length of 78.3 metres. The wind power plant would also include access roads and a combination of an underground and overhead collector system. Pteragen stated that the proposed turbines are a larger capability than the originally approved wind turbines which significantly reduces the number of turbines for the project from 60 to 22.

5. The substation would consist of one 138-kilovolt (kV) circuit breaker, one 138/34.5-kV, 75/100/125-megavolt ampere transformer, six 34.5-kV circuit breakers, one 10-megavolt ampere reactive static capacitor bank, and other substation equipment as described in the applications.<sup>2</sup>

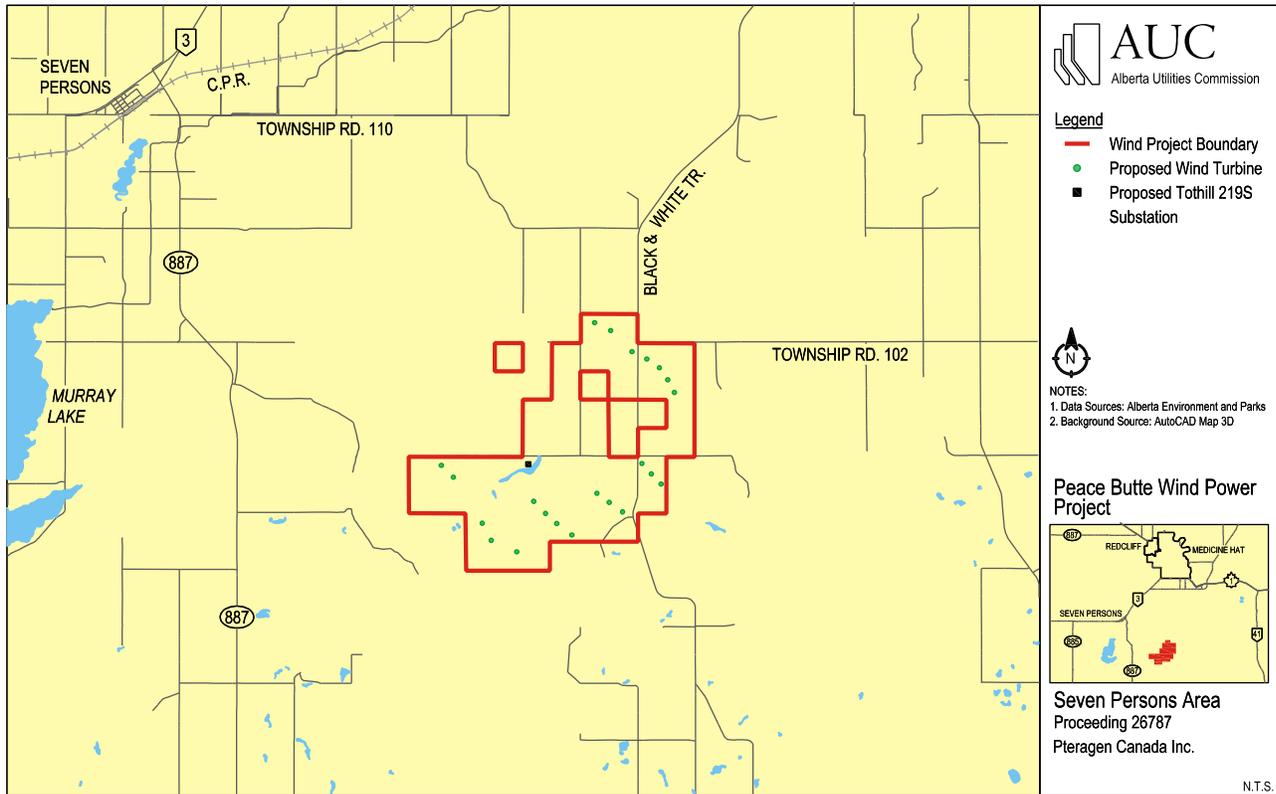
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<sup>1</sup> Decision 24127-D01-2021: Pteragen Canada Inc. - Peace Butte Wind Power Project Time Extension, Proceeding 24127, Applications 24127-A001 and 24127-A002, March 9, 2021.

<sup>2</sup> Exhibit 26787-X0083, response to telephone request for final substation components.

6. Pteragen stated that the project’s location remains unchanged from the original approved project. The project area boundary consists of the original 3,148 hectares of privately owned land over 48 quarter sections from the original project. Due to the reduction in the number of wind turbines, the project is now sited on 2,200 hectares of privately owned land over 34 quarter sections. The project is located near the village of Seven Persons, about 22 kilometres south of Medicine Hat, as shown on the map in Figure 1.

**Figure 1. Project Peace Butte Wind Power Project location**



7. Pteragen stated that 18 turbines would be connected to the proposed Tothill 219S Substation and four turbines would be connected to the distribution system of FortisAlberta Inc. Specifically, Turbine 9 would connect to a FortisAlberta Inc. distribution line and turbines 10, 11 and 12 would connect to another FortisAlberta Inc. distribution line. Separate needs identification document and facility applications for the interconnection with Tothill 219S Substation will be filed by the Alberta Electric System Operator and AltaLink Management Ltd., respectively. Pteragen submitted that the three connection points would be metered separately.

8. Pteragen's applications included:
- A participant involvement program, which detailed consultation with stakeholders within 800 metres of the project and notification to stakeholders within 2,000 metres of the project. Pteragen confirmed that there are no outstanding concerns for the project.<sup>3</sup>
  - A noise impact assessment completed by Stantec Consulting Inc., which concluded that the project would be in compliance with Rule 012: *Noise Control*.<sup>4</sup>
  - A shadow flicker assessment<sup>5</sup> completed by Stantec Consulting Inc., which predicted shadow flicker from the project at active dwellings located within 1.5 kilometres of the project turbines.
  - An initial renewable energy referral report<sup>6</sup> issued by Alberta Environment and Parks (AEP), which concluded that the project would result in moderate risk to wildlife and wildlife habitat.
  - An environmental evaluation report<sup>7</sup> and environmental protection plan<sup>8</sup> completed by Stantec Consulting Inc., which concluded that any potential adverse effects of the project can be effectively mitigated.
  - A conservation and reclamation plan<sup>9</sup> completed by Stantec Consulting Inc.
  - Interconnection agreements from FortisAlberta Inc. for the connection of four wind turbines to its distribution system.<sup>10</sup>
9. Pteragen stated that it is scheduled to make its Generating Unit Owner's Contribution payment to the Alberta Electric System Operator on June 25, 2023, with an estimated in-service date of November 1, 2025.
10. The Commission issued a notice of applications which included seven Indigenous communities. No submissions were received in response to the notice.

### 3 Findings

11. For the reasons outlined below, the Commission finds that approval of the project is in the public interest having regard to the social, economic, and other effects of the project, including its effect on the environment.

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<sup>3</sup> Exhibit 26787-X0023, Appendix PP19 - PIP Engagement Report\_May 26 2021.

<sup>4</sup> Exhibit 26787-X0026, Appendix PP27 (1\_0) - Noise Impact Assessment.

<sup>5</sup> Exhibit 26787-X0028, Appendix PP27 (3\_0) - Shadow Flicker Assessment.

<sup>6</sup> Exhibit 26787-X0018, Appendix PP10 - AEP Referral Letter\_January 18 2021.

<sup>7</sup> Exhibit 26787-X0021, Appendix PP17 (1\_0) - Environmental Evaluation Report.

<sup>8</sup> Exhibit 26787-X0019, Appendix PP16 (1\_0) - Environmental Protection Plan.

<sup>9</sup> Exhibit 26787-X0022, Appendix PP17 (2\_0) - Conservation and Reclamation Plan.

<sup>10</sup> Exhibit 26787-X0069, FortisAlberta agreement; Exhibit 26787-X0070, FortisAlberta agreement.

12. The Commission has reviewed the applications and has determined that the information requirements specified in Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines* have been met. Additionally, the Commission finds that Pteragen’s participant involvement program satisfies the requirements of Rule 007. Details of the participant involvement program reflect that Pteragen consulted with stakeholders as required; it has confirmed that there are no outstanding concerns.

13. The Commission finds that the noise impact assessment submitted by Pteragen meets the requirements of Rule 012. The Commission accepts the conclusion that noise from the project would comply with the permissible sound levels established by Rule 012 for all receptors.

14. The shadow flicker assessment identified seven active dwellings located within 1.5 kilometres of the project turbines as receptors. The assessment predicted that five out of seven receptors would experience zero shadow flicker from the project, and receptors R6 and R7 would receive shadow flicker from the project up to 4.5 hours per year and up to 20 minutes per day in the worst case, and up to two hours per year in the expected case.<sup>11</sup> The Commission notes that the shadow flicker assessment used conservative assumptions and did not consider screening from clouds, trees or other obstacles. The Commission accepts that shadow flicker impacts may be less than predicted for the project.

15. Pteragen submitted that a dwelling (R0) located approximately 162 metres northwest of the project Turbine 1 is currently a residential dwelling, however, it will be decommissioned when the project commences construction. Pteragen confirmed that “The landowner has signed an agreement with Pteragen consenting to permanently decommissioning the residence prior to the commencement of construction for the Project.”<sup>12</sup> As part of decommissioning the residence, the landowner has agreed to provide notice to the tenants to vacate the rental property and features of permanence such as power and water will be cut-off from the building. As such, the residence would no longer constitute either a seasonal or permanent dwelling under Rule 012. The Commission finds that this dwelling, R0, does not qualify to be a receptor for the noise impact assessment or the shadow flicker assessment, as it will be decommissioned when the project commences construction.

16. AEP ranked the project an overall moderate risk to wildlife and wildlife habitat, based on project siting, impacts to native habitat and sensitive wildlife features, wildlife use in the area, and commitments made by Pteragen to mitigate and monitor wildlife impacts. However, AEP noted that Pteragen has sited the majority of its collector lines above ground which differs from the requirements identified in AEP policy. AEP stated that the alternative mitigation proposed by Pteragen reduced the risk, but does not eliminate the increased risk and therefore the specific risk to wildlife and wildlife habitat has been assessed as high.

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<sup>11</sup> The “worst case” analysis used assumptions that the sun was always shining, the wind turbines were always active, and the turbine rotors were always oriented perpendicular to the line joining the sun and each receptor point. The “expected case” analysis accounted for statistical monthly sunshine data.

<sup>12</sup> Exhibit 26787-X0001, Application document, PDF page 29.

17. Pteragen submitted that there are significant landscape constraints in the project area that would impact the suitability of underground collector line construction. These constraints would primarily include variabilities in terrain such as county roads and access roads, landscape depressions and areas of sensitive soils or sensitive vegetation. Pteragen identified the following mitigation to address the risk to wildlife and wildlife habitat associated with above-ground collector lines:

- Above-ground collector lines will be designed and constructed following the Avian Power Line Interaction Committee (APLIC) standards.
- All segments of above-ground collector lines including those crossing coulees or wetlands will be marked with bird diverters to minimize the potential for bird collisions.

18. The Commission notes that the *Wildlife Directive for Alberta Wind Energy Projects* states that wind energy collection lines must be placed underground using minimal disturbance construction techniques to reduce the risk of collision and electrocution of birds, unless there are significant landscape constraints. The Commission notes that the alternative mitigation proposed by Pteragen would reduce but not eliminate the increased risk of avian mortality. However, the Commission has considered AEP's conclusion that even with siting the majority of collector lines above ground, the overall project risk ranking would remain a moderate risk.

19. The Commission is satisfied that the project's potential effects on wildlife and wildlife habitat will be adequately mitigated with diligent implementation of the mitigation measures committed to by Pteragen.

20. Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* requires approval holders to submit to AEP and the AUC annual post-construction monitoring survey reports. Consequently, the Commission imposes the following condition of approval for the power plant:

- a. Pteragen shall submit a post-construction monitoring survey report to Alberta Environment and Parks (AEP) and the Commission within 13 months of the project becoming operational, and on or before the same date every subsequent year for which AEP requires surveys pursuant to subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*

21. The Commission approves the connection of four turbines to FortisAlberta Inc.'s distribution system. Turbine 9 would connect in the northeast quarter of Section 27, Township 9, Range 6, west of the Fourth Meridian and turbines 10, 11 and 12 would connect in the southeast quarter of Section 35, Township 9, Range 6, west of the Fourth Meridian. The Commission has not issued a connection order for the project with AltaLink Management Ltd.'s transmission system because the corresponding needs identification document and facility applications have not yet been filed with the Commission.

22. For the above reasons, the Commission considers approval of the applications to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.

#### 4 Decision

23. Pursuant to sections 11, 14, 15, 18 and 19 of the *Hydro and Electric Energy Act*, the Commission approves applications 26787-A001 and 26787-A002 and grants Pteragen Canada Inc. the approvals set out in:

- Appendix 1 – Power Plant Approval 26787-D02-2021 to construct and operate the Peace Butte Wind Power Plant.
- Appendix 2 – Substation Permit and Licence 26787-D03-2021 to construct and operate the Tothill 219S Substation.
- Appendix 3 – Connection Order 26787-D04-2021 to connect four wind turbines to FortisAlberta Inc.’s distribution system.

24. The appendices will be distributed separately

Dated on December 22, 2021.

#### Alberta Utilities Commission

*(original signed by)*

Neil Jamieson  
Commission Member

## Appendix A – Summary of Commission conditions of approval in the decision

This section is intended to provide a summary of all conditions of approval specified in the decision for the convenience of readers. In the event of any difference between the conditions in this section and those in the main body of the decision, the wording in the main body of the decision shall prevail.

The following is a condition of Decision 26787-D01-2021 that requires a subsequent filing with the Commission and will be included as a condition of Power Plant Approval 26787-D02-2021:

- Pteragen shall submit a post-construction monitoring survey report to Alberta Environment and Parks (AEP) and the Commission within 13 months of the project becoming operational, and on or before the same date every subsequent year for which AEP requires surveys pursuant to subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*.