



**Renewable Energy Systems Canada Inc.**

**Hilda Wind Power Project**

**August 30, 2021**

**Alberta Utilities Commission**

Decision 26569-D01-2021

Renewable Energy Systems Canada Inc.

Hilda Wind Power Project

Proceeding 26569

Applications 26569-A001 and 26569-A002

August 30, 2021

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The Commission may, no later than 60 days of the date of this decision and without notice, correct typographical, spelling and calculation errors and other similar types of errors and post the corrected decision on its website.

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## **1 Decision summary**

1. In this decision, the Alberta Utilities Commission approves applications from Renewable Energy Systems Canada Inc. to construct and operate the Hilda Wind Power Project, which consists of a 100-megawatt wind power plant, designated as the Hilda Wind Power Plant, and the Hilda 662S Substation. For the reasons that follow, the Commission finds approval of the project is in the public interest having regard to the social, economic, and other effects of the proposed facilities, including their effect on the environment.

## **2 Applications**

2. Renewable Energy Systems Canada Inc. (RES) filed applications with the Commission for approval to construct and operate the Hilda Wind Power Plant and the Hilda 662S Substation (collectively, the Hilda Wind Power Project or the project). The applications were registered on May 30, 2021, as applications 26569-A001 and 26569-A002.

3. The Hilda Wind Power Plant would include 20 turbines, each rated at five megawatts (MW), for a total generating capability of 100 MW for delivery to the Alberta Interconnected Electric System. The power plant would also include a 34.5-kilovolt (kV) underground collector system, access roads, new public roads, an operation and maintenance building (located within the project substation yard), and one permanent meteorological tower.<sup>1</sup>

4. The Hilda 662S Substation would increase the voltage of the electricity generated by the turbines from the collector voltage of 34.5 kV to the transmission system voltage of 138 kV. Major equipment at the substation would include: a main power transformer with a maximum rating of 120 megavolt amperes, a 138-kV circuit breaker, a 138-kV motorized disconnect switch and a fence.<sup>2</sup>

5. RES stated that the interconnection of the project to the Alberta Interconnected Electric System would be the subject of future applications from the Alberta Electric System Operator and AltaLink Management Ltd.

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<sup>1</sup> Exhibit 26569-X0002, Main Application. PDF page 26.

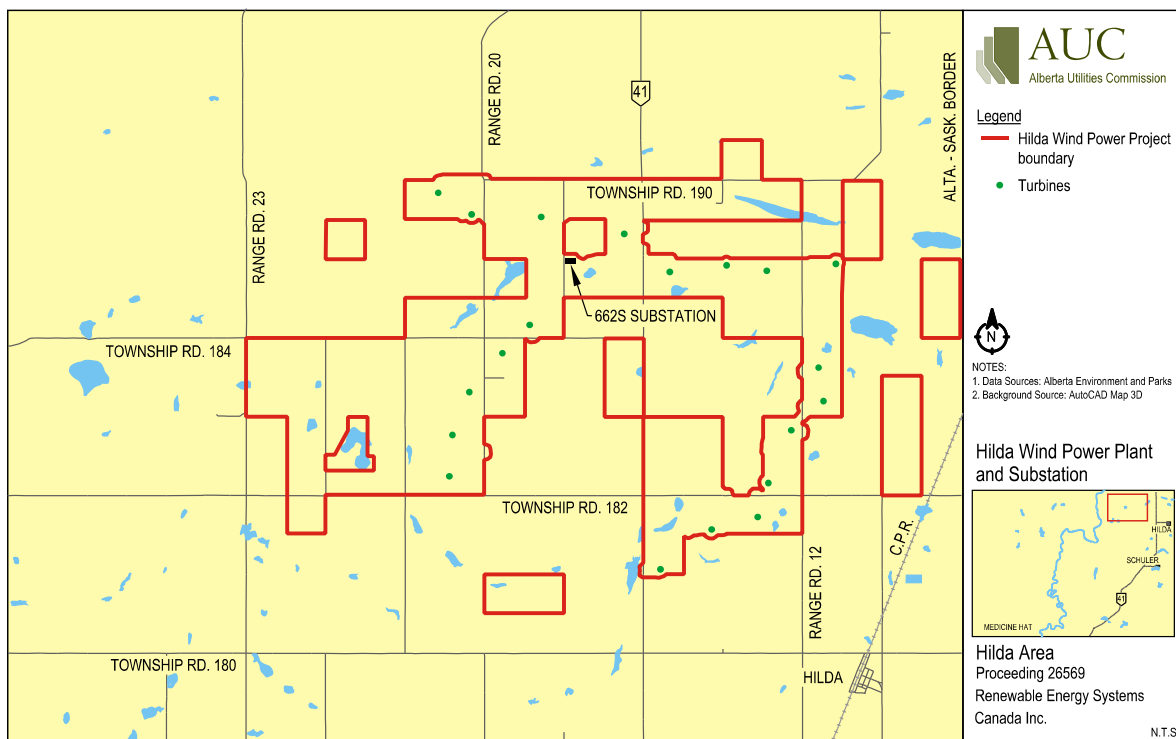
<sup>2</sup> Exhibit 26569-X0002, Main Application. PDF page 48; Exhibit 26569-X0005, Draft AUC Approvals, PDF page 4.

6. As shown in Figure 1, the project would be located approximately 80 kilometres northeast of the city of Medicine Hat in Cypress County, Alberta, within portions of Township 18, ranges 1 and 2, west of the Fourth Meridian. Specifically, the project area would include the following sections:<sup>3</sup>

Section	Township	Range	Meridian
9, 10, 14, 15, 16, 19, 22, 23, 26, 27, 28, 29, 30, 31, 32	18	1	W4M
13, 24, 36	18	2	W4M

7. The Hilda 662S Substation would be located on the northwest quarter of Section 29, Township 18, Range 1, west of the Fourth Meridian.

**Figure 1: Hilda Wind Power Project location**



8. RES’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.

<sup>3</sup> Exhibit 26569-X0025, 26569\_X0024\_26569\_AUC information request round 1 - Proponent Response, PDF pages 17 and 18.

- A renewable energy referral report dated June 3, 2021, from Alberta Environment and Parks (AEP) Fish and Wildlife Stewardship, which ranked the project an overall moderate risk to wildlife and wildlife habitat.
- An environmental evaluation, which described baseline environmental conditions, identified potential effects from the project, proposed mitigation measures, and assessed predicted residual effects of the project.
- An initial renewable energy operations conservation and reclamation plan as set out in the *Conservation and Reclamation Directive for Renewable Energy Operations*.
- A noise impact assessment, which concluded that the project would comply with Rule 012: *Noise Control*.
- A shadow flicker assessment, which predicted that receptors would receive shadow flicker up to 15.5 hours per year.
- A copy of the land use proposal document that RES submitted to NAV CANADA.
- Copies of correspondence with Environment and Climate Change Canada - Meteorological Service Canada indicating no objections to the project.
- A visual simulation from a viewpoint near the hamlet of Hilda.
- A letter from the Impact Assessment Agency of Canada confirming that the project is not a designated project under the *Impact Assessment Act*.
- A single-line diagram and layout for the project substation.

9. RES stated that it expects construction to commence as early as November 2021 and to be complete in November 2022, with an estimated in-service date no later than December 31, 2022.

10. The Commission issued a notice of applications and provided the notice to relevant stakeholders, including three Indigenous groups: Blood Tribe, Piikani Nation and Siksika Nation.

11. A statement of intent to participate (SIP) was submitted by Alberta First Responders Radio Communications System (AFRRCS). In response to concerns raised by AFRRCS, RES relocated two turbines: T4 and T8. AFRRCS was satisfied with the turbine relocation and withdrew its SIP. The Commission received no other submissions in response to its notice of applications.

### **3 Discussion**

12. AEP ranked the project an overall moderate risk to wildlife and wildlife habitat, based on project siting, temporary disturbance of higher quality native habitat and sensitive wildlife features, wildlife use in the area, and commitments made by RES to mitigate and monitor

wildlife impacts. Specifically, AEP ranked the project a moderate risk to native grassland, a low risk to wetlands, a high risk to bat mortality, a low risk to breeding birds, a high risk to migrating birds, and a low risk to wildlife features.<sup>4</sup>

13. With respect to the project impacts to native grassland and wetlands, AEP has determined the mitigations proposed by RES for working in areas of higher habitat quality (native grassland and wetlands) are adequate, and align the project with the intent of the *Wildlife Directive for Alberta Wind Projects*.

14. AEP has determined the pre-assessment risk to bat mortality is high based on the bat survey results from the project area. AEP noted that RES has committed to post-construction monitoring and the implementation of appropriate post-construction mitigation based on the monitoring results, as required by the *Wildlife Directive for Alberta Wind Projects*. AEP stated that the proposed mitigation is expected to reduce mortality to acceptable levels and the post-construction monitoring plan is consistent with AEP policy.

15. AEP has determined that the risk to breeding birds is low based on low abundance of breeding birds and species at risk, and avoidance of most areas of higher quality habitat. AEP noted that RES has committed to alternative mitigations to reduce disturbance to breeding hawks which would align with the intent of the *Wildlife Directive for Alberta Wind Projects*. However, the risk to migrating birds is high based on the occurrence of species at risk, bird abundance, and high raptor activity within the general area.

16. In response to a Commission information request, RES stated if construction is scheduled during the bird breeding season and/or the migratory bird nesting period, the following mitigations will be implemented: (i) no more than seven days prior to work commencing, nest searches will be performed by an experienced wildlife biologist within 100 metres of the construction activity; (ii) if bird breeding activity is identified then a minimum setback of 100 metres will be applied; (iii) if a new wildlife feature (e.g., raptor nest, sharp-tailed grouse lek, burrowing owl den) with an applicable setback that overlaps with the project layout is identified, RES will consult with AEP to discuss mitigation options; (iv) if a sensitive wildlife feature is suspected or identified, and adherence to the timing and/or setback restrictions is not possible, a site-specific mitigation and monitoring plan will be developed in consultation with AEP.<sup>5</sup>

17. RES did not provide a copy of the *Historical Resources Act* approval for the project. In response to a Commission information request, RES indicated that Alberta Culture and Status of Women requires a historic resources impact assessment for one archeological site located in the northeast of the project layout. RES explained that aerial imagery shows the area of the archaeological site is cultivated, and the stone features(s) associated with the archaeological site have likely been destroyed. In addition, RES indicated it would conduct a field investigation to

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<sup>4</sup> Exhibit 26569-X0018, AEP Referral Report.

<sup>5</sup> Exhibit 26569-X0025, 26569\_X0024\_26569\_AUC information request round 1 - Proponent Response, PDF pages 5 and 6.

confirm the site conditions, and confirmed it would comply with recommendations as agreed to in consultation with Alberta Culture and Status of Women.<sup>6</sup>

18. RES retained Golder Associates Ltd. to predict shadow flicker from the project. The shadow flicker assessment identified nine dwellings located within two kilometres of the project turbines as receptors and predicted that receptors would receive shadow flicker up to 15.5 hours per year.

19. RES retained Golder to complete a noise impact assessment for the project. Golder identified eight dwellings located within 1.5 kilometres of the project wind turbines and substation as receptors. Golder assumed ambient sound levels at the receptors to be 35 A-weighted decibels (dBA) nighttime and 45 dBA daytime and established permissible sound levels (PSLs) at the receptors to be 40 dBA nighttime and 50 dBA daytime.

20. Golder calculated cumulative sound levels as a sum of assumed ambient sound level, predicted noise contribution from baseline facilities and predicted noise contribution from the project. Cumulative sound levels would be less than the nighttime PSL at all receptors, with the exception of receptors R17 and R80. For nighttime, predicted cumulative sound levels at receptors R17 and R80 are 40.2 dBA and 40.1 dBA, respectively, and predicted noise contribution from the project at receptors R17 and R80 are 38.6 dBA and 38.5 dBA, respectively. Golder rounded predicted cumulative sound level to the nearest whole number and compared the whole number to the applicable PSL. Golder concluded that the project would be compliant with PSLs at all receptors. In addition, Golder analyzed low frequency noise of the project and concluded that there would be no project-related low frequency noise issues at any receptors.

21. With respect to end-of-life management, RES stated that the lease agreements with participating landowners include a decommissioning clause, which ensures sufficient funds will be available at the end of the project life to cover the cost of decommissioning and reclamation.<sup>7</sup>

22. RES provided a high-level summary of the main site-specific risks, mitigation and communication protocols across the construction and operations phases of the project. RES confirmed that it would develop site-specific emergency response plans for both the construction phase and the operation phase of the project, and RES would circulate the emergency response plans to Cypress County for review and comment.

23. RES explained that it did not consult with Indigenous groups, because: (i) the project would be located on private land and is not expected to impact Aboriginal and treaty rights as outlined in Section 35 of the *Constitution Act, 1982*; (ii) the project is not located on Historic Resource Value 4c lands, and as such, no Aboriginal Consultation Office consultation requirements were triggered; (iii) although not required at this time, if an Alberta *Water Act* approval is required in the future based on impact to wetlands, RES will apply for a pre-consultation assessment from the Aboriginal Consultation Office; (iv) adjacent land owned

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<sup>6</sup> Exhibit 26569-X0025, 26569\_X0024\_26569\_AUC information request round 1 - Proponent Response, PDF page 2.

<sup>7</sup> Exhibit 26569-X0025, 26569\_X0024\_26569\_AUC information request round 1 - Proponent Response, PDF pages 6 and 7.

by AEP is mainly used for “recreational access grazing” and oil and gas operations. In addition, RES noted the Commission provided the notice of applications directly to three Indigenous groups and RES committed to address questions from these Indigenous groups.<sup>8</sup>

### 3.1 Relocation of turbines T4 and T8

24. In its SIP, AFRRCS evaluated the original project design and identified two wind turbines (T4 and T8) within the path of its pre-existing communications radio link. AFRRCS requested that RES relocate these wind turbines so as not to interfere with the radio link.

25. To address AFRRCS’s concern, RES relocated turbines T4 and T8. Turbine T4 has been shifted 68 metres to the west, and Turbine T8 has been shifted 16 metres to the east. AFRRCS stated that the relocation of turbines T4 and T8 adequately addressed its concern and, consequently, withdrew its SIP.

26. RES assessed potential changes to environmental, noise and shadow flicker impacts from the relocation of turbines T4 and T8.

- A wildlife biologist reviewed the changes to the turbine locations and confirmed the project changes do not infringe on any wildlife habitat or wildlife features, or alter any mitigation commitments.
- With respect to noise impacts, the nighttime cumulative sound level at Receptor R16 decreases from 39.0 dBA to 38.9 dBA, and the nighttime cumulative sound level at Receptor R80 increases from 40.1 dBA to 40.2 dBA. Cumulative sound levels at other receptors would be unchanged. RES confirmed the project would remain compliant with Rule 012.
- With respect to shadow flicker impacts, the quantity of shadow flicker was predicted to increase for three receptors but decrease for one receptor. The magnitude of the change would be less than one hour per year at each receptor. There would be no change to shadow flicker impacts at other receptors.

27. RES consulted three landowners because of the relocation of turbines T4 and T8:

- owner of the land hosting these turbines
- owner of the land directly east of Turbine T8, whose dwelling is the nearest noise/shadow flicker receptor to Turbine T8
- owner of land north of Turbine T4, whose dwelling is the nearest noise/shadow flicker receptor to Turbine T4

28. RES indicated that these landowners do not have concerns or objections related to the turbine relocation.

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<sup>8</sup> Exhibit 26569-X0025, 26569\_X0024\_26569\_AUC information request round 1 - Proponent Response, PDF page 4.



## 4 Findings

29. The Commission is considering the applications under sections 11, 14, 15 and 19 of the *Hydro and Electric Energy Act*. These sections state that no person can construct or operate a power plant or substation without the Commission's approval.

30. 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 and Hydro Developments* have been met.

31. Except for a SIP from AFRRCS, the Commission received no response to its notice of applications. AFRRCS has withdrawn its SIP and the Commission finds that RES has addressed AFRRCS's concern and the consultation between RES and AFRRCS is complete.

32. The Commission accepts that the relocation of turbines T4 and T8 does not result in additional project impacts to land, environment, noise or shadow flicker. Specifically,

- Turbines T4 and T8 have been relocated by less than 100 metres. The Commission notes that both turbines would remain in the same quarter sections as originally proposed.
- The relocation would not infringe on any wildlife habitat or wildlife features, or alter any mitigation commitments. Therefore, risk ratings and mitigations specified in the AEP referral report remain valid.
- The project would remain compliant with Rule 012. The relocation would not change the conclusions of the original noise impact assessment.
- The turbine relocation does not significantly change the conclusions of the original shadow flicker assessment.

33. The Commission finds that RES's participant involvement program for the project and its consultation with AFRRCS and nearby landowners regarding the relocation of turbines T4 and T8 satisfied the requirements of Rule 007.

34. The Commission notes that although RES did not submit an *Historical Resources Act* approval, RES described a historical resources site close to the project area and committed to conducting an investigation as required by Alberta Culture and Status of Women. The Commission finds that RES provided acceptable information regarding the *Historical Resources Act* approval, and has met the requirements of Rule 007.

35. The Commission notes that if Alberta Culture and Status of Women ultimately requires mitigation for the historical resources site such that RES would be required to amend its project, RES may be required to file a letter of enquiry or an amendment application with the Commission, depending on the scope of the proposed changes in relation to the original application.

36. With respect to the environmental impacts of the project, the Commission notes that RES has committed to implementing mitigations to reduce risk to native grasslands and migrating

birds, in circumstances where construction of the project is scheduled during the bird breeding season and/or the migratory bird nesting period. The Commission also notes that AEP has reviewed the proposed mitigations and determined they are adequate, and align with the intent of the *Wildlife Directive for Alberta Wind Projects*.

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

- a. Once the project is commissioned, Renewable Energy Systems Canada Inc. 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*.

38. The Commission notes that RES has not finalized selection of equipment for the project. The Commission imposes the following condition of approval:

- b. Once Renewable Energy Systems Canada Inc. has made its final selection of equipment for the project, it must file a letter with the Commission that identifies the make, model, and quantity of the equipment and, if the equipment layout has changed, provide an updated site plan. This letter must also confirm that the finalized design of the project will not increase the land, noise, shadow flicker or environmental impacts beyond the levels approved in this decision. This letter is to be filed no later than one month before construction is scheduled to begin.

39. With respect to noise impacts, the Commission finds that the noise impact assessment report submitted by RES meets the requirements of Rule 012 and the Commission accepts the conclusion of the report that noise from the project would comply with the applicable PSLs and there would be no project-related low frequency noise issues. The Commission notes that cumulative sound levels at receptors R17 and R80 were predicted to slightly exceed the nighttime PSL. The noise contribution from the project at receptors R17 and R80 is predicted to be 38.6 dBA and 38.5 dBA, as such, the project is expected to be a major noise contributor at these two receptors. Therefore, the Commission imposes the following condition of approval:

- c. Renewable Energy Systems Canada Inc. (RES) shall conduct a post-construction comprehensive sound level survey, including an evaluation of low frequency noise, at receptors R17 and R80. The post-construction comprehensive sound level survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. Within one year after the project commences operations, RES shall file a report with the Commission presenting measurements and summarizing results of the post-construction comprehensive sound level survey.

40. The Commission finds the shadow flicker assessment for the project used conservative assumptions in modelling and predicted that no receptor would experience shadow flicker in excess of 16.5 hours per year. The Commission accepts this prediction.

41. For the reasons outlined above and subject to all of the conditions that form part of this decision as set out above and also listed in Appendix A, the Commission finds that RES has satisfied the requirements of Rule 007 and Rule 012 and that in accordance with Section 17 of the *Alberta Utilities Commission Act*, 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.

## 5 Decision

42. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 26569-A001 and grants Renewable Energy Systems Canada Inc. the approval set out in Appendix 1 – Power Plant Approval 26569-D02-2021 – August 30, 2021 (Appendix 1 will be distributed separately).

43. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 26569-A002 and grants Renewable Energy Systems Canada Inc. the approval set out in Appendix 2 – Substation Permit and Licence 26569-D03-2021 – August 30, 2021 (Appendix 2 will be distributed separately).

Dated on August 30, 2021.

### Alberta Utilities Commission

*(original signed by)*

Cairns Price  
Commission Member

## Appendix A – Summary of Commission conditions of approval

This section is intended to provide a summary of all conditions of approval for the convenience of readers. In the event of any difference between the directions and 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 are conditions of Decision 26569-D01-2021 that require follow-up with the Commission, and will be tracked as conditions of Power Plant Approval 26569-D02-2021 using the Commission's eFiling System:

- Once the project is commissioned, Renewable Energy Systems Canada Inc. 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*.
- Once Renewable Energy Systems Canada Inc. has made its final selection of equipment for the project, it must file a letter with the Commission that identifies the make, model, and quantity of the equipment and, if the equipment layout has changed, provide an updated site plan. This letter must also confirm that the finalized design of the project will not increase the land, noise, shadow flicker or environmental impacts beyond the levels approved in this decision. This letter is to be filed no later than one month before construction is scheduled to begin.
- Renewable Energy Systems Canada Inc. (RES) shall conduct a post-construction comprehensive sound level survey, including an evaluation of low frequency noise, at receptors R17 and R80. The post-construction comprehensive sound level survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. Within one year after the project commences operations, RES shall file a report with the Commission presenting measurements and summarizing results of the post-construction comprehensive sound level survey.