AUC
Alberta Utilities Commission

TransAlta Coaldale Wind Inc.

Tempest Wind Power Project

April 28, 2023

Alberta Utilities Commission
Decision 27767-D01-2023
TransAlta Coaldale Wind Inc.
Tempest Wind Power Project
Proceeding 27767
Applications 27767-A001 and 27767-A002

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1 Decision summary

1. In this decision, the Alberta Utilities Commission approves applications from TransAlta Coaldale Wind Inc. to construct and operate the Tempest Wind Power Plant and associated Tempest Substation (the project).

2 Applications

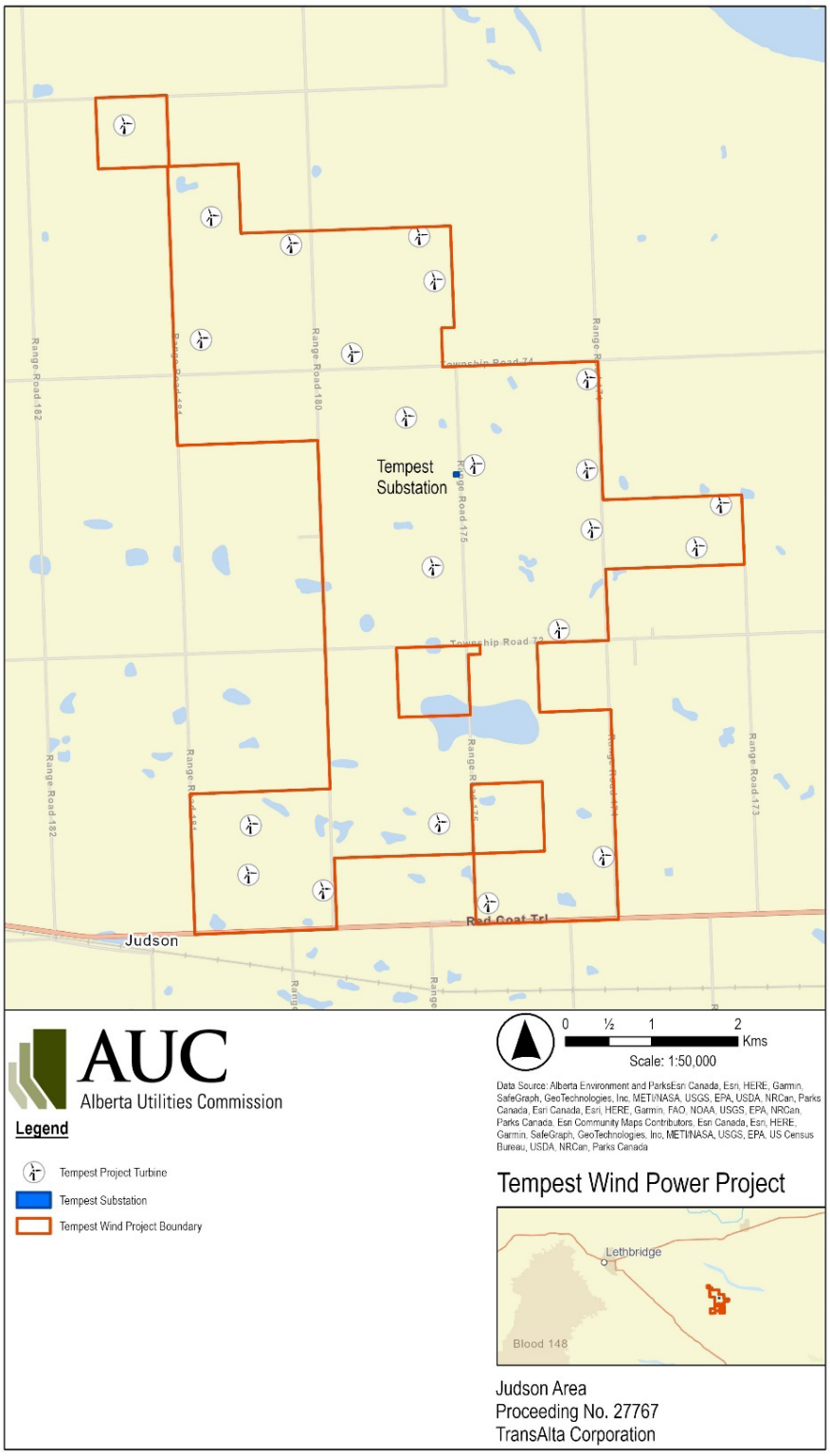
2. TransAlta Corporation, through its wholly owned subsidiary, TransAlta Coaldale Wind L.P., by its General Partner, TransAlta Coaldale Wind Inc. (TransAlta) filed applications with the Commission for approval to construct and operate the 99-megawatt (MW) Tempest Wind Power Plant and Tempest Substation, and to connect the facilities to the Alberta Interconnected Electric System.

3. The project would be located in Warner County No. 5, approximately 15 kilometres (km) east of Stirling and 30 km southeast of Lethbridge, as shown on the map in Figure 1. The project would be located on approximately 7,200 acres (3,000 hectares) of privately owned agricultural lands held under long-term lease arrangements. Immediately west of the Tempest Wind Power Project is the approved and soon to be operational 113-MW Stirling Wind Project.

4. The project would consist of 22 Vestas, V150 4.5-MW turbines with a maximum hub height of 105 metres (m), a base to tip height of 180 m, a 34.5-kilovolt underground collector system, and a collector substation in the centre of the project area. The substation would include a transformer, high and low voltage circuit breakers, capacitor banks, a capacity bank breaker, a neutral grounding resistor, and a control building. TransAlta noted that the substation might include a telecommunications structure depending on the outcome of protection requirements.

5. The project would connect to the transmission system via a 17 to 23-km-long transmission line that would connect to Transmission Line 172EL at Hillridge 139S Substation. The applications required to connect the project to the Alberta Interconnected Electric System will be submitted separately.

Figure 1. Tempest Wind Power Project boundary



6. TransAlta's applications included:

- A *Historical Resources Act* approval for the project.[1]
- A renewable energy referral report from Alberta Environment and Parks (AEP),[2] which deemed the project a moderate risk to wildlife and wildlife habitat.[3]
- An environmental evaluation from Ausenco Sustainability Inc. (Ausenco), which was designed to meet the environmental requirements of Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*.[4]
- An environmental management plan from Ausenco, which described TransAlta's environmental mitigation commitments relating to the project.[5]
- A conservation and reclamation plan from Ausenco, which provided project-specific information on conservation and reclamation planning during the life cycle of the project.[6]
- A noise impact assessment (NIA) from DNV Canada Ltd., updated March 1, 2023, concluding that the project will be compliant with Rule 012: *Noise Control.*[7,8]
- A participant involvement program, which included notification to stakeholders within 1,500 m of the project and consultation with stakeholders within 800 m of the project.[9,10]
- A shadow flicker assessment from Green Cat Renewables Canada Corporation, updated in March 2023, which assessed worst case and adjusted case annual shadow flicker scenarios for receptors near the project.[11,12]

7. TransAlta confirmed that it would have a project site-specific emergency response plan at the time of construction and operation.

8. TransAlta plans to begin construction in September 2023 and complete the project by June 2025. TransAlta expects to begin construction of the substation in the first quarter of 2024 with completion scheduled for the fourth quarter of 2024.

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1 Exhibit 27767-X0019, HRA Approval.
2 On October 24, 2022, Alberta Environment and Parks (AEP) was renamed the Ministry of Environment and Protected Areas (AEPA). Any references to AEP in Rule 033: *Post-approval monitoring requirements for wind and solar power plants* and elsewhere that relate to forward-looking obligations or commitments between the applicant and AEP should be interpreted as meaning AEPA.
3 Exhibit 27767-X0004, AEP Referral Report.
4 Exhibit 27767-X0005, EE.
5 Exhibit 27767-X0006, EMP.
6 Exhibit 27767-X0007, C&R.
7 Exhibit 27767-X0012, NIA.
8 Exhibit 27767-X0033, TransAlta-AUC-2023FEB09-001(a)-Attachment 1 Updated NIA.
9 Exhibit 27767-X0014, PIP – part 1.
10 Exhibit 27767-X0013, PIP – part 2.
11 Exhibit 27767-X0016, Shadow Flicker.
12 Exhibit 27767-X0034, TransAlta-AUC-2023FEB09-004(c)-Attachment 1 Updated Shadow Flicker Assessment.

9. The Commission issued a notice of applications and no submissions were received in response to the notice.

3 Findings

10. 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.

11. The Commission has reviewed the applications and has determined that the information requirements specified in Rule 007 have been met.

12. Regarding TransAlta's participant involvement program, TransAlta notified stakeholders within 1,500 m of the project area and consulted with stakeholders within 800 m of the project. As part of its engagement process for the project, TransAlta sent an introductory letter and three project information packages to stakeholders, hosted a community engagement session in Stirling, and advertised the project locally (in a local newspaper, on a community website, and at a community centre) and on its website. TransAlta conducted its consultation through face-to-face meetings, virtual meetings and telephone calls. TransAlta also engaged with planning and development personnel for the County of Warner No. 5 and Lethbridge County to discuss the development process.

13. The Commission notes that there were no submissions received in response to its notice of applications. The Commission finds that TransAlta has adequately conducted its participant involvement program in accordance with the requirements set out in Rule 007. The Commission finds that TransAlta's participant involvement program satisfied the requirements of Rule 007.

14. The Commission is satisfied that TransAlta has obtained a *Historical Resources Act* approval for the project. In June 2019, TransAlta received *Historical Resources Act* approval with conditions from Alberta Culture. Since then, the proposed project footprint was modified twice and an updated *Historical Resources Act* application submitted to Alberta Culture. The Commission acknowledges that, on December 22, 2022, TransAlta received a new *Historical Resources Act* approval with no conditions attached.

15. The Commission understands that TransAlta retained Ausenco to produce an environmental evaluation, environmental management plan, and conservation and reclamation plan for the project. The environmental evaluation described the baseline environmental conditions, identified potential effects and developed mitigation for environmental sensitivities prior to construction and operation. The environmental management plan described TransAlta's commitments to environmental protection and compliance with relevant environmental legislation during construction and operation. The conservation and reclamation plan describes the planning requirements to help ensure successful reclamation outcomes for the project.

16. The Commission notes that AEPA reviewed the project and ranked the project's overall risk to wildlife and wildlife habitat as moderate, based on project siting, limited wildlife use in the area, and commitments made by TransAlta to monitor and mitigate wildlife impacts. AEPA assessed the risk to wetland wildlife and wetland habitat as high based on the project's location and infringement of various wetland setbacks. AEPA assessed the project's overall risk to birds as high based on avian species at risk observed during project wildlife surveys in the area and

siting of the project within a high avian use area. AEPA also determined the pre-assessment risk to bat mortality is high based on the bat survey results from the project area.

17. Regarding nesting birds, TransAlta committed to nest sweeps when working within wetland setbacks from April 1 to July 15, following the grassland breeding period as defined by AEPA.[13] TransAlta does not plan to conduct nest sweeps from July 15 to August 14, which represents the latter part and lower nesting intensity periods of the Environment and Climate Change Canada (ECCC) nesting window for the project area. TransAlta explained that, because the project is predominantly sited on cultivated land, with wetlands showing evidence of extensive agricultural impacts, there is low risk of incidental take occurring from project activities between July 15 and August 14.[14] TransAlta also submitted that it would conduct additional survey sweeps between July 16 and August 14 should an experienced wildlife biologist observe that active nest features are likely to be active in the project footprint in these wetland setbacks.

18. The Commission does not accept TransAlta's assertion that there is low risk of incidental take after July 15. The Commission notes that there is still potential for high avian activity during lower nesting intensity periods (e.g., mid-July to mid-August) according to the ECCC nesting window for zone B3. ECCC provides the following guidance for its nesting calendars:[15]

> The nesting calendars are based on the number of nesting species, not the number of nesting individuals. Periods with fewer nesting species may still have a high number of individuals within those species that nest during that time period. For example, large numbers of Canada geese, mallards and pintails nest in April on the prairies, nesting zones B3 and B4, although few species nest during that period.

19. In addition to the Commission's understanding of AEPA's high-risk assessment for birds, wetland wildlife and wetland habitat, the Commission also notes that the *Migratory Birds Regulations, 2022* prohibits the incidental take of migratory birds.

20. Given the above concerns, the Commission imposes the following condition of approval:

a. When working within wetland setbacks from April 1 to August 14, TransAlta shall ensure that a qualified wildlife biologist conducts nest sweeps and provides clearance before construction can begin or continue. Nest sweeps should be conducted in accordance with the *Alberta Wildlife Sweep Protocols*.

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

b. TransAlta shall submit an annual post-construction monitoring report to Alberta Environment and Protected Areas – Fish and Wildlife Stewardship and the Commission no later than January 31 of the year following the mortality monitoring period, and on or before the same date every subsequent year for which Alberta Environment and

[13] Exhibit 27767-X0035, TransAlta Responses to AUC IR TransAlta-AUC-2023FEB09-001 to 015, PDF page 15.
[14] Exhibit 27767-X0038, TransAlta Responses to AUC IR TransAlta-AUC-2023MAR23-001 and 002, PDF page 3.
[15] https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#toc1.

Protected Areas requires surveys pursuant to subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*.

22. Regarding the project's NIA, the Commission finds that cumulative sound level from the project turbines, collector substation, and the nearby Stirling Wind Project, combined with the ambient sound level, are predicted to be compliant with the permissible sound levels at all the noise receptors that were considered. TransAlta explained that conservative assumptions were used in its NIA and described potential mitigation options in the event of non-compliance with Rule 012 at the post-construction stage, which include transplanting of tree cover for residences, installation of noise barriers for the substation, and use of operational restrictions to reduce turbine noise during periods of non-compliance. Given the predicted compliance with Rule 012 and TransAlta's consideration of potential mitigation options, the Commission is satisfied that the project is unlikely to cause adverse noise impacts.

23. The project's shadow flicker assessment modelled two scenarios to predict potential shadow flicker from the project. The worst-case scenario did not consider weather conditions, like cloud cover and low winds, which will reduce the amount of shadow flicker in practice. The adjusted-case scenario used measured and statistical weather data to produce more representative shadow flicker predictions. Both the worst-case scenario and adjusted-case scenario were modelled using greenhouse mode, which assumes receptors are sensitive to shadow flicker from all directions. The assessment identified 31 dwellings within or close to 1.5 km of the project turbines as receptors, and predicted that in the worst-case scenario, receptors would experience shadow flicker for up to 63.9 hours per year or 39 minutes per day; while in the adjusted-case scenario, receptors would experience shadow flicker for up to 18.4 hours per year.[16]

24. TransAlta confirmed that, if complaints are raised about shadow flicker after the project becomes operational, it would promptly investigate those concerns on a case-by-case basis and work with the affected landowner to find an appropriate solution, including the installation of visual screenings.[17]

25. The Commission is satisfied with TransAlta's commitment to address complaints related to shadow flicker from residences in a timely manner and its willingness to implement appropriate mitigation measures at affected residences if deemed necessary.

26. Regarding its emergency response planning, TransAlta clarified that it had not yet developed a project-specific emergency response plan, nor had it requested feedback from local emergency services personnel.[18] TransAlta explained that it would co-ordinate with local emergency service providers to communicate details around its sites-specific emergency response plan and overarching corporate Wind Emergency Response Guide, ahead of construction start. TransAlta further submitted that, if the project were approved, it would begin engagement with local emergency services personnel.

[16] Daily results for the adjusted-case scenario are not available because this scenario used monthly statistical weather data.
[17] Exhibit 27767-X0035, TransAlta Responses to AUC IR TransAlta-AUC-2023FEB09-001 to 015, PDF page 13.
[18] Exhibit 27767-X0035, TransAlta Responses to AUC IR TransAlta-AUC-2023FEB09-001 to 015, PDF page 21.

27. The Commission notes that WP13 of Rule 007 requires applicants to contact local responders about emergency response planning prior to submission of an AUC application. The Commission understands that TransAlta plans to begin this engagement prior to the start of construction. As such, the Commission imposes the following condition of approval:

c. Prior to construction, once a site-specific emergency response plan is in place, TransAlta shall engage with local responders and authorities regarding the plan and address comments or concerns as necessary.

28. Regarding TransAlta's request for an order to connect the Tempest Substation to Transmission Line 172EL via an approximately 17 to 23 km-long transmission line, the Commission notes that TransAlta has indicated that an interconnection application will be submitted in a separate application. The Commission will decide on the connection order in that proceeding when an application has been filed.

29. In light of the foregoing, and subject to the conditions set out in this decision and commitments undertaken by TransAlta, the Commission considers the applications to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act.*

4 Decision

30. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 27767-A001 and grants TransAlta Coaldale Wind Inc. the approval set out in Appendix 1 – Power Plant Approval 27767-D02-2023 to construct and operate the Tempest Wind Power Plant.

31. Pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, the Commission approves Application 27787-A002 and grants TransAlta Coaldale Wind Inc. the approval set out in Appendix 2 – Substation Permit and Licence 27767-D03-2023 to construct and operate the Tempest Substation.

32. The appendices will be distributed separately.

Dated on April 28, 2023.

Alberta Utilities Commission

(original signed by)

Merete Heggelund
Acting 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. Conditions that require subsequent filings with the Commission will be tracked as directions in the AUC's eFiling System. 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 27767-D01-2023 that requires a subsequent filing with the Commission and will be included as a condition of Power Plant Approval 27767-D02-2023:

b. TransAlta shall submit an annual post-construction monitoring report to Alberta Environment and Protected Areas – Fish and Wildlife Stewardship and the Commission no later than January 31 of the year following the mortality monitoring period, and on or before the same date every subsequent year for which Alberta Environment and Protected Areas requires surveys pursuant to subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*.

The following are conditions of Decision 27767-D01-2023 that do not require subsequent filings with the Commission:

a. When working within wetland setbacks from April 1 to August 14, TransAlta shall ensure that a qualified wildlife biologist conducts nest sweeps and provides clearance before construction can begin or continue. Nest sweeps should be conducted in accordance with the *Alberta Wildlife Sweep Protocols*.

c. Prior to construction, once a site-specific emergency response plan is in place, TransAlta shall engage with local responders and authorities regarding the plan and address comments or concerns as necessary.