AUC
Alberta Utilities Commission

Windy Point Wind Park Ltd.

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July 31, 2012

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Application No.1607515
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1 Introduction

1. Windy Point Wind Park Ltd. (Windy Point) filed an application with the Alberta Utilities Commission (AUC or the Commission) seeking an approval to construct and operate a 63-megawatt (MW) wind generation project, to be known as the Windy Point Wind Park power project, pursuant to Section 11 of the *Hydro and Electric Energy Act*. The power plant application was registered on July 21, 2011, as Application No. 1607515. The proposed power plant would be located approximately 15 kilometres northeast of Pincher Creek, Alberta.

2. Section 11of the *Hydro and Electric Energy Act* requires a person proposing to construct and operate a power plant to obtain an approval from the AUC.

3. On July 29, 2011, while the Windy Point application was under consideration, the Commission received a request for review and variance of Decision 2011-239,[1] which approved the Heritage Wind Farm Power Plant, a wind farm in the vicinity of the Windy Point Wind Park power project. Heritage Wind Farm Development Inc. (Heritage) argued that there was a wording error in paragraph 35 of the decision and that Heritage did not propose to shut down operation of wind turbines at night to limit noise levels. Heritage intended to limit noise levels during the night-time period by a combination of programming lower sound power output on some turbines and programming other turbines to cut-in at higher wind speeds.

4. The Commission considered that the review and variance request had the potential to impact the Windy Point application because, as explained below, the cumulative noise modelled in the Windy Point noise impact assessment was based on certain mitigation measures proposed in the Heritage application, which Heritage argued should be reviewed and varied. As the correctness of the Windy Point noise impact assessment depended on the outcome of the review and variance request, the Commission issued a letter on September 22, 2011, informing Windy Point that a decision on its application would not be rendered until the review and variance application was decided.

5. On January 24, 2012, the Commission issued Decision 2012-029,[2] dismissing Heritage's review and variance request. As the findings regarding the mitigation measures in the Heritage noise impact assessment remained unchanged, the Commission resumed its consideration of the Windy Point application. The Commission considers that the record of the Windy Point application closed on May 11, 2012.

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[1] Decision 2011-239: Heritage Wind Farm Development Inc. - Heritage Wind Farm Power Plant, Application No. 1480111, Proceeding ID No. 276, June 2, 2011.

[2] Decision 2012-029: Heritage Wind Farm Development Inc. Decision on Preliminary Question – Review and Variance of Alberta Utilities Commission Decision 2011-239, Heritage Wind Farm Development – Heritage Wind Farm Power Plant, Application No. 1607559, Proceeding ID No. 1379, January 24, 2012.

6. In making a decision on the application, the Commission must consider:

a) Whether the approval of the application is in the public interest having regard to the social and economic effects of the development and the effects of the development on the environment, in accordance with Section 17 of the *Alberta Utilities Commission Act*.

b) Whether the application meets all the requirements of AUC Rule 007: *Rules Respecting Applications for Power Plants, Substations, Transmission Lines, and Industrial System Designations* (AUC Rule 007).

2 Background

7. The Windy Point application proposed the construction and operation of 21 Siemens SWT-3.0-101 wind turbines, each rated at three-MW, for a total installed capacity of 63 MW. The turbines have a tower height of 79.5 metres and a rotor diameter of 101 metres.

8. The turbines would be located on private lands rezoned by the Municipal District of Pincher Creek No. 9 (MD of Pincher Creek) as "Wind Farm Industrial" at the locations detailed below:

Quarter Sections	Township	Range	Meridian
SW12, NW2, SW2, and SE3	8	29	W4M
NW35, NE35, SW35, SE35, SE34, NW25, and NW26	7	29	W4M

9. A 34.5-kilovolt (kV) collector system, consisting of mostly underground power lines, was proposed as part of the Windy Point application for the purpose of collecting and transmitting electric power from each wind turbine to a substation. There will be one overhead collector line installed to avoid a small water feature and low lying area. The collector system would be located on privately-owned lands which comprise the project area.

10. The Commission issued a notice of application on April 5, 2012, to persons within 2,000 metres of the project. The notice was published in the Pincher Creek Echo, the Lethbridge Herald and the Fort McLeod Gazette newspapers. Heritage filed a letter indicating that its purpose was to register in the proceeding and receive access to information as it considered itself to be potentially directly and adversely affected. However, Heritage did not object to the application. There were no other submissions or objections filed in response to the Commission's notice of application.

11. Windy Point's participant involvement program consisted of information packages, personal consultation and a public information session.

12. The information packages were mailed to all landowners within two kilometres of the project area and included a covering letter, a project information brochure and the AUC Public Involvement Program brochure.

13. Personal consultation involved all occupants, residents and landowners within 800 metres of the proposed project, who were personally consulted through either face-to-face visits or telephone conversations. These stakeholder meetings included discussion on details regarding the project, including turbine locations, proposed access roads and collector lines, and the project schedule.

14. Windy Point also held an information session on May 12, 2011. Letters of invitation were sent to all landowners within two kilometres of the project and to the MD of Pincher Creek. In addition, two public notifications of the information session were published in the Pincher Creek Echo Newspaper two weeks in advance of the meeting. Ten persons attended the information session, including two councillors and the Development Officer from the MD of Pincher Creek.

15. Windy Point states that there were no objections or significant concerns as a result of its public information and consultation process.

16. The MD of Pincher Creek had been in contact with Windy Point and approved the zoning amendment for the project area to "Wind Farm Industrial-WFI". The MD of Pincher Creek also granted a development permit to Windy Point that became effective on November 10, 2011.

17. Windy Point did not provide environmental information about the proposed project in the application submitted to the Commission but did so through responses to information requests.

18. Windy Point was not required to conduct an environmental impact assessment; however, it did conduct surveys based on requirements set out by the Fish and Wildlife Division of Alberta Environment and Sustainable Resource Development and an historical resource impact assessment required by Alberta Culture and Community Spirit.

19. The project area consists primarily of native prairie with the remainder of lands used for grazing and cultivation. Seventeen of 21 proposed turbine locations were situated on native prairie. Windy Point stated effects to rare plant species and rare ecological communities could not be fully anticipated until further surveys had been completed. Vegetation surveys to date concluded that one rare plant grew in the area which, because of its vulnerable status, should be avoided. Windy Point predicted that effects to vegetation species diversity were low due to the small turbine 'footprint'. Windy Point also identified the potential for the project to spread weeds and committed to implementing several mitigation measures to mitigate that effect.

20. Windy Point recognized the sensitive nature of the native grasslands to be disturbed and committed to a comprehensive strategy of assessment, low-impact construction techniques and, reclamation and monitoring to minimize adverse effects. Windy Point targeted construction during the dormant period as the primary means of minimizing disturbance of native prairie with the use of matting during construction proposed as an alternate mitigation. Windy Point acknowledged that restoration of native prairie was a complex process and committed to using the most current and advanced approaches to restoring fescue grassland habitat disturbed by the project.

21. Wildlife impacts from the project were predicted to include loss of nesting/foraging and breeding habitat and direct mortality to birds and bats. Windy Point concluded that the added mortality risk of the proposed turbines to both breeding and migratory birds and bats would be minimal. In response to information requests, Windy Point estimated bat mortality to be between nine and 24 fatalities per turbine per year and bird mortality to be approximately two birds per turbine per year.

22. Windy Point stated that, with the mitigation measures proposed, it was confident that the project could be constructed and operated with minimal adverse environmental effects.

23. The Fish and Wildlife Division stated that all setbacks had been adhered to and Windy Point was to conduct additional pre-construction wildlife monitoring if construction had not occurred before June 15, 2013. The Fish and Wildlife Division required post-construction monitoring to evaluate the level of bird and bat mortality. The Fish and Wildlife Division also stated that, should unexpected high levels of fatalities occur during operations, Windy Point must, after discussion with the Fish and Wildlife Division, implement operational mitigation measures such as raising the cut-in speed of the wind turbines. Pursuant to these conditions, the Fish and Wildlife Division provided Windy Point with its approval in a Wind Turbine Referral Report, dated June 15, 2011.

24. Alberta Culture and Community Spirit granted conditional *Historical Resource Act* clearance on June 7, 2011, subject to completion of historical resource impacts assessments, avoidance of identified archaeological sites and paleontological monitoring during construction. Alberta Culture and Community Spirit also stipulated that should additional historical resources be encountered during any surface disturbance that the Historical Resources Branch must be contacted immediately.

25. Windy Point application included a noise impact assessment[3] that provided the predicted noise levels at selected receptors representing dwellings within two kilometres of the proposed Windy Point Wind Park power project and for several scenarios with and without other existing and approved wind-power facilities in the area. Scenario 4, in particular, assumed not only the sound contribution from the proposed Windy Point turbines but also the cumulative sound contribution from all existing and approved wind-power facilities in the study area, namely:

- the approved Welsch wind farm (17 Enercon E82-E3 three-MW turbines and nine Enercon E82-E2 two-MW turbines)
- the approved Heritage wind farm (97 Vestas V-90 three-MW turbines)
- the approved Oldman 2 wind farm (20 Siemens SWT-2.3, 2.3-MW turbines)
- the existing Oldman River wind farm (two Vestas V80 1.8-MW turbines)
- the existing Summerview Phase I (39 Vestas V80 1.8-MW turbines)
- the existing Summerview Phase II (22 Vestas V90 three-MW turbines) wind farms
- sound levels from the existing and proposed substations, including the proposed Fidler substation

[3] Exhibit 0003.00.AWEC-1371 – Noise Impact Assessment.

26. The noise impact assessments also established the permissible sound levels to be 50 dBA L_{eq} daytime and 40 dBA L_{eq} night-time at 21 receptor locations in the study area. All wind turbines considered in Scenario 4 were assumed to be operating at full output sound power level during the daytime period (7 a.m. to 10 p.m.). The noise impact assessment demonstrated that the predicted sound levels do not exceed the daytime permissible sound levels of 50 dBA L_{eq} at any receptor under these conditions.

27. However, during the night-time period (10 p.m. to 7 a.m.) when the permissible sound level is 40 dBA L_{eq}, several turbines need to be switched off or run with adjustments in order to meet the night-time period permissible sound level. The assumed operating conditions of all wind turbines for the night-time period presented in Scenario 4 of the Windy Point noise impact assessment are as follows:

Table 1: Assumed Wind Turbine Operational Data for the Night-time Period[4]

Wind farm	Number of Wind Turbines			
	Switched Off	Running with Adjustment	Running without Adjustment	Total
Windy Point	11	10	0	21
Welsch	0	0[5]	26	26
Heritage	48	50	0	98[6]
Summerview Phase I and Phase II	0	0	61	61
Oldman River and Oldman 2	0	0	22	22

28. Wind turbines in general, including the Siemens SWT-3.0-101 proposed by the applicant, can be programmed to operate in reduced sound modes by setting the rated power of the turbine at a reduced electrical output level. These reduced sound modes are what the table above refers to as "running with adjustment" and are being used by the developers of these wind projects to comply with AUC Rule 012: *Noise Control* (AUC Rule 012).

29. Windy Point stated that the information source it used to obtain Heritage Wind Farm's operational data for the night-time period (shown in Table 1 above) was from the report entitled "Sound Level Assessment at Heritage Wind Farm" (filed in Application No. 1480111) as it considered that using the night-time operation data from that report result in a conservative estimate of the predicted sound levels.

30. The cumulative noise predictions presented in Scenario 4 of the noise impact assessment indicated that, with eleven turbines switched off and ten turbines operating in a reduced power output mode at night-time, and with other existing and approved turbines in the area operating as indicated in Table 1 above, the Windy Point Wind Park power project will comply with the

[4] Exhibit 0003.00.AWEC-1371 – Noise Impact Assessment, Appendix D, Scenario 4.

[5] The noise impact assessment for the Welsch Wind Power Project (filed in Application No. 1606376) shows one of the 26 Welsch's turbines running with adjustment during the night-time period. However, the applicant's noise impact assessment (Appendix D, Scenario 4) shows no adjustments for the Welsch Wind Power Project.

[6] Although the AUC approved 97 turbines for the Heritage power plant, the applicant assumed 98 turbines at the Heritage power plant.

permissible sound level of 40 dBA L_{eq} night-time at the majority of the receptors. However, there are five receptors where sound levels are predicted to exceed the night-time permissible sound level by 0.2 to 0.5 decibels and one receptor where the sound level is predicted to be exceeded by 1.3 decibels.

31. With respect to the exceeding of the night-time permissible sound level, Windy Point submitted that the predicted combined sound level already exceeded 40 dBA L_{eq} at those receptors even before the contributions from the proposed power plant were added in. Furthermore, it stated that the incremental increase caused by the proposed power plant was insignificant, i.e. no more than 0.3 decibels, compared to the other wind projects in the area.

32. Windy Point further stated that the cumulative predicted sound levels were calculated using noise source data from several manufacturers and information from other wind turbine operators in the study area and that noise prediction models overstate the sound level predictions because of the standards used and can vary based upon the assumptions and input data used, therefore resulting in a conservative sound level estimate.

3 Findings

33. In considering the application, the Commission reviewed the *Hydro and Electric Energy Act*, the pertinent provisions of which are found in subsections 2(a), 2(b), 2(c), 11 and 19(1). Additionally, the Commission considered Section 17 of the *Alberta Utilities Commission Act* which states:

> **17(1)** Where the Commission conducts a hearing or other proceeding on an application to construct or operate a … power plant …under the *Hydro and Electric Energy Act* …, it shall, in addition to any other matters it may or must consider in conducting the hearing or other proceeding, give consideration to whether construction or operation of the proposed …power plant… is in the public interest, having regard to the social and economic effects of the … plant… and the effects of the … plant… on the environment.

34. In Decision 2001-111,[7] the Commission's predecessor, the Alberta Energy and Utilities Board, described in the following passage how it considers the public interest in relation to an application for a power plant:

> The determination of whether a project is in the public interest requires the Board to assess and balance the negative and beneficial impacts of the specific project before it. Benefits to the public as well as negative impacts on the public must be acknowledged in this analysis. The existence of regulatory standards and guidelines and a proponent's adherence to these standards are important elements in deciding whether potential adverse impacts are acceptable. Where such thresholds do not exist, the Board must be satisfied that reasonable mitigative measures are in place to address the impacts. In many cases, the Board may also approve an application subject to specific conditions that are designed to enhance the effectiveness of mitigative plans. The conditions become an essential part of the approval, and breach of them may result in suspension or rescission of the approval.

[7] Decision 2001-111: EPCOR Generation Inc. and EPCOR Power Development Corporation – 490-MW Genesee Power Plant Expansion, Application No. 2001173, December 21, 2001.

35. The Commission considers that this approach to assessing whether a proposed project is in the public interest is consistent with the purpose and intent of the statutory scheme. Further, the Commission considers that this approach provides an effective framework for the assessment of large projects that require multiple approvals or authorizations.

36. The Commission finds that Windy Point has complied with the application requirements as set out in AUC Rule 007.

37. The Commission accepts the participant involvement program conducted by Windy Point and finds that there are no outstanding public or industry objections or concerns, as there were no objections filed in response to the Commission's notice of application.

38. In making its decision, the Commission considered that the Fish and Wildlife Division has reviewed the proposed power plant and is satisfied with the proposed location, mitigation strategies and post-construction mitigation program as reflected in the Fish and Wildlife Division's Wind Referral Report. However, the Commission considers it important for Windy Point to develop and implement a post-construction monitoring program, including bird and bat carcass surveys for at least two years, and that such a program be acceptable to the Fish and Wildlife Division. Also, Windy Point must file the results from its post-construction monitoring with the Fish and Wildlife Division, post the results in the Fish and Wildlife Division's management information system and submit, to the AUC, copies of those reports and all correspondence from the Fish and Wildlife Division in regard to those reports.

39. The Commission also considered that Alberta Culture and Community Spirit has reviewed the proposed project and is satisfied with the specified avoidance of historical resources and monitoring proposed during construction.

40. If after approval is granted, the location of any wind turbine supporting structure has to be relocated more than 50 metres from the coordinates stated in the application, the approval holder must re-apply to the Commission for approval to relocate the structure prior to construction. Additionally, for any relocation within 50 metres of a supporting structure that further impacts a feature to which Fish and Wildlife Division setbacks or Alberta Culture and Community Spirit avoidance or mitigation requirements apply, the approval holder must immediately consult with the appropriate agency and implement any additional mitigation measures specified.

41. In the event the results from post-construction wildlife monitoring differ significantly from the information presented in the application and upon which Fish and Wildlife Division provided its Wind Referral Report, the Commission may review the Windy Point approval pursuant to Section 41 of the *Hydro and Electric Energy Act*. The purpose of such a review would be to address any unanticipated environmental impacts resulting from the project.

42. In making its decision the Commission also considered Windy Point's commitments to minimizing disturbance of native grasslands, implement a comprehensive reclamation strategy and to restore fescue grasslands. In granting approval, the Commission is relying upon Windy Point to fulfill those commitments and, at the end of the useful life of the facility, promptly decommission the facility, and reclaim and restore disturbed areas as described in the application. When providing notice of facility decommissioning to the AUC, Windy Point shall fully describe the decommissioning, reclamation and restoration work conducted.

43. The Commission accepts the cumulative noise predictions presented in Scenario 4 of the noise impact assessments indicating that the daytime permissible sound level of 50 dBA L_{eq} will not be exceeded with the addition of the proposed wind farm operating at full sound power output.

44. However, the Commission finds that the proposed wind farm would not meet the night-time permissible sound level of 40 dBA L_{eq} without noise mitigation measures. Therefore, the Commission considered the noise mitigation measures included in the application. The measures proposed by the applicant consist of the shutting down of eleven of its proposed wind turbines and operating the other ten proposed turbines at reduced sound power output modes as presented in Appendix D of the noise impact assessment.

45. The Commission understands that, with the implementation of the above noise mitigation measures, predicted sound levels will be below the night-time permissible sound level of 40 dBA L_{eq} at the majority of the sound receptors. However, at receptors labeled H, K, L, O, Q and U, the predicted sound levels range between 40.2 dBA to 41.3 dBA, i.e. slightly above the night-time permissible sound level.

46. Closer examination of the locations of receptors H, K, L, O, Q and U indicates that receptors K, L, O and Q are surrounded by the existing Summerview turbines and the approved Heritage turbines, receptor U is surrounded by the approved Heritage and Welsch turbines, and receptor H is surrounded by the approved Welsch turbines and the proposed Windy Point turbines. Therefore, based on this examination, the Commission agrees with the applicant's assessment that the incremental sound contribution of the proposed power plant on these receptors is predicted to be no more than 0.3 decibels.

47. The Commission is aware that the cumulative predicted noise levels were calculated using noise source data from several manufacturers and information from other wind turbine operators in the study area and that noise prediction models tend to overstate the noise predictions because of the standards used and may vary based on the assumptions and input data entered. Therefore, the Commission accepts that, with the implementation of the noise mitigation measures committed to by the applicant, the proposed wind farm is likely to comply with the night-time permissible sound level.

48. To ensure that the proposed project complies with AUC Rule 012 when operating, the Commission directs Windy Point to conduct a post-construction comprehensive noise survey for receptors B, F and J under representative conditions, to verify and confirm that the power plant complies with the requirements of AUC Rule 012, and to file the results of this comprehensive noise survey with the Commission within one year of the commissioning of the power plant.

49. Based on the foregoing, the Commission finds that the proposed Windy Point Wind Park power project is in the public interest, in accordance with Section 17 of the *Alberta Utilities Commission Act*.

4 Decision

50. Pursuant to sections 11 and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants Windy Point Wind Park Ltd. the approval to construct and operate set out in Appendix 1 – Power Plant – Approval No. U2012-368 – July 31, 2012 (Appendix 1 will be distributed separately).

Dated on July 31, 2012.

The Alberta Utilities Commission

(original signed by)

Neil Jamieson
Commission Member