

Power Plant Approval 22563-D02-2018

Appendix 1 to Decision 22563-D01-2018	April 11, 2018
Capital Power Generation Services Inc. Halkirk 2 Wind Power Project	Proceeding 22563 Application 22563-A001

Capital Power Generation Services Inc. (Capital Power) by Application 22563-A001, registered on April 13, 2017, applied to the Alberta Utilities Commission for approval to construct and operate a 148-megawatt (MW) wind power plant, designated as the Halkirk 2 Wind Power Project, in the Halkirk area.

Pursuant to sections 11 and 19 of the *Hydro and Electric Energy Act*, the Commission approved the application in Decision 22563-D01-2018,¹ and granted an approval to Capital Power to construct and operate the power plant, subject to the provisions of the *Hydro and Electric Energy Act* and the *Alberta Utilities Commission Act*, any regulations made under the acts, any orders made under the acts, the Commission rules made pursuant to the *Alberta Utilities Commission Act*, and the following terms and conditions:

1. The power plant shall be located in the following locations:

Sections	Township	Range	Meridian
31	39	13	W4M
25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36	39	14	W4M
25, 26, 33, 34, 35, 36	39	15	W4M
6	40	13	W4M
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18	40	14	W4M
1, 2, 3, 4, 9, 10, 11, 12	40	15	W4M

2. The power plant shall consist of 74 Vestas V110 wind turbines, each rated at 2.0 MW, with a total generating capability of 148 MW, and as further described in the application.
3. Each wind turbine supporting structure shall be installed with its centre at the longitude and latitude coordinates specified in the application. If the support structure has to be located more than 50 metres from the specified coordinates, Capital Power must apply to the Commission for an amendment to this approval prior to construction.

¹ Decision 22563-D01-2018: Capital Power Generation Services Inc. – Halkirk 2 Wind Power Project, Proceeding 22563, Applications 22563-A001 and 22563-A002, April 11, 2018.

4. The power plant shall also consist of a 34.5-kilovolt collector system as described in the application. The collector system is to be used solely for collecting the electric energy generated by each turbine and transmitting that electric energy to the Goldeye 620S Substation.²
5. Capital Power shall submit a construction progress report to the Commission in writing, once every six months, pursuant to Section 3 of the *Hydro and Electric Energy Regulation*. The first progress report shall be filed with the Commission six months from the date of issuance of this approval.
6. Capital Power shall engage with the Fetazes to locate Wind Turbine T051 in a manner which minimizes the effects of the wind turbine on the safe operation of the airstrip, to the extent possible within 50 metres of the applied-for coordinates. Prior to construction, and no later than two years from the date of this decision, Capital Power will advise the Commission of the results. The Commission will then decide if further process is necessary.
7. Capital Power shall test groundwater quality and level at all residential and stock wells within 500 metres of a wind turbine location. Testing will be conducted prior to the construction of the wind turbine foundation to establish baseline conditions, and then conducted one year after cessation of ground disturbance. Groundwater quality testing will analyze parameters listed in the Level C Diagnostic Groundwater Suite as described in *Water Quality Testing: Drinking Water* issued by Alberta Agriculture and Forestry. In the event there are impacts to groundwater wells due to construction and/or operations related to the project, Capital Power will work with impacted landowners to implement appropriate mitigation on a case-by-case basis.
8. During the daytime period Capital Power will be allowed to operate all 74 wind turbines in Mode 0 STE within compliance with the permissible daytime sound level.
9. During the nighttime period two wind turbines will be allowed to operate in Mode 0 STE (T001B and T143), 70 wind turbines will be allowed to operate in Mode 1 STE and two wind turbines will be allowed to operate in Mode 2 STE (T106 and T140), within compliance with the permissible nighttime sound level.
10. Capital Power shall conduct post-construction comprehensive noise studies and an evaluation of low frequency noise at receptors R019, R033, R070 and R051, under representative operating conditions, and in accordance with Rule 012. Capital Power shall file all studies and reports relating to the post-construction noise survey and low frequency noise evaluation with the Commission within one year of connecting the power plant to the Alberta Interconnected Electric System.
11. Capital Power shall complete amphibian surveys, following Alberta Environment and Parks survey protocols, prior to construction where ground disturbance may occur within 100 metres of Class III to V wetlands. Capital Power will communicate the results to Alberta Environment and Parks and implement any mitigation measures recommended by Alberta Environment and Parks.

² Substation Permit and Licence 22563-D03-2018, Proceeding 22563, Application 22563-A002, April 11, 2018.

12. Capital Power shall keep the project's wildlife data current until the project is commissioned by updating the pre-construction wildlife field surveys as required.
13. Capital Power shall abide by any requirements and commitments outlined in the Alberta Environment and Parks Referral Report and in the Post-Construction Monitoring and Mitigation Plan developed for the project. As necessary, Capital Power must continue to consult with Alberta Environment and Parks Wildlife Management throughout construction and operation of the project; for example, consultation should occur if habitat features of sensitive wildlife species are discovered during future surveys or monitoring. Should Capital Power not implement any additional mitigation measures recommended by Alberta Environment and Parks, Capital Power shall file a letter outlining the reasons why it believes such mitigation measures should not be required and the Commission will implement further process, if necessary.
14. If any changes are made to the siting of the wind turbines, access roads, collector lines, and other infrastructure associated with the project, the construction schedule, or the proposed wildlife mitigation measures, Capital Power shall submit these changes to Alberta Environment and Parks Wildlife Management for its further review and approval.
15. For Wind Turbine T051, given the likelihood of migratory bat fatalities in the project area from the operation of the wind turbines without mitigation measures, the Commission directs Capital Power, in consultation with Alberta Environment and Parks Wildlife Management, to implement any and all mitigation measures suggested by Alberta Environment and Parks prior to operation. The Commission understands that mitigation measures for bat mortalities could include:
 - increasing the wind turbine blade cut-in speed or rotor start-up wind speed;
 - stopping blades from idling during low wind speeds not conducive to electricity generation;
 - “feathering” or altering the angle of the wind turbine blades;
 - temporarily curtailing wind turbines, particularly the more problematic wind turbines located at higher bat fatality risk locations, during certain periods of the year (e.g., mid-summer to late fall), weather conditions (e.g., air temperature, dew-point, wind speed, wind direction, barometric pressure), and time of day (e.g., dusk to dawn) in which migratory bats are more active or vulnerable to wind turbine-related mortalities;
 - implementing, as necessary, any other bat mortality methods or technologies that are, or may become, available and are economically achievable (e.g., acoustic deterrents or using radar/infrared photography to detect bats).
16. Capital Power shall complete a minimum of three years of post-construction wildlife monitoring, and submit a report annually to Alberta Environment and Parks Wildlife Management. If further mitigation is required or recommended by Alberta Environment and Parks, Capital Power shall file a copy of the post-construction wildlife monitoring with the Commission along with Alberta Environment and Parks' views. The Commission will then determine if further process is necessary.

17. Capital Power shall monitor all of the wind turbines located within one kilometre of valley and coulee edges for bat mortalities, in consultation with Alberta Environment and Parks Wildlife Management.
18. If the post-construction wildlife surveys indicate levels of bat mortalities in the vicinity of any of the wind turbines that exceed the Bat Mitigation Framework for Wind Power Development guidelines, Capital Power shall work with Alberta Environment and Parks to develop mitigation measures.
19. Capital Power shall comply with current applicable reclamation standards at the time of decommissioning. If no legislative requirements pertaining to reclamation are in place at the time of decommissioning, Capital Power will submit a reclamation plan to the Commission for approval.
20. Unless otherwise authorized by the Commission, construction of the power plant shall be completed by December 31, 2019.
21. Capital Power shall notify the Commission within 30 days of completing the power plant.
22. Capital Power shall obtain Commission approval prior to making any substantive changes to the power plant or substantially varying the design or specifications of the power plant from what was stated in the application or what the Commission has approved.
23. This approval is not transferable unless approved by the Commission.

The Commission may cancel or suspend this approval, in whole or in part, in accordance with Section 41 of the *Hydro and Electric Energy Act*, or may review this approval, in whole or in part upon its own motion, or upon an application by an interested party, in accordance with Section 10 of the *Alberta Utilities Commission Act*.

Alberta Utilities Commission

(original signed by)

Neil Jamieson
Panel Chair