

Aura Power Renewables Ltd.

Burdett Solar Project

July 20, 2023

Alberta Utilities Commission

Decision 27488-D01-2023 Aura Power Renewables Ltd. Burdett Solar Project Proceeding 27488 Application 27488-A001

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Alberta Utilities Commission

Calgary, Alberta

Aura Power Renewables Ltd. Burdett Solar Project Decision 27488-D01-2023 Proceeding 27488 Application 27488-A001

1 Decision summary

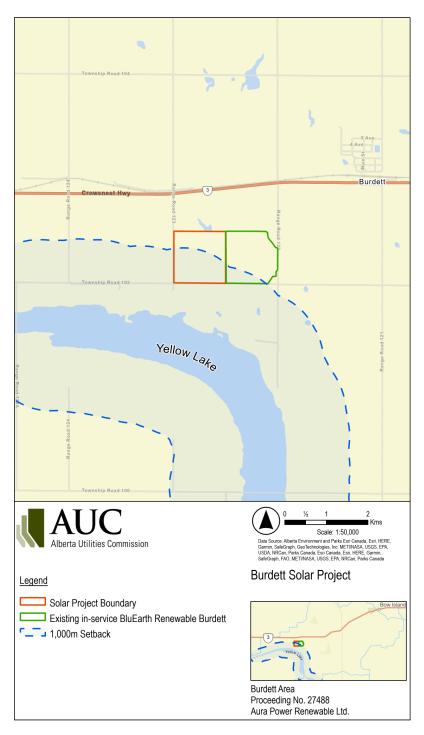
1. In this decision, the Alberta Utilities Commission denies an application from Aura Power Renewables Ltd. to construct and operate the Burdett Solar Project, to connect the project to the FortisAlberta Inc. distribution system, and to change the ownership of the project. The application is not in the public interest as it is sited within 1,000 metres of a named lake, which has increased wildlife in the area, and has the potential to create unacceptably high risks to migratory birds and water birds in particular. The Commission finds that the project, as sited, does not align with Alberta Environment and Protected Areas' (AEPA)¹ Wildlife Directive for Alberta Solar Energy Projects (the Directive).

2 Application

2. Aura filed an application with the Commission for approval to construct and operate the 17.5-megawatt (MW) Burdett Solar Project and to connect the project to the Alberta Interconnected Electric System through the FortisAlberta distribution system. The application was filed under sections 11 and 18 of the *Hydro and Electric Energy Act*. The project would be located in the County of Forty Mile No. 8, near the hamlet of Burdett, as shown on the map in Figure 1.

On October 24, 2022, the 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 AEP should be read as AEPA.

Figure 1. Proposed Burdett Solar Project boundary



3. Aura stated that the project would be located on approximately 160 acres of privately owned land. The project would consist of approximately 38,800 solar photovoltaic modules,² panel racking systems, internal access roads, cabling, electrical inverters, switchgear, transformers and other related electrical equipment.

Exhibit 27488-X0042, Round 1 IR Response, PDF page 11.

- 4. Aura's application included:
 - A participant involvement program report, which confirmed that there were no outstanding questions or concerns from potentially affected stakeholders.³
 - A letter of non-objection from FortisAlberta, which confirmed that it was prepared to allow the interconnection of the project to the FortisAlberta distribution system.⁴
 - A solar glare hazard analysis report from Green Cat Renewables Canada Corporation, which concluded that the project was not likely to create hazardous glare conditions for the dwellings or transportation routes assessed,⁵ as well as an updated cumulative glare assessment concluding the same.⁶
 - An environmental evaluation from BBA Engineering Ltd., which was prepared based on information presented in previous environmental assessments for the project conducted by other consultants, and described the potential environmental impacts of the project.
 - A wildlife construction and operation mitigation plan from JCL Environmental Consulting Ltd. and Vireo Environmental Consulting Ltd., which included site-specific mitigation measures for wildlife and wildlife habitat.⁷
 - A conservation and reclamation plan from Bear Tracks Environmental Services (2015) Ltd., which presented approaches to minimize the project's potential effects on the environment and to return land disturbed by the project to an equivalent land capability.8
 - A renewable energy referral report from AEPA, which ranked the project an overall moderate risk to wildlife and wildlife habitat.9
 - A noise impact assessment from Green Cat, which concluded that the project would meet the requirements of Rule 012: *Noise Control*. 10
 - A *Historical Resources Act* approval for the project from Alberta Culture and Tourism, dated December 14, 2017.¹¹
- 5. Aura anticipated a construction start date of March 2025 with a completion date within 12 months.
- 6. Aura also requested that the Commission transfer the approvals to Liesma Limited, a specific entity set up for the project.¹²

Exhibit 27488-X0007, PIP report.

⁴ Exhibit 27488-X0043, Fortis Letter of Non Objection.

⁵ Exhibit 27488-X0014, Solar Glare Report.

⁶ Exhibit 27488-X0037, Glare Analysis.

⁷ Exhibit 27488-X0015, Construction and Operation Mitigation Plan.

⁸ Exhibit 27488-X0016, Conservation and Reclamation Plan.

⁹ Exhibit 27488-X0018, AEP Referral Report.

Exhibit 27488-X0047, Updated NIA.

Exhibit 27488-X0019, Historical Resource Report.

Exhibit 27488-X0058, 2023-04-26 Memo to AUC - Change of Ownership.

7. The Commission issued a notice of application for the project and received one statement of intent to participate from the St. Mary River Irrigation District (SMRID). The SMRID submitted it owns a pipeline that runs through the project area, as well as a right-of-way to Yellow Lake, located approximately 600 metres south of the project. The SMRID was concerned about the loss of investment in water conveyance infrastructure and removal of existing irrigation acres. The Commission granted standing to the SMRID and scheduled a written hearing to address those concerns. The SMRID later withdrew its statement of intent to participate in the proceeding, and the Commission cancelled the scheduled hearing.

3 Findings

- 8. A power plant application filed with the Commission must comply with Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines* and Rule 012: *Noise Control.*
- 9. When the Commission receives an application to construct and operate a power plant, Section 17(1) of the *Alberta Utilities Commission Act* is engaged. This provision states that, in addition to any other matters it may or must consider, the Commission must give consideration to whether the proposed project is in the public interest, having regard to the social and economic effects of the project and its effects on the environment.
- 10. Conducting a public interest assessment requires the Commission to assess and balance the competing elements of the public interest in the context of each specific application before it. Part of this exercise is an analysis of the nature of the potential impacts associated with a particular project, and the degree to which the applicant has addressed these impacts. Balanced against this is an assessment of the project's potential public benefits. The assessment includes the positive and adverse impacts of the project on those nearby, such as landowners. The Commission assesses impacts such as glare and noise as it balances the public interest considerations.
- 11. The existence of applicable regulatory standards and guidelines, including those from other municipal, provincial and federal authorities, and a proponent's adherence to these standards are important elements in deciding if potential adverse impacts are acceptable. The Commission has previously affirmed that the public interest will be largely met if an application complies with existing regulatory standards, and the project's public benefits outweigh its negative impacts.
- 12. In the following sections, the Commission describes the rationale for its decision. The Commission first provides an overview of AEPA's referral report rankings for the project, followed by a discussion about the siting of the project, and the migratory bird surveys.

3.1 Alberta Environment and Protected Areas' referral report

13. As part of the Commission's consideration of a project's potential environmental effects, the Commission takes into account the renewable energy referral report from AEPA for the project. A referral report provides AEPA's assessment of a project's environmental effects, which considers the Directive¹³ and other related AEPA guidelines and standards. One or more

Wildlife Directive for Alberta Solar Energy Projects, Alberta Environmental and Parks, effective October 4, 2017.

AEPA wildlife biologists, with experience assessing the environmental impacts of solar projects in Alberta, review environmental and project-specific information provided by the proponent in preparing the referral report. The Directive states that:

- i. AEPA is responsible for the overall management and regulation of wildlife in Alberta, including establishing policies, directives, guidelines and similar administrative procedures (collectively, wildlife policies) under the *Wildlife Act* and the *Environmental Protection and Enhancement Act*. The legislation and wildlife policies include responsibilities for the designation, protection and recovery of wildlife, including endangered animals and other sensitive species, and wildlife habitat. The legislation and wildlife policies apply to the potential impacts caused by the construction and operation of wind and solar power plants.¹⁴
- ii. The role of ... AEP... is to ensure that the development of solar energy projects include appropriate consideration and mitigation of potential negative effects on Alberta's wildlife and wildlife habitat.¹⁵
- 14. In the project's referral report, AEPA found that the project had an overall moderate risk to wildlife and wildlife habitat, based on project siting, wildlife use in the area, and commitments made by Aura to mitigate and monitor wildlife impacts. The risk ranking specific to migrating birds is moderate due to the proximity of the project to Yellow Lake (also known as Burdett Reservoir). AEPA noted that siting the project within 500 metres of Yellow Lake would increase risk to wildlife and is not consistent with AEPA policy.¹⁶
- 15. AEPA's referral report also identified that there is potential for elevated bird mortality risk due to water bird activity in the area:
 - ...Project infrastructure is sited only 438 m from Yellow Lake which serves as a major stopover site for migrating waterfowl in both spring and fall. Yellow Lake is a [sic] known to provide habitat for water obligate birds, including species at risk, and is a breeding ground for colonial nesting birds. These species are particularly vulnerable to stranding if they were to land within the Project area. Due to the increased wildlife activity in the area there is an elevated risk that birds flying to or from Yellow Lake may be attracted to the nearby solar infrastructure, resulting in mortality from the project.¹⁷
- 16. Aura explained that, should unforeseen issues such as bird mortality arise after construction, it would work with AEPA to develop appropriate mitigations as required.

 18 It provided a list of potential mitigation measures to minimize bird mortality during operations, including: using bird deterrents, adding anti-reflective striping or white edges to solar panels, using visual or auditory deterrents, and employing additional monitoring measures during spring and/or fall migration periods when there is higher potential for collisions.

 19

Bulletin 2018-04: Roles and responsibilities of the Alberta Utilities Commission and Alberta Environment and Parks for applications to construct and operate wind and solar power plants, March 8, 2018.

Wildlife Directive for Alberta Solar Energy Projects, Alberta Environment and Parks, effective October 4, 2017, PDF page 1.

Exhibit 27488-X0018, AEP Referral Report, PDF page 7.

Exhibit 27488-X0018, AEP Referral Report, PDF page 11.

Exhibit 27488-X0057, Round 3 IR Responses, PDF page 5.

⁹ Exhibit 27488-X0015, Wildlife Construction and Operation Mitigation Plan, February 2018, PDF page 22.

17. The Commission is not persuaded that the mitigation measures suggested by Aura would effectively mitigate unacceptable levels of bird mortality from photovoltaic infrastructure. There is a lack of evidence to support their effectiveness at projects sited within 1,000 metres of a named lake where there is increased bird activity. Furthermore, in the case that attempts to mitigate bird mortalities are unsuccessful, Aura submitted that AEPA's recommended strategy of covering and shutting down selected panels during certain times of the year (e.g., breeding or migration seasons) is not economically viable.²⁰

- 18. Another potential risk discussed in the project's environmental evaluation was the possibility that the project could experience higher bird mortality due to the lake effect hypothesis, where waterfowl may mistake solar panels as water and try to land within a project. The environmental evaluation suggested a hypothesis that the lake effect could actually minimize mortality as waterfowl may prefer to utilize the nearby lake habitat instead of landing within the project area. However, the evaluation goes on to say that based on the limited empirical research available to date, it is unclear whether the potential increase in bird mortality at a solar project would be caused by the lake effect or other components associated with solar projects.²¹
- 19. The Commission acknowledges that there is a lack of information regarding the lake effect, especially within Alberta. This is also noted by AEPA in the Directive. Further, it is difficult to compare contradicting evidence pertaining to projects that have a different design than the Burdett project, and that are located in a different environment. For example, it is currently unknown whether the solar infrastructure design exacerbates the presence of the lake effect. In the Foothills Solar Project, the applicant proposed a number of mitigations to reduce bird mortality risk due to the potential for the lake effect hypothesis. One of these mitigations was the use of a single-axis tracking system for the solar panels, on the basis this would theoretically change the appearance of the project so as not to appear like a large body of water. The Commission notes that the Burdett Solar Project was designed using a fixed-tilt racking system. It is unknown if a fixed-tilt racking system may increase the likelihood of attraction to solar infrastructure and the lake effect.
- 20. Given the limited data on the lake effect hypothesis specific to Alberta and whether the solar infrastructure design (e.g., fixed or tracking panels) plays a role, the Commission in unable to draw a conclusion regarding the lake effect. As a result of the absence of such evidence in this proceeding, the Commission is not able to rule out the potential of the lake effect.

Exhibit 27488-X0057, Round 3 IR Responses, PDF page 5.

Exhibit 27488-X0038, Environmental Evaluation, PDF page 37.

Wildlife Directive for Alberta Solar Energy Projects, Alberta Environment and Parks, effective October 4, 2017, PDF page 4 states "It is currently unknown if the "lake effect" hypothesis is applicable in Alberta because most of the research on the topic has been conducted in Europe and the United States so further studies are necessary in Alberta."

Exhibit 27486-X0105.01, Foothills Solar Bird Risk Mitigation Plan, PDF page 9.

3.2 Is the project's siting in accordance with the Directive?

21. The Directive includes Standard 100.1.8, which states:

The solar energy project must not occur within 1000 m of a named lake, as per NRCAN [Natural Resources Canada] (2016).²⁴

- 22. The closest project infrastructure is sited approximately 438 metres from Yellow Lake, well within the 1,000-metre boundary outlined by the Directive.²⁵
- 23. The Directive provides the following about the Standards:

Standards provide siting, timing and site-related wildlife conservation requirements that are to be met in the planning and development of a solar energy project. All standards are preceded by "100". It is the responsibility of the proponent to ensure that the Standards are implemented and that [Best Management Practices] are given consideration and implemented where practical for the solar energy project.²⁶

- 24. The 1,000-metre setback prescribed by the Directive is shown in Figure 1 relative to the proposed project area.
- 25. When questioned about its site selection process, Aura explained that it had selected the project site prior to the release of the current Directive in 2017.²⁷ Aura stated that the site was selected under guidance of the 2016 *Wildlife Guidelines for Alberta Solar Energy Projects* (2016 Policy) and did not consider the Directive's 1,000-metre setback from a named lake because pre-application wildlife work had been initiated prior to the October 4, 2017, release of the Directive. Aura stated that meetings were held with AEPA in August of 2017 to review the location, that the proximity to Yellow Lake was discussed, and it was agreed that Aura would monitor the location for significant migratory bird activity and potentially implement mitigation measures if an appropriate amount of activity was detected. Aura also indicated that at the time it "determined that the amount of migratory activity was low and did not justify any further action." Further, Aura noted that provisions were made by AEPA in order to "grandfather" projects that were initiated prior to the release of the Directive in October 2017.
- 26. When asked whether Aura considered alternate locations further away from Yellow Lake and why these locations were not selected as the project location, Aura advised that numerous potential landowners within a reasonable proximity of the substation and on the south side of Highway 13 were contacted and that no other sites were identified.²⁹

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Wildlife Directive for Alberta Solar Energy Projects, Alberta Environment and Parks, effective October 4, 2017, PDF page 7.

Exhibit 27488-X0018, AEP Referral Report, PDF page 7.

Wildlife Directive for Alberta Solar Energy Projects, Alberta Environment and Parks, effective October 4, 2017, PDF page 5.

Exhibit 27488-X0042, Round 1 IR Response, PDF page 2.

Exhibit 27488-X0042, Round 1 IR Response, PDF page 2.

Exhibit 27488-X0042, Round 1 IR Response, PDF page 2.

27. In Decision 27486-D01-2023 for the Foothills Solar Project, the Commission emphasized the importance of site selection for projects:³⁰

AEP and the AUC consider initial site selection to be the foremost means of projects reducing their potential for environmental impacts. The Directive states:

Appropriate site selection at the landscape level is the first and most critical factor in preventing significant negative effects on wildlife. ... A well-sited solar energy project is one that minimizes impact on wildlife and wildlife habitat and limits the need for mitigation measures (Tsoutsos et al. 2005, Northrup and Wittemyer 2013). ... If preliminary information for a potential site indicates a high risk to wildlife (i.e. presence of native grasslands, wetlands, or records of sensitive species, etc.), alternate locations should be sought.³¹

- 28. Named lakes are known features and the Commission considers it unacceptable to significantly infringe upon the 1,000-metre setback from a named lake. The project layout, as proposed, sites the majority of the infrastructure within 1,000 metres of Yellow Lake. Unlike a situation in which a sensitive wildlife feature is discovered following wildlife surveys (e.g., a nest or amphibian breeding habitat), where the feature could not have been known in the early planning stages, the project as currently sited is not consistent with the known 1,000-metre setback. The infringement of this standard was known as early as 2017 when the Directive was first issued.
- 29. Although Aura indicated that provisions were made by AEPA in order to "grandfather" projects that were initiated prior to the release of the Directive, the grace period for applying these transitional procedures remained in effect until December 31, 2018.³² Aura's project application was submitted on August 9, 2022, well past the expiry of the transitional period the Commission finds reliance solely on the 2016 Policy unacceptable.
- 30. The Commission acknowledges that Aura initiated its pre-application wildlife work before the release of the Directive in 2017. The Commission also acknowledges that in March 2019, three months after the expiry of the transitional period, AEPA issued its referral report for the project, which did not refute the grandfathering of the use of the 2016 Policy for siting. Nevertheless, the Commission observes that Aura did not file its AUC application until August 2022, more than three years after receiving the referral report. In filing its AUC application, Aura retained the original project siting despite knowing as early as 2017 that AEPA did not consider such siting ideal, and despite the express language in the transitional procedures stating that proponents would be required to adopt the Directive for all aspects of the planning and application process from December 31, 2018, onwards.
- 31. The Commission recognizes that AEPA may have been prepared to extend some leniency towards proponents who were taking steps to obtain a referral report during the initial transitional grace period, but the Commission does not consider it reasonable for Aura to expect that it could

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Decision 27486-D01-2023: Foothills Solar GP Inc. – Foothills Solar Project, Proceeding 27486, Applications 27486-A001 and 27486-A002, April 20, 2023, PDF page 16, paragraph 55.

Wildlife Directive for Alberta Solar Energy Projects, Alberta Environment and Parks, effective October 4, 2017, PDF page 6.

Solar Energy Review Process: Transition from old (2016) Wildlife Guidelines for Alberta Solar Energy Projects to new (2017) Wildlife Directives for Alberta Solar Energy Projects, Alberta Environment and Parks, effective October 4, 2017, PDF page 1.

continue to avail itself of obsolete policy guidance for several years after the fact. In light of this, the Commission maintains its view that the project is improperly sited.

- 32. The Commission notes that the project is sited adjacent to the BluEarth Renewables Inc. (BluEarth) Burdett Solar Facility, which is also within the 1,000-metre setback prescribed by the Directive. This project was approved prior to the issuance of the Directive and does not encroach as significantly on the 1,000-metre setback of Yellow Lake, as compared with Aura's Burdett Solar Project. The closest project infrastructure for BluEarth's facility is located approximately 840 metres from Yellow Lake (as opposed to approximately 438 metres for the Burdett Solar Project), with the majority of BluEarth's project's infrastructure located outside the 1,000-metre setback. Figure 1 illustrates that the Aura project has a more significant infringement on the Yellow Lake setback area for much of the project in comparison to the BluEarth project that is located further east and more distant given the geographic curve of the lake.
- 33. The Commission acknowledges the AEPA referral report states there is a moderate risk to birds as opposed to a high risk; however, given the use of the lake by birds and the risks identified by AEPA, the Commission finds the potential risk to be unacceptable. Further, there is insufficient evidence to support acceptable success rates for the mitigation measures that can be implemented in the event of high bird mortality. The Commission finds that the project, as sited, does not align with AEPA's Directive.

3.3 Adequacy of migratory bird surveys and other issues

- 34. When questioned on the migratory activity at the project site, Aura advised that during its 2017 migration studies, bird activity in the project footprint was observed to be low and that the majority of migratory bird observations during the spring and fall studies were associated with Yellow Lake.
- 35. When asked about the methodology for its 2017 spring and fall studies, Aura submitted that three rounds of spring bird migration surveys and three rounds of fall bird migration surveys were conducted, as recommended in consultation with AEPA in 2017. Aura stated that this is consistent with the number of survey visits as outlined by the current Directive and AEPA Bird Migration Survey Protocol (2020).³³
- 36. Aura submitted that all but one of the spring or fall migratory bird survey rounds were conducted during the appropriate timing period outlined by the current Directive.
- 37. The Commission notes that the late spring surveys conducted by Aura on May 27 and 28 should have been completed between April 15 and May 15 in accordance with the current Directive; however, that protocol did not exist when the surveys were completed. The survey dates were based on the 2016 Policy, which were grandfathered in and considered acceptable by AEPA at the time.
- 38. The Commission has concerns with Aura's conclusion that there was low migratory bird activity in the project area as AEPA's referral report stated there was potential that the spring surveys were conducted too late in the season to capture peak migratory activity and that

Exhibit 27488-X0057, Round 3 information requests: response, PDF page 4.

Yellow Lake likely provides important staging habitat in both the spring and fall.³⁴ The project's environmental evaluation also identified Yellow Lake as a staging habitat for an abundance of waterfowl.

- 39. Aura indicated that migratory surveys will be repeated in 2023 and results will be provided to AEPA in a request for an updated referral report for the project.
- 40. The Commission rejects Aura's rationale for stating there was low migratory bird activity given Aura's incidental bird migration observations from two site visits in the fall of 2017, noted by AEPA, and AEPA's assessment of the migratory activity in the area. The Commission does not consider the survey results to be consistent with the significance of Yellow Lake for migrating waterfowl in the area.
- 41. Aura stated that "[n]o new mitigation requirements for wildlife have been identified since the original Construction and Operations Mitigation Plan was developed in 2017."³⁵ Aura did not submit the current application until 2022, which means Aura had five years to revisit the project siting relative to a known environmental feature (i.e., proximity to a named lake) and chose not to.
- 42. Although Aura committed to three years of post-construction monitoring, and mitigation strategies if mortality of any species or group of species is found to be high,³⁶ the Commission is not satisfied that reactive measures are adequate in mitigating bird mortality, which can be prevented through better siting and compliance with the Directive.
- 43. The Commission also notes that Aura's initial application included a number of deficiencies or discrepancies that had to be clarified through multiple rounds of information requests, including missing maps of the project's layout and environmental data, a missing environmental evaluation, and inconsistent submissions regarding the wetlands in the project area. Although Aura provided the missing information, the studies and assessments on which Aura's environmental assessment are based are dated as early as 2017 in some cases, and currently being updated, for submission to AEPA. Overall, the Commission found the attention to application details associated with environmental matters to be unsatisfactory.

3.4 Conclusion

- 44. Due to the siting of the project in proximity to Yellow Lake (approximately 438 metres from the lake), which does not align with the Directive, the Commission finds the corresponding risk to birds, in particular migratory birds and water birds, from the project to be unacceptable. The project results in increased environmental risks and the Commission has determined that the potential impacts of the project on the environment are unacceptable and the project is not in the public interest. The potential risk to birds can be mitigated with better project siting that aligns with the Directive.
- 45. As the application is denied on the basis that the project is sited in close proximity to Yellow Lake with the potential to negatively effect migratory birds and water birds, the

Exhibit 27488-X0018, AEP Referral Report, PDF page 9.

Exhibit 27488-X0042, Round 1 IR Response, PDF page 8.

Exhibit 27488-X0048, Aura to AUC – IR Responses, PDF page 2.

Commission finds it unnecessary to comment on the other aspects of the application, including glare impacts, noise impacts, and the participant involvement program.

4 Decision

46. The Commission finds that approval of the application is not in the public interest. The Commission denies Application 27488-A001 for Aura Power Renewables Ltd. to construct and operate the Burdett Solar Project and to connect the project to the FortisAlberta Inc. distribution system.

Dated on July 20, 2023.

Alberta Utilities Commission

(original signed by)

Renée Marx Commission Member