



**Aura Power Renewables Ltd.**

**Killarney Lake Solar Project**

**April 28, 2021**

**Alberta Utilities Commission**

Decision 26286-D01-2021

Aura Power Renewables Ltd.

Killarney Lake Solar Project

Proceeding 26286

Applications 26286-A001 and 26286-A002

April 28, 2021

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## **1 Decision summary**

1. In this decision, the Alberta Utilities Commission approves applications from Aura Power Renewables Ltd. to construct and operate a 22.5-megawatt solar power plant, designated as the Killarney Lake Solar Project, and to connect the project to FortisAlberta Inc.'s 25-kilovolt distribution system.

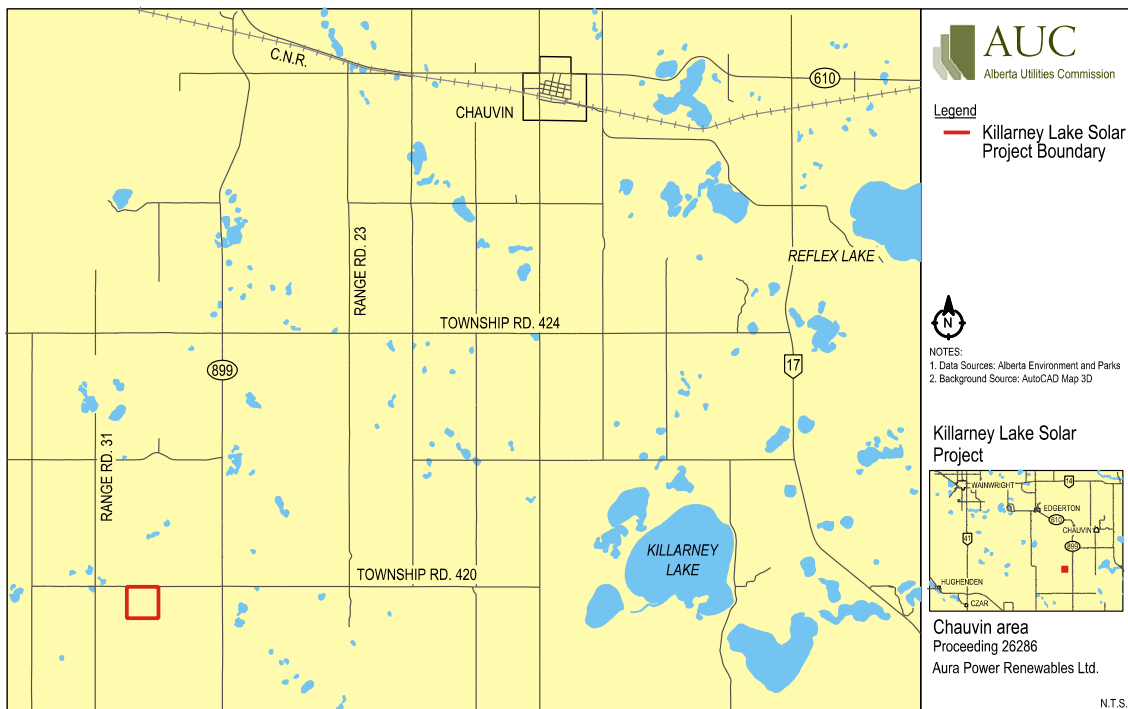
## **2 Applications**

2. Aura Power Renewables Ltd. (Aura) filed applications with the Commission for approval to construct and operate a 22.5-megawatt (MW) solar power plant, designated as the Killarney Lake Solar Project, and to connect the project to FortisAlberta Inc.'s 25-kilovolt electric distribution system, in the Municipal District of Wainwright No. 61. The applications were registered on February 17, 2021, as Application 26286-A001 and Application 26286-A002.

3. The project would consist of approximately 48,152 solar photovoltaic modules on a single-axis tracking system, including up to six inverters rated at up to 1,500 volts each. The project would also include internal access roads, cabling, switchgear, transformers and other electrical related equipment.

4. The project would be located on approximately 160 acres of private agricultural land in the northeast quarter of Section 36, Township 41, Range 3, west of the Fourth Meridian, as shown on the map in Figure 1.

Figure 1. Proposed Killarney Lake Solar Project



5. The project would be interconnected to FortisAlberta's 25-kilovolt electric distribution system in the southwest quarter of Section 1, Township 42, Range 3, west of the Fourth Meridian. The project would connect to FortisAlberta's feeder 267S-2054L. Aura filed a letter from FortisAlberta indicating that it could connect the project subject to a few conditions and limitations on the system.

6. Aura's application included:

- A participant involvement program, which detailed consultation with stakeholders within 800 metres of the proposed project and notification to stakeholders within 2,000 metres of the proposed project. Aura confirmed that there are no outstanding concerns.
- A noise impact assessment summary form, which concluded that the project would be in compliance with Rule 012: *Noise Control*.
- A solar glare assessment, which modelled four operational scenarios for the proposed project.
- A renewable energy referral report issued by Alberta Environment and Parks Wildlife Management, which concluded that the project would have an overall low risk to wildlife and wildlife habitat.
- An environmental evaluation report, prepared by Sagebrush Planning, which concluded that any potential adverse effects of the project can be effectively mitigated.

- *Historical Resources Act* approval dated December 14, 2017.
7. In response to information requests by the Commission, Aura confirmed that:
- It would implement a site-specific seeding and vegetation control plan prior to construction and during operation of the project to reduce overgrowth and ultimately the risk related to fire.
  - It would develop a site-specific emergency response plan in collaboration with local fire and emergency medical services staff which would be available three months prior to construction.
  - The operator of the project would periodically evaluate decommissioning costs and compare that value to the salvage value of the facility. If it is determined that the decommissioning costs exceed the salvage value, the operator will arrange to have funds held in escrow to cover the difference.
8. Aura stated that it expects construction to commence as early as the first quarter of 2022 with an estimated in-service date to be no later than November 1, 2022. However, Aura requested that the Commission approve a construction completion deadline of November 1, 2023, to account for any unforeseen delays or to allow for participation in any renewable energy initiatives that may be awarded.
9. The Commission issued a notice of applications and no submissions were received in response to the notice.

### **3 Findings**

10. The Commission is considering the applications under sections 11 and 18 of the *Hydro and Electric Energy Act*. These sections state that no person can construct or operate a power plant or connect a power plant to the Alberta Interconnected Electric System without the Commission's approval.
11. 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.
12. 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. Additionally, the Commission finds that Aura's participant involvement program satisfied the requirements of Rule 007. No submissions were received in response to the notice of applications.
13. The Commission notes that Aura has not finalized selection of equipment for the project. Consequently, the Commission imposes the following as a condition of approval:
- a) Once Aura 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, glare 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.

14. With respect to noise impacts, the Commission finds that the noise impact assessment summary form submitted by Aura meets the requirements of Rule 012 and accepts the conclusion of the summary form that noise from the project will comply with the permissible sound levels established by Rule 012.

15. Aura retained Green Cat Renewables Canada Corporation to predict solar glare from the project.<sup>1</sup> The solar glare assessment identified two transportation routes (Township Road 420/415A and Range Road 31) and one dwelling as receptors.

16. The solar glare assessment assumed that the project would use anti-reflective coating on the solar panels. Green Cat indicated that the project solar panels would utilize a single-axis tracking system with a maximum tracking angle of 50 degrees, and the single-axis tracking system would include a backtracking function. Green Cat assumed three backtracking angles, five degrees, 15 degrees and 25 degrees, “based on understandings of similar tracking systems in Alberta.”<sup>2</sup> In summary, the solar glare assessment modelled four operational scenarios: single-axis tracking with a maximum tracking angle of 50 degrees and no backtracking, and single-axis tracking with backtracking angles of five, 15 and 25 degrees during backtracking periods.

17. In the solar glare assessment, Green Cat used a viewing angle of plus/minus 15 degrees to model the transportation routes. In response to an information request by the Commission, Green Cat reran the glare model using a more conservative viewing angle of plus/minus 25 degrees and predicted the project would result in up to 2,773 minutes of yellow solar glare per year at Township Road 420/415A for the scenario that assumed a backtracking angle of five degrees. In addition, Green Cat predicted that Township Road 420/415A would experience zero solar glare from the project for the other three scenarios, and other glare receptors would experience zero solar glare from the project for all the scenarios.<sup>3</sup>

18. Green Cat explained that vehicle operators using the impacted transportation route would only experience a fraction of the predicted glare because vehicle operators travel past the project site, and do not stand still while looking at the solar panels.<sup>4</sup>

19. The Commission accepts Green Cat’s predictions for the project solar glare and its explanation that the actual solar glare expected along Township Road 420/415A would be less than the predicted duration as vehicle operators travel past the project. The Commission notes that Green Cat’s prediction results for the project solar glare were premised upon the use of an anti-reflective coating applied to the project solar panels, and were dependent on the backtracking angles of the project solar panels.

20. There are currently no public safety standards or regulations associated with solar glare that apply to the project. Nonetheless, the Commission expects that any glare issues associated

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<sup>1</sup> Exhibit 26286-X0015, Solar Glare Hazard Assessment.

<sup>2</sup> Exhibit 26286-X0015, Solar Glare Hazard Assessment, PDF page 17.

<sup>3</sup> Exhibit 26286-X0027, Aura to AUC - Round 1 IR response, PDF page 2.

<sup>4</sup> Exhibit 26286-X0027, Aura to AUC - Round 1 IR response, PDF page 2.

with the project will be addressed by Aura in a timely manner. Accordingly, the Commission imposes the following conditions of approval:

- b) Aura shall use anti-reflective coating on the project solar panels.
- c) Aura shall provide an update to the Commission regarding the final backtracking design specifying the final backtracking angle(s) that the project solar panels will use during backtracking periods, and confirm that the final backtracking design will not result in increases to the solar glare impacts beyond those predicted in the solar glare assessment. This update may be part of the letter confirming the final project design. The update is to be filed no later than one month before construction is scheduled to begin.
- d) Aura shall file a report detailing any complaints or concerns it receives or is made aware of regarding solar glare from the project during its first year of operation, as well as Aura's response to the complaints or concerns. Aura shall file this report no later than 13 months after the project becomes operational.

21. The Commission notes that Aura has not finalized its conservation and reclamation plan and monitoring program for the project which would be prepared as part of its detailed design to ensure a pre-disturbance site assessment using shallow soil assessment would be reflected in the plan for the project. Consequently, the Commission imposes the following as a condition of approval:

- e) Aura shall submit a copy of its finalized conservation and reclamation plan and monitoring program at least 60 days prior to the start of construction.

22. Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* came into force on July 1, 2019, and applies to all solar projects. Accordingly, Aura must comply with the requirements of Rule 033. Subsection 3(3) of Rule 033 requires approval holders to submit to Alberta Environment and Parks and the AUC annual post-construction monitoring survey reports. Consequently, the Commission imposes the following condition of approval:

- f) Aura shall submit an annual post-construction monitoring survey report to Alberta Environment and Parks (AEP) and the AUC 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*.

23. The Commission considers the applications to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.



#### **4 Decision**

24. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 26286-A001 and grants Aura Power Renewables Ltd. the approval set out in Appendix 1 – Power Plant Approval 26286-D02-2021 – April 28, 2021, to construct and operate the Killarney Lake Solar Project (Appendix 1 will be distributed separately).

25. Pursuant to Section 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 26286-A002 and grants Aura Power Renewables Ltd. the approval set out in Appendix 2 – Connection Order 26286-D03-2021 – April 28, 2021, to connect the Killarney Lake Solar Project to the distribution system of FortisAlberta Inc. (Appendix 2 will be distributed separately).

Dated on April 28, 2021

#### **Alberta Utilities Commission**

*(original signed by)*

Neil Jamieson  
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 are conditions of Decision 26286-D01-2021 that require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 26286-D02-2021:

- Once Aura 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, glare 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.
- Aura shall provide an update to the Commission regarding the final backtracking design specifying the final backtracking angle(s) that the project solar panels will use during backtracking periods, and confirm that the final backtracking design will not result in increases to the solar glare impacts beyond those predicted in the solar glare assessment. This update may be part of the letter confirming the final project design. The update is to be filed no later than one month before construction is scheduled to begin.
- Aura shall file a report detailing any complaints or concerns it receives or is made aware of regarding solar glare from the project during its first year of operation, as well as Aura's response to the complaints or concerns. Aura shall file this report no later than 13 months after the project becomes operational.
- Aura shall submit a copy of its finalized conservation and reclamation plan and monitoring program at least 60 days prior to the start of construction.
- Aura shall submit an annual post-construction monitoring survey report to Alberta Environment and Parks (AEP) and the AUC 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*.

The following is a condition of Decision 28286-D01-2021 that does not require a subsequent filing with the Commission:

- Aura shall use anti-reflective coating on the project solar panels.