



## **Aura Power Renewables Ltd.**

### **Peace Butte Solar Farm and Battery Storage Project**

**March 19, 2024**

**Alberta Utilities Commission**

Decision 28259-D01-2024

Aura Power Renewables Ltd.

Peace Butte Solar Farm and Battery Storage Project

Proceeding 28259

Applications 28259-A001 and 28259-A002

March 19, 2024

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The Commission may, no later than 60 days from the date of this decision and without notice, correct typographical, spelling and calculation errors and other similar types of errors and post the corrected decision on its website.

## **1 Decision summary**

1. In this decision, the Alberta Utilities Commission approves applications from Aura Power Renewables Ltd. to construct and operate the Peace Butte Solar Farm and Battery Storage Project (the project) located in Cypress County. The project consists of a solar power plant, a battery energy storage system and the associated Black and White 1136S Substation.

## **2 Applications**

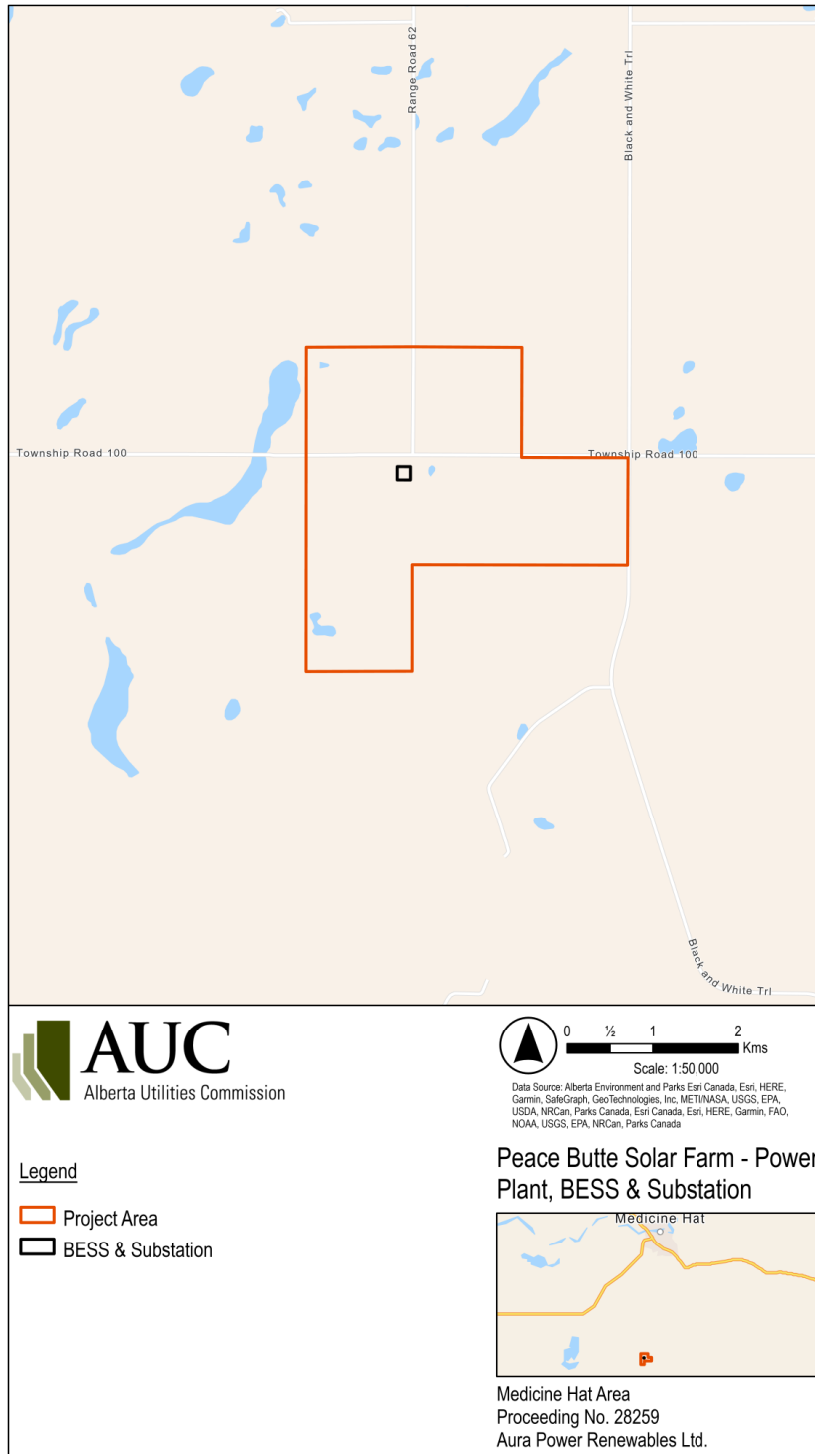
2. Aura Power filed applications with the Commission for approval to construct and operate a 230-megawatt (MW) solar power plant, a battery energy storage system (BESS) with a storage capacity of up to 75 MW/270 megawatt hour (MWh) and the associated Black and White 1136S Substation.

3. The solar power plant would consist of approximately 521,000 bifacial photovoltaic modules on a single-axis tracking system, 72 inverters and underground collector lines that would connect to the Black and White 1136S Substation. The BESS would utilize lithium iron phosphate battery modules and be rated up to 75 MW with a storage capacity of 270 MWh. The final generation equipment for the project has not yet been selected.

4. The Black and White 1136S Substation would contain one 240/34.5-kilovolt (kV), 160/214/267-megavolt ampere (MVA) transformer, one 240-kV circuit breaker, six 34.5-kV circuit breakers and associated substation equipment.

5. The project would be sited on approximately 820 acres of privately owned, Class 3 and below agricultural land, approximately 16 kilometres southeast of the hamlet of Seven Persons, in Cypress County, as shown on the map in Figure 1:

Figure 1. Peace Butte Solar Farm and Battery Storage Project boundary



6. Aura Power's applications include:
- A participant involvement program (PIP) summary, which details consultation with stakeholders within 400 metres of the project and notification to stakeholders within 800 metres of the project.<sup>1</sup>
  - A copy of the renewable energy project submission filed with Alberta Environment and Protected Areas, Fish and Wildlife Stewardship (AEPA), which is specific to wildlife and wildlife habitat and describes baseline environmental conditions and associated surveys or studies; identifies potential environmental impacts from the project; and describes mitigation to prevent or limit those impacts.<sup>2</sup>
  - An environmental evaluation, completed by Western EcoSystems Technology, ULC. (WEST), which predicts the project's effects on the environment, recommends measures to avoid or mitigate the project's predicted adverse environmental effects, and proposes monitoring to evaluate the efficacy of these measures.<sup>3</sup>
  - An initial conservation and reclamation plan, completed by WEST, that describes the existing baseline conditions and land use associated with the project and outlines site-specific conservation and reclamation activities that have or will be undertaken.<sup>4</sup>
  - An AEPA renewable energy referral report, dated December 12, 2022, which ranks the project an overall low risk to wildlife and wildlife habitat.<sup>5</sup>
  - An air quality dispersion modelling report, completed by RWDI AIR Inc., which concludes that in the event of a BESS fire, the risk to the public would be low.<sup>6</sup>
  - A site-specific emergency response plan for the construction and operation of the project that was provided to local first responders and authorities.<sup>7</sup>
  - A solar glare hazard analysis report, completed by Green Cat Renewables Canada Corporation (GCR), which predicts that glare from the project is not likely to have the potential to create hazardous glare conditions for nearby receptors.<sup>8</sup>
  - A noise impact assessment (NIA), completed by GCR, confirming that the project will comply with Rule 012: *Noise Control*.<sup>9</sup>
  - A *Historical Resources Act* approval, issued on February 17, 2023.<sup>10</sup>

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<sup>1</sup> Exhibit 28259-X0005, Appendix D - Peace Butte Solar Farm Participant Involvement Program.

<sup>2</sup> Exhibit 28259-X0013, Appendix L – Renewable Energy Project Submission Peace Butte Solar Project.

<sup>3</sup> Exhibit 28259-X0007, Appendix F – Peace Butte Solar Battery Project Environmental Evaluation.

<sup>4</sup> Exhibit 28259-X0011, Appendix I – Peace Butte Solar Battery Project Initial Conservation & Reclamation Plan.

<sup>5</sup> Exhibit 28259-X0014, Appendix M – AEPA-FWS Renewable Energy Referral Report.

<sup>6</sup> Exhibit 28259-X0008, Appendix G – 2023-03-06 Peace Butte Solar Farm – ERP, PDF pages 19 to 33.

<sup>7</sup> Exhibit 28259-X0008, Appendix G – Peace Butte Solar Farm Emergency Response Plan.

<sup>8</sup> Exhibit 28259-X0009, Appendix H – Peace Butte Solar Farm Solar Glare Hazard Analysis Report.

<sup>9</sup> Exhibit 28259-X0012, Appendix K – Peace Butte Solar Project Noise Impact Assessment.

<sup>10</sup> Exhibit 28259-X0015, Appendix N – *Historical Resources Act* approval.

7. Separate applications will be submitted for approval to construct transmission infrastructure to connect the project to the Alberta Interconnected Electric System.
8. Aura Power estimated a construction start date in the fall of 2024 with commercial operation beginning in the fall of 2025.
9. The Commission issued a notice of applications and received statements of intent to participate from Cypress County and one landowner. The Commission issued a notice of written hearing to consider the applications. Cypress County and the landowner later withdrew their statements of intent to participate.
10. On September 6, 2023, the Commission issued Bulletin 2023-05: *Interim Rule 007 information requirements*. Aura Power provided its responses to the interim Rule 007 information requirements on September 29, 2023.<sup>11</sup>
11. These applications were subject to the approvals pause mandated by the *Generation Approvals Pause Regulation*. While the pause was in effect, the AUC conducted an inquiry (the Module A inquiry) into several land use impact issues in accordance with Order-in-Council 171/2023. The issues considered in the Module A inquiry included: reclamation security for power plants, the impact of the development of power plants on specific types or classes of agricultural or environmental land, provincial Crown land and Alberta's pristine views. The Commission provided its report on the Module A inquiry to the Minister of Affordability and Utilities on January 31, 2024, and the Module A report was publicly released on March 13, 2024.
12. On February 28, 2024, before the pause expired, the Government of Alberta signaled its intent to develop policy and legislative tools related to some topics in the Module A report and the Commission issued a bulletin confirming that each power plant application affected by the pause would be considered on its individual merits, and the Commission would assess each application to determine whether further process was required. This determination would be based on the circumstances of each application and the sufficiency of the existing evidentiary record. On March 6, 2024, the Commission issued a letter advising that no further process would be required for this proceeding.
13. The Commission's decision in this proceeding is based solely on the record of this proceeding and the Commission did not take into account or otherwise have regard for the Module A report in deciding this application.

### **3 Discussion and findings**

14. The Commission has considered the applications, and for the reasons outlined below, 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.
15. The information requirements specified in Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and*

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<sup>11</sup> Exhibit 28259-X0041, 2023-05 Bulletin Responses.

*Gas Utility Pipelines* have been met, including the interim Rule 007 information requirements stipulated in Bulletin 2023-05.

16. Aura Power's PIP included notifying stakeholders, including landowners within 800 metres of the project boundary, and personal consultation with stakeholders within 400 metres of the project boundary. There are no aerodromes within 4,000 metres of the project and no residences within 800 metres of the project. Aura Power held a community open house on January 25, 2023, in Seven Persons and the PIP provided stakeholders with an opportunity to be informed of the project and provide feedback. Both statements of intent to participate filed in this proceeding were subsequently withdrawn following additional consultation by Aura Power. The Commission finds that Aura Power's PIP satisfies the Rule 007 requirements.

17. The Commission accepts AEPA's assessment that the project presents an overall low risk to wildlife and wildlife habitat. The project would be located on Class 3, 4 and 6 lands, which have moderate, severe and extremely severe limitations, respectively, that restrict the growth of specified crops, require special management practices or both. Further, the project is entirely sited on private cultivated lands that are not irrigated, which has a reduced impact on the environment due to the disturbed nature of the land use.

18. The Commission is satisfied that, with diligent implementation of the mitigation measures and adherence to the commitments made by Aura Power in this proceeding, the identified environmental effects of the project can be mitigated to an acceptable degree. The appropriate consideration of siting and quality of environmental submissions were noted.

19. 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:

- Aura Power Renewables Ltd. shall submit an annual post-construction monitoring survey report to Alberta Environment and Protected Areas no later than January 31 of the year following the mortality monitoring period and submit the post-construction monitoring survey report and Alberta Environment and Protected Areas' post-construction monitoring response letter to the Commission no later than March 31 of the year following the mortality monitoring period. These reports and response letters shall be subsequently filed 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*.

20. The NIA identified five third-party energy-related facilities within three kilometres of the proposed project that have the potential to influence cumulative sound levels. The NIA did not identify any dwellings within 1.5 kilometres of the proposed project. In accordance with Rule 012: *Noise Control*, four nominal receptor locations were assessed for compliance along the 1.5-kilometre boundary criteria. The NIA established sound power levels of the project sound sources based on manufacturer or vendor data and predicted that cumulative sound levels will be compliant with applicable permissible sound levels at all receptors. The Commission finds that the NIA meets Rule 012 requirements and accepts that noise from the project will comply with the rule.

21. The solar glare assessment identified three local roads (including sections of Range Road 61, Range Road 62 and Township Road 100) within 800 metres of the proposed project to be receptors. The assessment confirmed that there were no dwellings, highways or railways within 800 metres of the project.

22. Based on the predicted duration and level of glare, the solar glare assessment concluded that mitigation is not expected to be required but noted that specific mitigation measures can be developed in consultation with the affected stakeholder in case of any glare issues after the project is built. Potential mitigation measures include modified backtracking angles, installing road signs and installing barriers.

23. The predictions and associated conclusion in the solar glare assessment were premised upon the use of an anti-reflective coating. The Commission also requires Aura Power to promptly address complaints or concerns from stakeholders regarding solar glare if Aura Power receives any at the post-construction stage. Accordingly, the Commission imposes the following conditions of approval:

- Aura Power Renewables Ltd. shall use anti-reflective coating on the project solar panels.
- Aura Power Renewables Ltd. shall file a report with the Commission 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 its response to the complaints or concerns. Aura Power Renewables Ltd. shall file these reports no later than 13 months after the project becomes operational.

24. The Commission finds that impacts from the construction and operation of the substation will be minor in nature. The footprint of the substation is within the project boundary, which the Commission considered in its assessment of the solar power plant. Further, the NIA concluded that the substation would comply with Rule 012.

25. The proposed BESS would be rated at 75 MW/270 MWh and would be configured as an independent asset with the capability to charge directly from either the Peace Butte Solar Farm or from the Alberta Interconnected Electric System (AIES).

26. Aura Power stated that the battery storage units proposed for the project would be lithium iron phosphate<sup>12</sup> batteries, which are considered stable and the risk of thermal runaways are low. The Commission understands that the use of lithium iron phosphate batteries mitigates some safety concerns related to battery technology, because the materials in a lithium iron phosphate battery are thermally and structurally stable chemical compounds that are less prone to thermal runaway than those in other types of lithium-ion batteries. Given that that the battery vendor and the monitoring system remain to be confirmed, the Commission imposes the following condition of approval:

- Aura Power Renewables Ltd. shall select lithium iron phosphate batteries for the battery energy storage system (BESS). If an alternate battery chemistry is selected, Aura Power shall submit specifications such as the cell combustion phase duration and peak temperature to the Commission, along with confirmation the alternate chemistry

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<sup>12</sup> Lithium iron phosphate batteries are a type of lithium-ion battery which use iron phosphate as the cathode. They are also referred to as LFP batteries or LiFePO4.



possesses better thermal stability than lithium iron phosphate. Aura Power shall also confirm the BESS monitoring equipment. Aura Power cannot proceed with construction of the BESS until it receives written approval from the Commission.

27. Aura Power submitted that the thermal management system is integral to the BESS and would use a liquid cooling design. The battery units have integrated temperature, smoke and aerosol detection with sensors that will be linked to an operations software package that can be accessed remotely by operators and configured to issue alerts automatically. The facility will also have closed-circuit and thermal imaging cameras that can be accessed remotely by operators to conduct visual inspections of the equipment status.

28. Aura Power's emergency response plan considers the BESS and summarizes information for first responders to safely and effectively respond to incidents that involve the BESS. Aura Power provided a copy of the preliminary emergency response plan to the Cypress County Director of Emergency Management and has committed to ongoing discussions with Cypress County emergency services. Aura Power stated that the emergency response plan will be updated, as needed, by engineering, procurement and construction contractors prior to the start of construction. The Commission imposes the following conditions of approval:

- Aura Power Renewables Ltd. shall continually review and update its site-specific emergency response plan and make any changes required to incorporate input received from local fire departments on mitigation measures and other related requirements and from Cypress County and other interested stakeholders. The updated plans are to be provided to Cypress County and local fire departments.
- Aura Power Renewables Ltd. and any subsequent operator, shall at all times during the construction and operation of the project, maintain insurance coverage that is sufficient to protect against any reasonably foreseeable liabilities.
- Aura Power Renewables Ltd. and any subsequent operator, shall implement any ongoing upgrades to improve the safety of the project, including but not limited to firmware and software enhancements, monitoring capability enhancement, process changes and safety standards as they are developed.

29. Aura Power stated that the final selection of the photovoltaic solar modules will be made prior to construction, based on the required electrical characteristics and economic aspects of available modules at the time of procurement. As such, the Commission imposes the following condition to ensure the final equipment does not result in impacts greater than those considered in this application. Should the final equipment result in greater impacts, Aura Power must submit an amendment application to the Commission for consideration.

- Once Aura Power Renewables Ltd. has finalized its equipment selection for the photovoltaic power plant it must file a final project update with the Commission to confirm that the project has stayed within the final project update specified allowances for solar power plants. The final project update must be filed at least 90 days prior to the start of construction.

30. With respect to viewsapes, Aura Power noted that the area surrounding the project has been widely developed with roads, fencelines, high-voltage transmission lines and agricultural

cultivation and no visual mitigation is being considered due to the expected lack of project impacts. The Commission is satisfied that any visual impacts of the proposed project will be acceptable given the characteristics of the surrounding area.

31. Aura Power stated that its conservation and reclamation plan is consistent with the requirements of the *Conservation and Reclamation Directive for Renewable Energy Operations*. Aura Power stated that reclamation costs would be determined by an independent appraiser and would be calculated by taking the total estimated reclamation cost and subtracting the estimated salvage value of project equipment and infrastructure. The estimated reclamation cost will be reassessed by an independent appraiser on or before year 10 of project operation, which will be used to update the amount of reclamation security. Aura Power stated that Cypress County will be the named beneficiary of the reclamation security and that the preferred mechanism is a surety bond.

32. On February 28, 2024, the Ministry of Affordability and Utilities provided the following policy guidance to the Commission<sup>13</sup> related to reclamation security:

Government of Alberta will develop and implement the necessary policy and legislative tools to ensure developers are responsible for reclamation costs via bond or security, with appropriate security amounts and timing to be determined by Environment and Protected Areas in consultation with Affordability and Utilities. The reclamation costs will be provided directly to the Government of Alberta or could be negotiated with landowners as long as sufficient evidence is provided to the AUC. The new requirements will apply [to] all approvals issued on or after March 1, 2024.

33. Based on the information on the record of this specific proceeding, the Commission accepts that the applicant's approach to reclamation is sufficient for the purposes of satisfying the Commission that approval of the project is in the public interest. The Commission continues to expect applicants to fully reclaim projects and bear the costs of doing so.

34. The Commission further understands that the applicant will be responsible for posting security in accordance with the reclamation security regime referenced above, given that it has been approved after March 1, 2024.

35. Aura Power submitted that the project complies with applicable municipal planning documents, except a requirement mandating a 6.1-metre setback from the closest point of the project to the internal property lines. Aura Power stated that it will seek a waiver of the setback for the property lines within the project area.

36. The Commission is satisfied that the proposed project largely complies with applicable municipal planning documents except those described above. The Commission notes that Cypress County filed a statement of intent to participate in this proceeding which it subsequently withdrew following a meeting with Aura Power and reviewing the plans provided by Aura Power. The Commission considers that Aura Power has consulted with the local municipality and mitigated its concerns.

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<sup>13</sup> [Letter](#) re Policy Guidance to the Alberta Utilities Commission (28 February 2024) from Nathan Neudorf, Minister Affordability and Utilities.

#### 4 Decision

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

38. Pursuant to sections 11, 13.01 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 28259-A001 and grants Aura Power Renewables Ltd. the approval set out in Appendix 1 – Power Plant Approval 28259-D02-2024, to construct and operate the solar power plant and battery energy storage system.

39. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 28259-A002 and grants Aura Power Renewables Ltd. the approval set out in Appendix 2 – Substation Permit and Licence 28259-D03-2024, to construct and operate the Black and White 1136S Substation.

40. The appendices will be distributed separately.

Dated on March 19, 2024.

#### Alberta Utilities Commission

*(original signed by)*

Michael Arthur  
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 28259-D01-2024 that require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 28259-D02-2024:

- Aura Power Renewables Ltd. shall submit an annual post-construction monitoring survey report to Alberta Environment and Protected Areas no later than January 31 of the year following the mortality monitoring period and submit the post-construction monitoring survey report and Alberta Environment and Protected Areas' post-construction monitoring response letter to the Commission no later than March 31 of the year following the mortality monitoring period. These reports and response letters shall be subsequently filed 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*.
- Aura Power Renewables Ltd. shall select lithium iron phosphate batteries for the BESS. If an alternate battery chemistry is selected, Aura Power shall submit specifications such as the cell combustion phase duration and peak temperature to the Commission, along with confirmation the alternate chemistry possesses better thermal stability than lithium iron phosphate. Aura Power shall also confirm the BESS monitoring equipment. Aura Power cannot proceed with construction of the BESS until it receives written approval from the Commission.
- Once Aura Power Renewables Ltd. has finalized its equipment selection for the photovoltaic power plant it must file a final project update with the Commission to confirm that the project has stayed within the final project update specified allowances for solar power plants. The final project update must be filed at least 90 days prior to the start of construction.

The following are conditions of Decision 28259-D01-2024 that do not require subsequent filings with the Commission:

- Aura Power Renewables Ltd. shall use anti-reflective coating on the project solar panels.
- Aura Power Renewables Ltd. shall file a report with the Commission 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 its response to the complaints or concerns. Aura Power Renewables Ltd. shall file these reports no later than 13 months after the project becomes operational.

- Aura Power Renewables Ltd. shall continually review and update its site-specific emergency response plan, and make any changes required to incorporate input received from local fire departments on mitigation measures and other related requirements, and from Cypress County and other interested stakeholders. The updated plans are to be provided to Cypress County and local fire departments.
- Aura Power Renewables Ltd., and any subsequent operator, shall at all times during the construction and operation of the project, maintain insurance coverage that is sufficient to protect against any reasonably foreseeable liabilities.
- Aura Power Renewables Ltd. and any subsequent operator, shall implement any ongoing upgrades to improve the safety of the project, including but not limited to firmware and software enhancements, monitoring capability enhancement, process changes and safety standards as they are developed.