



**ATCO Power (2010) Ltd.**

**Empress Solar Power Plant Amendment**

**September 19, 2022**

**Alberta Utilities Commission**

Decision 27572-D01-2022

ATCO Power (2010) Ltd.

Empress Solar Power Plant Amendment

Proceeding 27572

Application 27572-A001

September 19, 2022

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The Commission may, no later than 60 days of 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 an application from ATCO Power (2010) Ltd. for amendments to the previously approved Empress Solar Power Plant and a time extension to complete construction. The amendments include a change to the number, make and model of the photovoltaic modules; an increase in the number of inverters/transformers; and a change to the construction completion date.

## **2 Background**

2. ATCO Power, pursuant to Power Plant Approval 27112-D02-2022,<sup>1</sup> has approval to construct and operate the power plant. The power plant was to contain up to 115,492 bi-facial solar photovoltaic panels mounted on a single-axis tracking system, and nine inverter-transformer units, with a total generating capability of 39 megawatts (MW). Construction of the power plant was to be completed by January 31, 2023.

## **3 Application**

3. On August 11, 2022, ATCO Power filed an application with the Commission for approval of amendments to the power plant and a time extension to complete construction. The proposed amendments include reducing the number of photovoltaic modules to approximately 89,000 VSUN540-144BMH-DG, each rated at 540 watts, and increasing the number of inverter-transformer units to 12. The total generating capability of the power plant is 39 MW and is unchanged from what was previously approved. ATCO Power requested a new construction completion date of December 31, 2023, to facilitate the amendments.

4. The power plant would be located in the east half of Section 13, Township 20, Range 1, west of the Fourth Meridian, approximately 30 kilometres south of the village of Empress in the County of Cypress. ATCO Power proposed minor alterations to the fencing layout and design. These primarily removed corners in the original design to minimize potential for wildlife entrapment. No new land is required for the amendments.

5. ATCO Power's application included:

- The project update notification, which introduced ATCO Power as the new owners, provided updated contact information, provided an overall project updated, and informed

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<sup>1</sup> Power Plant Approval 27112-D02-2022, Proceeding 27112, Application 27112-A001, February 9, 2022.

stakeholders of the updated schedule. The notification was sent to area stakeholders and no questions or concerns were received in response.<sup>2</sup>

- An environmental protection plan, which described the project-specific environmental protection and mitigation measures to be implemented during development and operation of the project.<sup>3</sup>
- A noise impact assessment (NIA) prepared by Green Cat Renewables Canada Corporation (GRC) that predicted the project will comply with Rule 012: *Noise Control*.<sup>4</sup>
- A solar glare assessment from GRC that found no residences within 800 metres of the project and predicted that the project is not expected to present a significant hazard to drivers along adjacent roads.<sup>5</sup>

#### 4 Discussion and findings

6. Due to the nature of the application and the documented participant involvement program, a notice of application was not issued and a hearing was not required. The Commission considers that its decision or order will not directly and adversely affect the rights of a person pursuant to Section 9 of the *Alberta Utilities Commission Act*, for reasons set out below.

7. For the reasons outlined below, the Commission finds that approval of the power plant amendments is in the public interest having regard to the social, economic, and other effects of the project, including its effect on the environment.

8. The Commission finds that the participant involvement program meets the requirements of Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*. ATCO Power notified area stakeholders and no questions or concerns were received.

9. The project area remains unchanged and the alterations to the fencing layout will minimize the potential for wildlife entrapment. ATCO Power removed some of the corners in the previous fence design and changed the fencing to a 1.8-metre-high chain-link fence with three strings of barbed wire on top. This fencing is typically installed for Alberta solar projects. The fence will be raised five centimetres off the ground to allow small amphibians and mammals to pass and swing gates will be installed to allow any wildlife trapped instead the fenced area to escape. Alberta Environment and Parks – Fish and Wildlife Stewardship (AEP) confirmed to ATCO Power that the proposed fence design aligns with the *Wildlife Directive for Alberta Solar Energy Projects* and had no comments.<sup>6</sup>

10. ATCO Power retained GRC to conduct an NIA for the project. GRC identified no dwellings within 1.5 kilometres of the project boundary. Instead, it selected two nominal

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<sup>2</sup> Exhibit 27572-X0005, Attachment D - Update Notification.

<sup>3</sup> Exhibit 27572-X0007, Attachment F - Empress Solar EPP IFC.

<sup>4</sup> Exhibit 27572-X0004, Attachment C - Empress NIA v1.0 2022-08-11 – Final.

<sup>5</sup> Exhibit 27572-X0006, Attachment E - Empress SGHAR v1.0 2022-08-11 – Final.

<sup>6</sup> Exhibit 27572-X0013, Attachment L - Email from AEP.

locations along 1.5 kilometres of the project boundary as receptors to assess the potential noise impacts from the project. The NIA predicted noise contribution from the project would result in an increase of 0.1 and 0.2 dBA (A-weighted decibels) above the permissible sound level during the nighttime period above the baseline case sound levels at the noise receptors. The Commission finds that the project is expected to comply with Rule 012 requirements because the sound levels from the project produce no net increase over baseline sound levels in the area.

11. ATCO Power retained GRC to assess solar glare from the project. The solar glare assessment assumed that the project would use anti-reflective coating on the solar panels. GRC identified that there were no dwellings within 800 metres of the project boundary but it identified two local roads as receptors. The previous solar glare assessment identified the Empress North 6 (Plains Midstream Canada) aerodrome as a receptor; however, the aerodrome has since been abandoned.

12. Range Road 11 was not predicted to experience any glare; however, Township Road 202 was now predicted to experience yellow glare. The previous glare assessment did not predict any glare along either road. GRC predicted that glare may be seen along this route between 05:20 and 06:30 MST for up to 11 minutes per day, and between 18:35 and 19:25 MST for up to five minutes per day. GRC attributed this increase to the upgraded software and algorithms that now modelled backtracking operations.<sup>7</sup> Glare was only predicted when the photovoltaic modules had a resting angle of two degrees or shallower. GRC added that the glare is not expected to affect the overall impact on drivers travelling along Township Road 202 and that the impact may be reduced by sun-masking, where the glare and light from the sun would be visible simultaneously. ATCO Power committed to mitigations such as limiting the backtracking rotation angle of three degrees or steeper, or installing a sufficiently tall and opaque fence should glare be determined to be an issue.

13. The Commission finds that glare is not expected to be an issue with this project. Mitigation measures for glare on the roads are available should glare become an issue. The Commission requires that any glare issues associated with the power plant that may arise be addressed by ATCO Power in a timely manner, through the following condition of approval, previously imposed by the Commission:

- ATCO Power (2010) Ltd. 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 ATCO Power (2010) Ltd.'s response to the complaint. ATCO Power (2010) Ltd. shall file this report no later than 13 months after the project becomes operational.

14. Because GRC's conclusion that the power plant is not likely to have the potential to create hazardous glare conditions for nearby roads was premised upon the use of an anti-reflective coating, the Commission continues to impose the following condition of approval:

- ATCO Power (2010) Ltd. shall use a standard anti-reflective coating for the solar panels used in the project.

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<sup>7</sup> During normal operations the photovoltaic modules track the sun. During backtracking operations, the photovoltaic modules no longer track the sun but are set to a shallower angle to minimize shade from the rows of photovoltaic modules to an adjacent row.

15. The Commission notes that the current renewable energy referral report is valid until November 1, 2023.<sup>8</sup> ATCO Power submitted that construction is expected to commence in October 2022. The Commission acknowledges that construction will commence prior to the expiration of the existing renewable energy referral report. The Commission finds that the amendments to the power plant are minor in nature and are unlikely to alter the project risk ranking determined by AEP.

16. ATCO Power submitted an environmental protection plan (EPP), which compiled the environmental protection and mitigation measures proposed for the project. ATCO Power submitted that it hired an engineering, procurement and construction management company to review the EPP, which recommended changes to some mitigation measures. The power plant initially did not have internal gravel roads so that movement of animals would not be restricted. ATCO Power submitted this is not practicable because gravel roads are required to support vehicles that will deliver and install equipment during construction and for emergency response during operation. ATCO Power will implement mitigations such as installing low profile gravel roads within 100 metres of amphibian breeding wetlands to minimize obstruction of amphibian migration. ATCO Power also developed an amphibian mitigation plan because the installation of the solar array, inverters, transformers and power cables are planned during the amphibian breeding period. To mitigate this impact during amphibian breeding or dispersal periods ATCO Power will install a protective buffer and/or exclusion fencing along workspaces within 100 metres of amphibian breeding wetlands prior to construction activities, and a qualified environmental professional will conduct daily sweeps of the barrier prior to construction and search any access roads where amphibians may cross.

17. Mitigations have been proposed for Ord's kangaroo rats (OKRA). Pre-construction surveys will occur and the results will be discussed with AEP prior to the start of construction. Mitigations will be determined based on the density of OKRA and location of dens relative to the project area. Details of proposed mitigations have been provided in the EPP. Additionally, adjustments have been proposed for erosion and sediment control, noise, herbicide application, and fencing to reduce impacts to potential OKRA populations within and surrounding the project.

18. To mitigate impacts of construction activities during breeding bird season, ATCO Power will create a breeding bird mitigation plan in consultation with the appropriate regulators. ATCO Power also proposed that a qualified wildlife biologist will survey the area planned for activities for active nests a maximum of seven days prior to the start of any construction, maintenance or upgrade activities during the breeding bird season. Any active nests found or indicated will be protected with a species appropriate buffer until the young have naturally fledged/left the area. ATCO Power also proposed this mitigation if construction and operations/maintenance activities occur during raptor nesting periods.

19. ATCO Power also introduced changes to proposed mitigation that include: low ground-pressure equipment within 100 metres of Class III+ wetlands, matting within 100 metres of wetlands, erosion control, as well as mitigations to address lighting, construction noise, construction scheduling, and to protect sensitive wildlife life-stages, snakes, and trenches. ATCO Power submitted a summary of mitigation changes as part of its application.<sup>9</sup>

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<sup>8</sup> Proceeding 23580, Exhibit 23580-X0031 - AEP WM Referral Report.

<sup>9</sup> Exhibit 27572-X0008, Attachment G - Summary Mitigation Changes.

20. The Commission is satisfied that with the implementation of the mitigation measures outlined, and adherence to the commitments made, ATCO Power can mitigate the identified environmental effects of the project to an acceptable degree.

21. The Commission finds that the amendments to the power plant will not result in a significant incremental effect on the environment or wildlife. There is no additional land impacted by the proposed amendments.

22. Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* requires approval holders to submit to AEP and the Commission annual post-construction monitoring survey reports. Therefore, the Commission continues to impose the following condition of approval:

- ATCO Power (2010) Ltd. 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. ATCO Power has provided information respecting the need, nature and the duration of the requested time extension. Based upon the information provided, ATCO Power has demonstrated that the requested time extension is of a minor nature. The Commission approves a time extension to January 31, 2024, for the completion of the power plant.

24. For the above reasons, and subject to the conditions in this decision, the Commission considers the application to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act* and with sections 11 and 19 of the *Hydro and Electric Energy Act*.

## 5 Decision

25. Pursuant to sections 11 and 19 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants ATCO Power (2010) Ltd. the approval set out in Appendix 1 – Power Plant Approval 27572-D02-2022 to alter, construct and operate the Empress Solar Power Plant (Appendix 1 will be distributed separately).

Dated on September 19, 2022.

### Alberta Utilities Commission

*(original signed by)*

Wayne MacKenzie  
Executive Director, Facilities Division  
On behalf of the Alberta Utilities Commission

## Appendix A – Summary of Commission conditions of approval

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 directions and 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 is a condition of Decision 27572-D01-2022 that requires subsequent filings with the Commission and will be included as a condition of Power Plant Approval 27572-D02-2022:

- ATCO Power (2010) Ltd. 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 are conditions of Decision 27572-D01-2022 that may or do not require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 27572-D02-2022:

- ATCO Power (2010) Ltd. 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 ATCO Power (2010) Ltd.'s response to the complaint. ATCO Power (2010) Ltd. shall file this report no later than 13 months after the project becomes operational.
- ATCO Power (2010) Ltd. shall use a standard anti-reflective coating for the solar panels used in the project.