



TransCanada Energy Ltd.

Saddlebrook Solar and Storage Project

December 17, 2021

Alberta Utilities Commission

Decision 26572-D01-2021

TransCanada Energy Ltd.

Saddlebrook Solar and Storage Project

Proceeding 26572

Applications 26572-A001 and 26572-A002

December 17, 2021

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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 Introduction

1. TransCanada Energy Ltd. (TCE) filed applications with the Alberta Utilities Commission for approval to construct and operate a 102.5-megawatt (MW) solar power plant, a 6.5-MW storage facility and the Saddlebrook 303S Substation (the project), in the hamlet of Aldersyde. The applications were registered on May 31, 2021, as applications 26572-A001 and 26572-A002.
2. Sharon and Brian McCaughan filed a statement of intent to participate that indicated they were opposed to the project because they were concerned it would decrease their property value and have negative health, visual and wildlife impacts. The Commission granted standing to S. and B. McCaughan as they own land approximately 250 metres from the northeast corner of the project boundary.
3. A written hearing process was conducted; however, S. and B. McCaughan did not submit evidence or argument. When the evidence deadline for S. and B. McCaughan passed, TCE submitted a motion asking the Commission to close the record of the proceeding and proceed directly to a decision without further process. In the motion, TCE stated that it would not be filing a reply submission. The Commission did not rule on the motion because the short time frame between the deadlines for filing evidence and filing argument resulted in the written process schedule effectively concluding before the Commission could have reasonably prepared and issued reasons for a decision on TCE's request. The Commission's decision to not issue a ruling on the motion does not reflect in any way on the merits of TCE's request in the circumstances.
4. The issue the Commission must decide in this proceeding is whether the project applications should be approved, with or without conditions, based on the information on the record.
5. TCE submitted all the information required under Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*, which included a renewable energy referral report from Alberta Environment and Parks Fish and Wildlife Stewardship (AEP). That report ranked the project as having an overall low risk to wildlife and wildlife habitat. TCE also filed an environmental protection plan, which outlined environmental protection measures and monitoring that TCE committed to undertaking during the construction and operation phases of the project.
6. The concerns raised by S. and B. McCaughan in their statement of intent to participate and subsequent correspondence with the Commission were not supported by any evidence and therefore the Commission was not able to assess the likelihood of those impacts or the extent to which S. and B. McCaughan might be affected by the project.
7. For the reasons that follow, the Commission finds that the project is in the public interest and approves the applications from TCE to construct and operate the project, subject to the conditions stated in the Findings section.

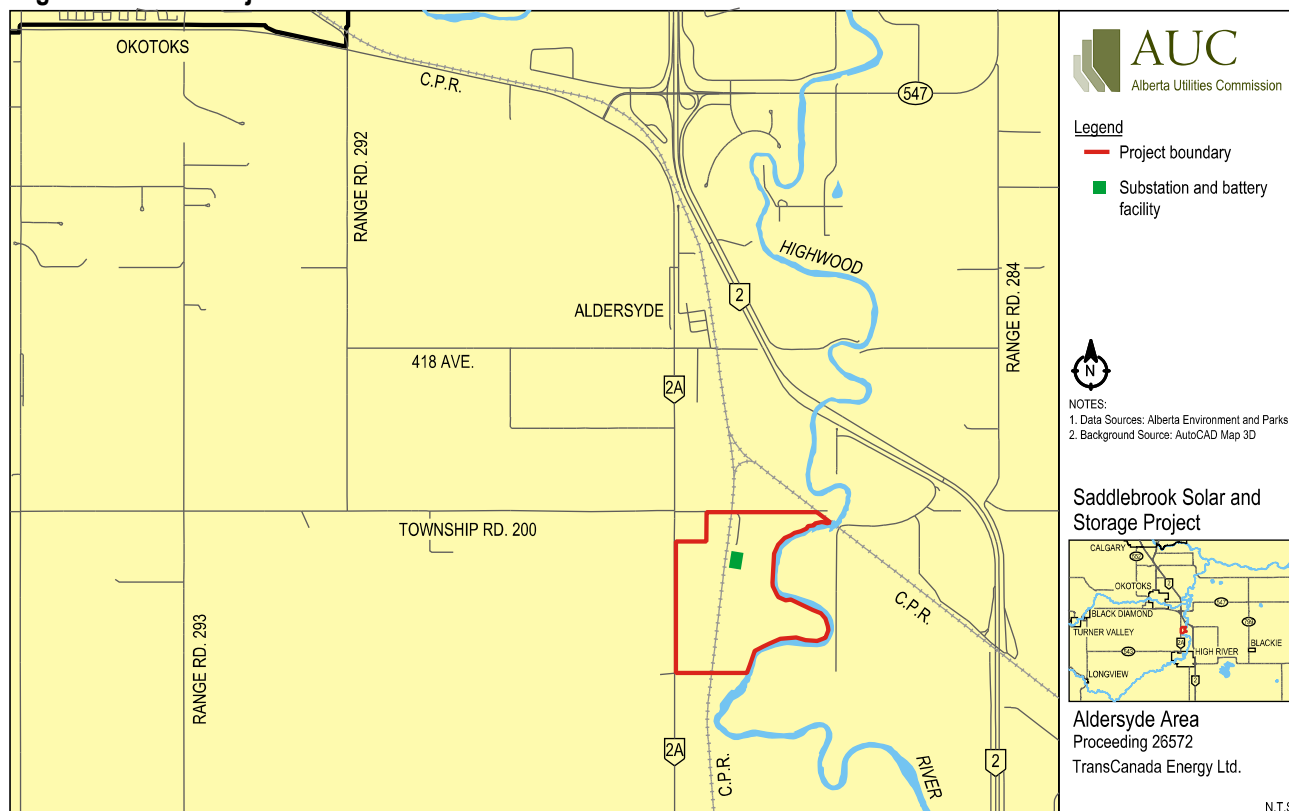
8. The 102.5-MW solar facility would have approximately 420,000 bifacial solar panels mounted on a fixed-tilt racking system. The racking system would be connected to the proposed substation by a 34.5-kilovolt (kV) collector system. The final make and model of the solar panels and associated generating equipment have not been finalized.

9. The battery storage facility would consist of a flow battery system¹ with a total capacity of 6.5 MW and storage capacity of 40 megawatt hours (MWh). The battery storage facility would be charged from the solar power plant and provide electric energy to the Alberta Interconnected Electric System (AIES) in times of peak demand.

10. The Saddlebrook 303S Substation would increase voltage from the collector system from 34.5 kV to the transmission system voltage of 138 kV for connection to the AIES. Major substation equipment would include a 138/34.5-kV step-up transformer, a 138-kV circuit breaker and seven 34.5-kV circuit breakers.

11. As shown in Figure 1, the project would be situated on approximately 135 hectares of land within the Saddlebrook Industrial Park that is owned by a subsidiary of TCE and is zoned for industrial usage. The land is located in Section 31, Township 19, Range 28, west of the Fourth Meridian.

Figure 1. Project location



¹ Exhibit 26572-X0001, PDF page 42, The proposed GridStar® Flow technology stores energy in a water-based electrolyte which is stored in six storage tanks located at the site. All of the electrolyte material will be housed in three layers of containment: an internal bladder, a rigid tank, and a concrete containment structure. The design of the facility is such that, should any releases occur in the energy storage equipment as it flows to and from the cell stacks, these releases would drain into the concrete containment structure.

12. The project would be constructed in two phases, with the solar facility constructed in the first phase and the battery storage facility constructed in the second phase. The solar facility would be commissioned at the end of first phase and would be operational during the construction of the battery storage facility.

13. The project is expected to be connected to the AIES through a new approximately 50-metre-long 138-kV transmission line that would connect to AltaLink Management Ltd.'s existing Transmission Line 727AL. TCE stated it would file applications for the transmission line and the interconnection in a future proceeding.

14. TCE's applications included:

- A participant involvement program, which included consultation with stakeholders within 800 metres of the project and notification to stakeholders within 2,000 metres of the project.
- A renewable energy referral report, dated May 29, 2019, from AEP, which ranked the project an overall low risk to wildlife and wildlife habitat.
- An environmental evaluation, which predicted environmental impacts of the project to ecosystem components in the project area, identified mitigation to prevent or limit those impacts, and characterized the significance of residual impacts.
- An environmental protection plan, which outlined environmental protection measures and monitoring that TCE committed to undertake during the construction and operation phases of the project.
- A *Historical Resources Act* approval dated January 30, 2020.
- A noise impact assessment summary form, which concluded that the project would comply with Rule 012: *Noise Control*.
- A non-objection letter from NAV CANADA dated April 21, 2021, and an approved aeronautical assessment form from Transport Canada, dated April 20, 2021.
- A solar glare assessment, which predicted that solar glare from the project would not have a significant affect on people in nearby dwellings, in vehicles on nearby roadways or in aircraft using nearby flight paths.
- A functional specification from the Alberta Electric System Operator, which set out the technical specifications related to the design, construction, development and commissioning of the project's connection with the AIES.
- A conservation and reclamation plan as required by AEP's *Conservation and Reclamation Directive for Renewable Energy Operations*.
- A copy of the Certificate of Incorporation for TCE to show compliance with Section 23 of the *Hydro and Electric Energy Act*.

15. TCE confirmed that it would develop an emergency response plan for the construction and operation of the proposed battery storage facility. TCE stated that the emergency management team and the local fire chief in Foothills County were notified of the project and were provided a template of TCE's typical emergency response plan. TCE stated that no feedback or concerns were raised by either the emergency management team or the local fire chief.
16. TCE stated that discussions were underway with Alberta Transportation for permits required for the project, and that TCE expects to receive a roadside development permit in 2021.
17. TCE stated that it expects the in-service date of the project would occur in two stages, with the solar facility being constructed by November 30, 2022, and the battery storage facility being constructed by February 1, 2024. TCE indicated that construction activities for the interconnection facilities are planned to commence in the second quarter of 2022 and construction is scheduled to be complete by the third quarter of 2022.
18. TCE proposed to use GridStar® Flow batteries for the battery storage facility. TCE stated that the electrolytes in the GridStar® Flow batteries are water-based, which ensures that overheating and fire events can not occur. For this reason, TCE submitted that flow batteries are safer than solid-state batteries such as lithium-ion.
19. AEP ranked the project an overall low risk to wildlife and wildlife habitat based on project siting, wildlife use in the area, and commitments made by TCE to mitigate and monitor wildlife impacts. AEP noted that the project is partially sited within a key wildlife and biodiversity zone (KWBZ) associated with the Highwood River, and that TCE has provided alternative mitigation for the infringement on the required setbacks. AEP indicated that the pre-disturbed nature of the project site and alternative mitigation proposed by TCE would reduce but not fully eliminate the risk to wildlife from the infringement on the KWBZ.
20. TCE confirmed that at the project's end-of-life, the decommissioning and/or recycling of the battery storage facility components would be done in accordance with the regulations in force at the time of decommissioning.

2 Written hearing and participation by the McCaughans

21. In their statement of intent to participate, S. and B. McCaughan said they were concerned that TCE's project would impact the market value of their property, which they indicated was listed for buyout as a result of mitigation work related to the 2013 flood. They stated that they expect a new development, like TCE's project, to compensate landowners in the area for any loss of market value. S. and B. McCaughan also raised concerns related to potential contamination, negative impacts on birds and the visibility of the solar panels and battery storage facility from Highway 2A and 434th Avenue.
22. The Commission issued a ruling on August 26, 2021, that granted the McCaughans standing. The ruling also stated that the Commission did not have complete information on the McCaughans' desired level of participation in this proceeding; in particular, whether they wished to participate in a hearing. The Commission asked the McCaughans to identify their desired level of participation, for example file a brief written submission that explained their position, or full

participation in a hearing that may be written or oral and would include filing evidence, cross-examining witnesses and submitting arguments.

23. S. McCaughan responded in an email dated August 27, 2021. Her email stated:

I reviewed the letter that was emailed today, please find the following comments that are due September 16/21:

1. Ruling: Thank you AUC for ruling that S. and B. McCaughan have the right to “Standing”
2. Recovery Costs: understood
3. Schedule:
 - a. *Do we wish to participate in a hearing process?* We are out of the province until mid to late October 2021.
 - b. *Desired level of participation?* If we are required to be present, we will be, however we are not “experts” and our correspondence provided so far is basically all we can state.²

24. S. McCaughan concluded her email by stating that “I can provide an update after next week.”

25. On September 8, 2021, the Commission issued a letter informing the McCaughans that they were not required to participate in a written or oral hearing process but that the option to do so was available to them. The letter stated that the Commission would consider all of the written statements that the McCaughans had provided. The letter asked the McCaughans to confirm by September 24th if they were satisfied with the statements they had filed or if they wished to participate in a written or oral hearing.

26. The McCaughans did not respond to that letter, so the Commission wrote to them on September 24, 2021, stating that the Commission was extending the deadline for the McCaughans to provide a response to the Commission’s questions about their desired level of participation in the hearing process. The letter asked for a response from the McCaughans by October 1, 2021, and stated that the Commission would communicate information about further process by October 8, 2021.

27. S. McCaughan responded in an email dated October 4, 2021, that stated:³

1. Level of involvement – if our rights as a neighbouring landowner (built in 1998 – 23 yrs + ago) are not protected through the process and/or compensated etc, then yes our level of participation will need to increase through the hearing process. Since we are not experts in this area, I have been informed we would be provided with legal representation whenever required during the process. You have our concerns of safety and property value. If a lawyer is ever required, then we will want to be physically involved as we will need to meet with the lawyer and research their credentials/experience / etc. and join any of the hearings to see how the process is handled. I find it best to also be involved so that we understand the process ourselves and know what was handled and what was not[.]

² Exhibit 26572-X0044, McCaughan email exchange with AUC.

³ The correspondence reproduced in this decision has been excerpted for clarity and brevity. In every case, the full correspondence was filed on eFiling and reviewed by the Commission in its entirety.

- When I stated we do not want Tax payers or anyone to waste time / money over this – that is ONLY if TransCanada cannot prove to us prior to a hearing or to AUC during their application, that their project is not infringing on our rights as close proximity neighbouring landowners. If such factual information is not provided, then legal representation will need to be provided for us to protect our rights.
2. I have no idea what you have for responses of ours[.] I have written to Transalta with concerns, and I believe twice now I have responded to AUC – please provide what you have as I [cannot access the linked information with available internet service]....
 3. We are still placer mining in the Yukon and hope to be heading south mid October....
- Sorry this is a rushed email and basically all will be until I'm back in AB⁴

28. The Commission issued a letter on October 8, 2021, that summarized the previous requests from the Commission for the McCaughans to clarify their intended participation in the proceeding and the McCaughans responses to the Commission. The letter also addressed matters raised in S. McCaughan's email of October 4th. Specifically, legal representation for the McCaughans, TCE's responsibility to address the McCaughans' concerns, and where the McCaughans could find additional information about the AUC's hearing process. The letter acknowledged that the McCaughans stated they would be working in areas with substandard internet service and asked them to state when they expected to be in those areas. The letter concluded by stating:

The Commission requests that the McCaughans consider the contents of this letter and then file a response to the following questions:

- Do you wish to participate in a virtual oral hearing on a web-based platform, or in a written hearing in which submissions are filed on the AUC's eFiling System, or do you not intend to file any additional written submissions, expert evidence or written argument in this proceeding and so do not require a hearing?
- If you state that you prefer either a written or virtual oral hearing, please also state when your travel/work schedule will place you in a location with sufficiently reliable internet service to allow you to file written evidence and otherwise to participate in a hearing.

After the Commission has received the McCaughan's response to the above questions, it will issue a letter or notice setting out further process steps in this proceeding. If the Commission does not receive a response from the McCaughans by **October 15, 2021**, the parties should expect that the Commission will issue a notice of a written hearing that will be scheduled to be completed in full (except for the issuance of the Commission's decision report) before the Christmas break this coming December.⁵

⁴ Exhibit 26572-X0047, McCaughan response to AUC September 24 letter.

⁵ Exhibit 26572-X0048, AUC letter - Request for participation information from S and B McCaughan.

29. The Commission's October 8th letter was posted to the AUC's eFiling System and the letter was emailed⁶ by Commission counsel to the email address that S. McCaughan was using to communicate with the AUC.

30. The Commission did not receive a response to its October 8th letter. On October 18, 2021, the Commission issued a notice of written hearing that set out a written hearing process and set November 8, 2021, as the deadline for the McCaughans to file written evidence. Also, Commission counsel emailed the notice of hearing to the email address that S. McCaughan was using to communicate with the AUC, with the following message in the body of the email:

We did not get a response from you to our previous email and letter (see message below) asking about your participation in a virtual oral hearing. The Commission has therefore scheduled a written hearing in this proceeding and a copy of the notice of hearing that was issued today is attached to this message.

Please not[e] that your written evidence is due to be filed no later than November 8, 2021.⁷

31. The McCaughans did not file written evidence by the deadline. TCE filed a motion on November 9, 2021, requesting that the Commission close the record of the proceeding and proceed to a decision. TCE stated that because the McCaughans did not file evidence or argument, it was unnecessary for TCE to file a reply submission or for the remainder of the hearing schedule to continue. TCE also requested that the Commission proceed to a ruling on its motion without further process steps.

32. On November 10, 2021, the Commission issued a letter stating that since TCE did not intend to file a reply submission, the written hearing process the Commission originally set out was effectively over, and as a result the Commission would close the proceeding record without deciding TCE's motion. The proceeding record was therefore closed on November 10, 2021.

3 Findings

33. 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.

34. The Commission has reviewed the applications and has determined that the information requirements specified in Rule 007 have been met. Additionally, the Commission finds that TCE's participant involvement program satisfied the requirements of Rule 007.

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

⁶ Exhibit 26572-X0052, Letter notification emails to S. McCaughan of Oct 8 and 18, 2021.

⁷ Exhibit 26572-X0052, Letter notification emails to S. McCaughan of Oct 8 and 18, 2021.

36. With respect to environmental impacts of the project, the Commission notes that TCE has committed to implementing alternative mitigation for the infringement on the required setbacks from the Highwood River and the associated KWBZ. TCE has further committed to conducting construction activity outside of the restricted activity period for the KWBZ of January 15th to April 30th, unless otherwise approved by AEP. The Commission notes that the majority of the project footprint that is located within the KWBZ is on cultivated, sparsely vegetated and highly disturbed land that is unlikely to provide high quality habitat or support a high level of biodiversity. As such, the Commission considers that the alternative mitigation committed to by TCE is reasonable in the circumstance.

37. The Commission notes AEP's conclusion that the project would pose an overall low risk to wildlife and wildlife habitat and largely aligns with the intent of the *Wildlife Directive for Alberta Solar Energy Projects*. The Commission is satisfied that the project's potential effects on wildlife and wildlife habitat will be adequately mitigated with the implementation of TCE's commitments, as outlined in the project's environmental protection plan.

38. The McCaughans mentioned that they were concerned about the potential for the project to affect birds in the area, and for it to be a source of contamination. The Commission is satisfied that these concerns were addressed in TCE's evidence on environmental impacts of the project and by AEP in its referral report.

39. The solar glare assessment indicated that the project's solar panels would be mounted on a racking system with a fixed-tilt angle of 25 degrees and assumed that the project would use anti-reflective coating on the solar panels. The solar glare assessment identified 73 dwellings, seven transportation routes (two railroads, two highways and three local roads) and their intersections as receptors. The solar glare assessment predicted that the transportation routes, their intersections and 12 of the 73 dwellings, could experience up to 77 minutes of yellow glare per day between February and October.⁸ The Commission finds that the effect of solar glare on persons travelling on the transportation routes and at the dwellings is expected to be minimal and would not pose a safety hazard to those individuals. The Commission notes that the predicted solar glare results were premised upon the use of an anti-reflective coating on the project's solar panels. Accordingly, the Commission imposes the following condition of approval:

- TransCanada Energy Ltd. shall use anti-reflective coating on the project solar panels.

40. The Commission requires that any public glare issues associated with the project that arise be addressed by TCE in a timely manner. Accordingly, the Commission imposes the following condition of approval:

- TransCanada Energy Ltd. shall submit a report to the AUC detailing any complaints or concerns it receives or is made aware of regarding solar glare from the solar facility during its first year of operation, as well as TransCanada Energy Ltd.'s response to the concerns and complaints. Even if no complaints are made, TransCanada Energy Ltd. shall file this report no later than 13 months after the solar facility becomes operational.

⁸ Yellow glare: glare with potential for temporary after-image; Red glare: glare with potential for permanent eye damage.

41. The Commission notes that TCE has not finalized its selection of equipment for the project. Consequently, the Commission imposes the following as a condition of approval:

- Once TransCanada Energy Ltd. has finalized its equipment selection and project layout, it must submit a final project update to the AUC for both phases of the project, one for the solar facility and one for the battery storage facility, to confirm that the facilities have stayed within the final project update specified allowances for solar and battery storage facilities. The final project update must be filed at least 90 days prior to the start of construction for each phase.

42. Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* applies to all solar projects and requires approval holders to submit annual post-construction monitoring survey reports to AEP and the AUC. Consequently, the Commission imposes the following condition of approval:

- TransCanada Energy Ltd. shall submit an annual post-construction monitoring survey report to Alberta Environment and Parks (AEP) and the AUC within 13 months of the solar facility becoming operational, and on or before the same date every subsequent year for which AEP requires surveys as required by subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*.

43. The McCaughans stated that they were concerned that the project would result in a decrease in their property's market value, which is the standard used to determine the value of their property, should it be bought out as part of the 2013 flood mitigation. The McCaughans did not file evidence that addressed either the likelihood or the magnitude of devaluation to their property. The Commission has consistently stated⁹ that property valuation is a complex and technical matter that is influenced by a wide variety of contextual and circumstantial factors. For this reason, findings about property value impacts must be based on project-specific information that is provided by qualified experts and tested or made available for testing in a hearing. In this case, no party filed evidence of that nature and, based on the record of this proceeding, the Commission is not able to conclude that the project is likely to affect the market value of the McCaughans' property.

44. Based on all the foregoing, including the commitments made by TCE and the conditions imposed by the Commission, the Commission considers the project to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.

4 Decision

45. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 26572-A001 and grants TransCanada Energy Ltd. the approval set out in Appendix 1 – Power Plant Approval 26572-D02-2021, to construct and operate the Saddlebrook Solar and Storage Project power plant, consisting of a 102.5-megawatt solar facility and a 6.5-megawatt battery storage facility.

⁹ For example, see Decision 24573-D01-2020: Elemental Energy Renewables Inc., Brooks Solar II Power Plant, Proceeding 24573, Application 24573-A001, January 16, 2020, paragraphs 93 to 96.

46. Pursuant to sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 26572-A002 and grants TransCanada Energy Ltd. the approval set out in Appendix 2 – Permit and Licence 26572-D03-2021, to construct and operate the Saddlebrook 303S Substation.

47. The appendices will be distributed separately.

Dated on December 17, 2021.

Alberta Utilities Commission

(original signed by)

Vera Slawinski
Commission Member

Appendix A – Summary of Commission conditions of approval

This section is intended to provide a summary of all conditions of approval for the convenience of readers. 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 are conditions of Decision 26572-D01-2021 that require subsequent filings with the Commission and will be tracked in the eFiling System as directions associated with Power Plant Approval 26572-D02-2021:

- Once TransCanada Energy Ltd. has finalized its equipment selection and project layout, it must submit a final project update to the AUC for both phases of the project, one for the solar facility and one for the battery storage facility, to confirm that the facilities have stayed within the final project update specified allowances for solar and battery storage facilities. The final project update must be filed at least 90 days prior to the start of construction for each phase.
- TransCanada Energy Ltd. shall submit an annual post-construction monitoring survey report to Alberta Environment and Parks and the AUC within 13 months of the solar facility 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*.
- TransCanada Energy Ltd. shall submit a report to the AUC detailing any complaints or concerns it receives or is made aware of regarding solar glare from the solar facility during its first year of operation, as well as TransCanada Energy Ltd.'s response to the concerns and complaints. Even if no complaints are made, TransCanada Energy Ltd. shall file this report no later than 13 months after the solar facility becomes operational.

The following are conditions of Decision 26572-D01-2021 that do not require a subsequent filing with the Commission and will be included as conditions of Power Plant Approval 26572-D02-2021:

- TransCanada Energy Ltd. shall use anti-reflective coating on the project solar panels.