



Acestes Power ULC

Tilley Solar Project

July 12, 2022

Alberta Utilities Commission

Decision 27319-D01-2022

Acestes Power ULC

Tilley Solar Project

Proceeding 27319

Applications 27319-A001 and 27319-A002

July 12, 2022

Published by the:

Alberta Utilities Commission

Eau Claire Tower

1400, 600 Third Avenue S.W.

Calgary, Alberta T2P 0G5

Telephone: 310-4AUC (310-4282) in Alberta

1-833-511-4AUC (1-833-511-4282) outside Alberta

Email: info@auc.ab.ca

Website: www.auc.ab.ca

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 applications from Acestes Power ULC to construct and operate a power plant designated as the Tilley Solar Project, and to connect the project to FortisAlberta Inc.'s 25-kilovolt electric distribution system.

2 Introduction

2. Acestes Power ULC filed applications with the Commission for approval to construct and operate the 23.6-megawatt Tilley Solar Project (the project), and to connect the project to FortisAlberta Inc.'s 25-kilovolt (kV) electric distribution system. The applications were registered on April 21, 2022, as applications 27319-A001 and 27319-A002.

3. The project is located on approximately 140 acres of privately owned formerly cultivated, and now tame pasture/hay land, approximately 4.1 kilometres northeast of the hamlet of Tilley in the county of Newell, Alberta. More specifically, the project is located in the southeast quarter of Section 5, Township 18, Range 12, west of the Fourth Meridian, as shown in Figure 1.

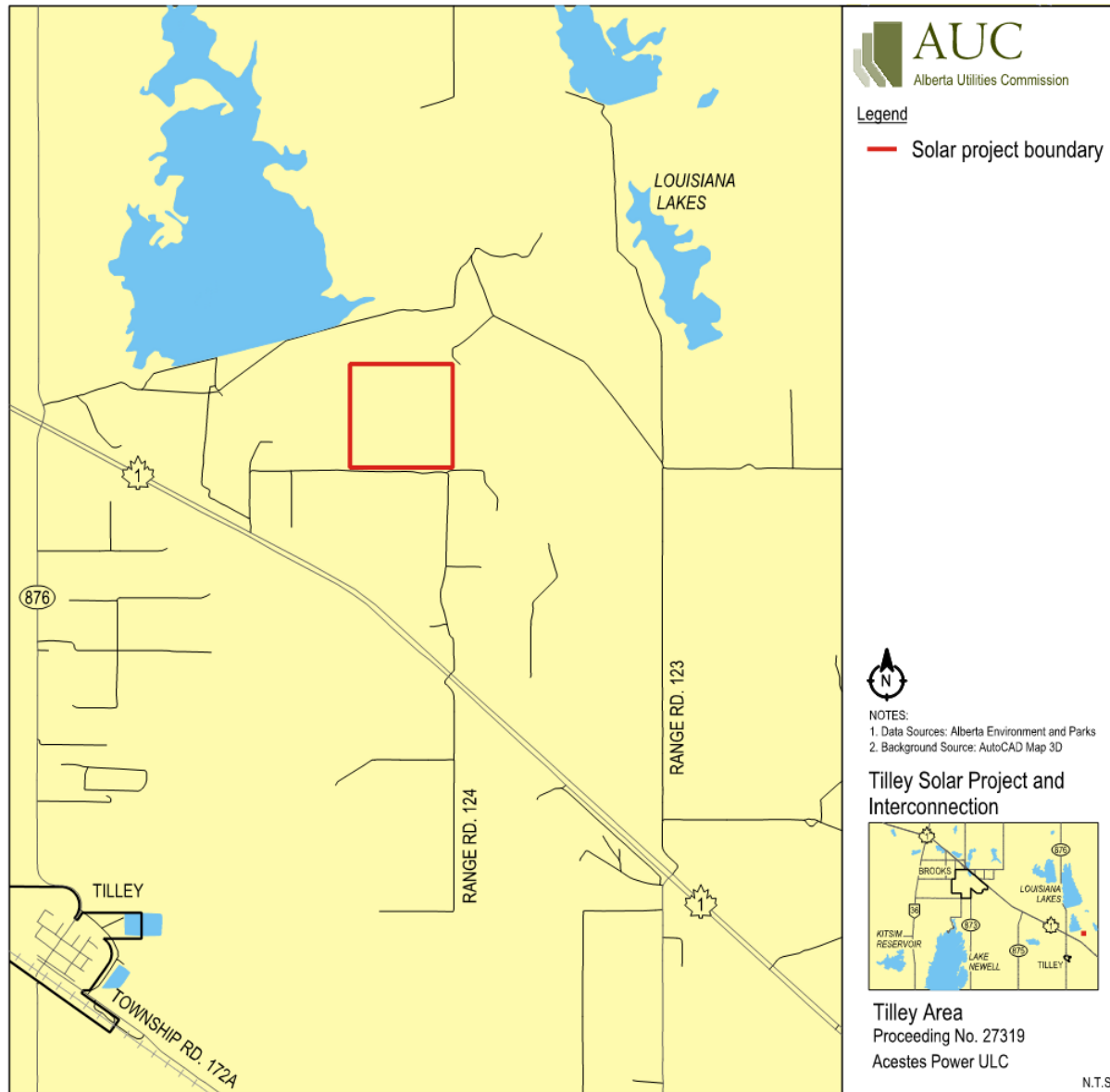
4. The project consists of approximately 59,200 solar photovoltaic modules, each with a power rating of 525 watts, mounted on a single-axis tracking system, eight inverter/transformer units, each with a power rating of 3.6 megavolt amperes, a 25-kV collection system, fence and internal access roads.¹

5. The project is to be interconnected to FortisAlberta's 25-kV electric distribution system at a point in the southeast quarter of Section 5, Township 18, Range 12, west of the Fourth Meridian. FortisAlberta confirmed that it has no concerns with the interconnection of the project.²

¹ Exhibit 27319-X0001, 2022-04-20 Tilley Solar AUC Application_FINAL, PDF page 9; Exhibit 27319-X0002, Appendix A - 2022-04-18 TILLEY-LAY-001-1; Exhibit 27319-X0011, Appendix J - 20220411 NOI TilleySolarProjectNIA, PDF pages 28 to 30.

² Exhibit 27319-X0008, Appendix G - Letter of Non-Objection to AUC - 660000924.

Figure 1. Tilley Solar Project location



6. Acestes' applications included:

- A participant involvement program, which detailed consultation with stakeholders within 400 metres of the project and notification of stakeholders within 800 metres of the project.³
- An environmental evaluation, which predicted environmental impacts from the project to ecosystem components in the project area, characterized the significance of residual impacts, and described the survey methodologies.⁴

³ Exhibit 27319-X0005, Appendix D - 2022-04-20 Tilley Solar - PIP Report_FINAL.

⁴ Exhibit 27319-X0007, Appendix F - EEA_220421-Final.

- A renewable energy referral report dated December 10, 2021, from Alberta Environment and Parks (AEP) Fish and Wildlife Stewardship, which ranked the project as an overall moderate risk to wildlife and wildlife habitat.⁵
- An environmental protection plan including a conservation and reclamation plan, which provides details on mitigations and the conservation and reclamation of valued ecosystem components to reduce impacts from construction, operation, and reclamation of the project.⁶
- A *Historical Resources Act* approval dated March 16, 2022.⁷
- A noise impact assessment, which concluded the project would comply with Rule 012: *Noise Control*.⁸
- A solar glare assessment, which predicted solar glare from the project at nearby transportation routes.⁹
- A site-specific emergency response plan that Acestes stated was prepared in accordance with Alberta Safety Code – Part 7: *Emergency Preparedness and Response*.¹⁰

7. Acestes stated that it expects construction of the project to commence in March 2023 and be completed by December 2023 with an in-service date of September 30, 2023.¹¹

8. The Commission issued a notice of applications in accordance with Section 7 of Rule 001: *Rules of Practice* and provided the notice to relevant stakeholders. In response, the Commission received a statement of intent to participate from the county of Newell (the county). In its statement of intent to participate, the county stated that it had no concerns with the project, but “would like the Commission to consider the County Municipal Development Plan and the Land Use Bylaw when making its decision.”¹² The Commission exercised its discretion to allow the county a limited scope of involvement in this proceeding to comment specifically on the project’s compliance with the municipal development plan and land use bylaw by June 22, 2022.¹³ The Commission did not receive further submissions from the county.

9. In the following sections of this decision, the Commission discusses environmental impacts, solar glare impacts, and other factors the Commission has considered to make its decision, and provides the Commission’s findings.

⁵ Exhibit 27319-X0012, Appendix K - AEP Referral Report Tilley Solar_2021-12-10.

⁶ Exhibit 27319-X0022, Attachment 1 - Tilley Solar EPP-V2-220510.

⁷ Exhibit 27319-X0013, Appendix L - HRA Approval.

⁸ Exhibit 27319-X0011, Appendix J - 20220411 NOI TilleySolarProjectNIA.

⁹ Exhibit 27319-X0010, Appendix I - 20220419 SolarGlare TilleySolarProject.

¹⁰ Exhibit 27319-X0009, Appendix H - 2022-03-11 Tilley Solar – ERP.

¹¹ Exhibit 27319-X0023, 2022-05-17 Tilley Solar IR 1_FINAL, PDF page 14.

¹² Exhibit 27319-X0021, Statement of intent to participate from the County of Newell.

¹³ Exhibit 27319-X0024, Ruling on standing.

3 Environmental impacts

10. AEP ranked the project as an overall moderate risk to wildlife and wildlife habitat, based on project siting within several wildlife feature setbacks, the project's surrounding native habitats, and abundant wildlife use in the area, contrasted with a small footprint and proposed mitigations. Specifically, AEP ranked the project as a high risk to breeding birds, a high risk to wildlife features, a moderate risk to a named water body, a low risk to wildlife entrapment and mortality, and a low risk to avian mortality. The Commission's review was focused on the high risk to breeding birds and wildlife features.

11. AEP determined that the project is a high risk to breeding birds because (i) the project is sited entirely on tame pasture and surrounded by native grassland, which provides high value wildlife habitat that are being utilized by grassland specialists (especially sensitive species); (ii) the project construction would be inside recommended setbacks for sensitive raptors and sharp-tailed grouse; and (iii) the project development may negatively impact breeding birds.

12. In the AEP referral report, Acestes made two commitments to reduce impacts on breeding birds: (i) Acestes would schedule vegetation removal and mowing outside the breeding bird restricted activity period (April 15 to August 15) or alternatively, Acestes would conduct nest sweeps to identify active nests prior to mowing to prevent nest destruction or abandonment during the grassland bird breeding season (April 15 to August 15) and, (ii) if a nest is identified, an appropriate setback would be applied until the young fledge and the nest has been confirmed inactive. AEP stated that the proposed mitigation may reduce some risk, however, there are no mitigations for habitat loss/avoidance and long-term impacts; thus, the risk to breeding birds is assessed to be high.

13. AEP determined that the project is a high risk to wildlife features, because the project has been sited in the setback of a ferruginous hawk nest and sharp-tailed grouse lek. More specially, (i) the project is located within 585 metres of a ferruginous hawk nest, which infringes on the 1,000-metre AEP setback; and (ii) the project is located with 328 metres, 260 metres and 105 metres of three sharp-tailed grouse leks, which infringes on the 500-metre AEP setback.

14. In the AEP referral report, Acestes proposed a number of mitigation measures to reduce impacts on raptors and sharp-tailed grouse (i) schedule construction outside of the nesting period for grassland raptors (March 15 to July 15) and outside of the breeding period for sharp-tailed grouse (March 15 to June 15); (ii) have an experienced wildlife biologist confirm nest activity to ensure nest is inactive prior to initiating construction; (iii) place reflectors along the perimeter fence to reduce collisions; and (iv) schedule maintenance and other high-disturbance operational activities to occur outside the breeding period for sharp-tailed grouse whenever possible.

15. AEP stated that although the mitigation measures proposed by Acestes may reduce some risk, the significant infringement of infrastructure within the setback of the ferruginous hawk nest will reduce foraging opportunities available to the hawks and increase the risk of nest site abandonment, and the significant infringement of infrastructure within the setback of the sharp-tailed grouse leks will increase the risk of lek site abandonment, which can impact the local population. For these reasons, AEP assessed the risk to wildlife features to be high.

16. In response to Commission information requests, Acestes proposed to implement a number of additional measures to reduce the high risk to breeding birds, raptors, and/or sharp-tailed grouse, which include:¹⁴

- Use a qualified biologist to monitor a historically recorded raptor nest as per *Sensitive Species Inventory Guideline* methodologies.
- Schedule construction or maintenance activities within 1,000 metres of the identified ferruginous hawk nest outside the breeding season (March 15 to July 15).
- Install two bird platforms more than 1,000 metres from the project boundary to support nesting of raptors in native prairie.
- Between March 15 and June 15, schedule maintenance activities to begin at least three hours after sunrise and to conclude at least three hours before sunset to reduce disturbance to the sharp-tailed grouse.
- Install reflectors/bird markers on the north perimeter fence (the fence closer to the identified sharp-tailed grouse nests).
- Avoid construction during the breeding and nesting season (April 15 to August 15). If maintenance is required, a nest sweep will be completed by a qualified wildlife biologist before mowing.
- Utilize bird deterrents and markers on project infrastructure until undertaking mortality surveys.

17. The Commission notes that not all of the additional mitigation measures proposed by Acestes would have positive impacts. For example, installation of bird platforms for raptors may have negative impacts to smaller grassland birds due to predation and reduced breeding success. The impacted species may be more at risk than the raptors of concern. The Commission requires Acestes to consult AEP on the additional mitigation measures and implement mitigation measures that are approved by AEP. Consequently, the Commission imposes the following condition of approval:

- a. Acestes Power ULC shall consult Alberta Environment and Parks (AEP) on any additional mitigation measures to reduce potential impacts from the project to breeding birds, raptors, and sharp-tailed grouse leks, and implement mitigation measures subject to AEP's review and approval.

18. The Commission notes that the project is entirely sited on tame grassland and surrounded by native grassland. The Commission finds that taking account of AEP's high risk ranking for breeding birds and notwithstanding Acestes' commitments to mitigate the potential impacts, the potential residual impact to breeding birds remains high. Therefore, the Commission imposes the following condition of approval:

¹⁴ Exhibit 27319-X0023, 2022-05-17 Tilley Solar IR 1_FINAL, PDF pages 1-7.

- b. Acestes Power ULC shall not conduct any construction activities within tame grassland habitat during the grassland breeding bird restricted activity period (April 15 to August 15).

19. 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 imposes the following condition of approval:

- c. Acestes Power ULC shall submit an annual post-construction monitoring survey report to Alberta Environment and Parks (AEP) and the Commission no later than January 31 of the year following the mortality monitoring period, 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* and Section 4.0 of the *Post-Construction Survey Protocols for Wind and Solar Energy Projects*.

4 Solar glare impacts

20. The solar glare assessment identified two transportation routes (Highway 1 and a local road) as receptors and clarified that there are no dwellings within 800 metres or aerodromes within four kilometres of the project.

21. The solar glare assessment modelled the project solar panels as “smooth glass with an anti-reflective coating.”¹⁵ The assessment indicated that the project solar panels would be mounted on a single-axis tracking system with a maximum tracking angle of 50 degrees, and the tracking system would employ a backtracking function to avoid inter-row shading at low sun angles (i.e., sunrise or sunset). The assessment modelled five different operating scenarios: no backtracking, and backtracking with resting angles of zero degrees, one degree, two degrees and three degrees. The solar glare model does not account for potential screening from natural or man-made obstacles such as cloud cover, vegetation or other physical obstructions.

22. The solar glare assessment concluded that

- If the solar panels operate with no backtracking, there would be no glare at any of the receptors.
- If the solar panels employ backtracking, the predicted duration of glare effects would decrease as the resting angle increases.
 - No glare is predicted for resting angles greater than or equal to three degrees.
 - Highway 1 and the local road would experience glare from the project, if the solar panels use a backtracking resting angle less than three degrees.

¹⁵ Exhibit 27319-X0010, Appendix I - 20220419 SolarGlare TilleySolarProject, PDF page 12.

- Maximum glare is predicted for a resting angle of zero degrees. In this case, Highway 1 is predicted to be the most affected receptor and would experience up to 1,956 minutes (32.6 hours) of “yellow” glare per year (i.e., glare with potential for temporary after image).

23. In response to a Commission information request, Acestes confirmed that it will consider rotating the project solar panels to use a resting angle greater than or equal to three degrees, so that glare along Highway 1 would be totally avoided.

24. The Commission notes that potential solar glare depends on the resting angle used by the project solar panels during backtracking periods. The Commission finds that the mitigation measure proposed by Acestes (i.e., use of a resting angle greater than or equal to three degrees) will likely mitigate solar glare from the project to Highway 1 and other receptors. Accordingly, the Commission imposes the following condition of approval:

- d. Acestes Power ULC shall rotate the project solar panels to use a resting angle greater than or equal to three degrees during backtracking periods to mitigate glare from the project in particular to Highway 1.

25. The Commission requires Acestes to promptly address complaints or concerns from stakeholders regarding solar glare if Acestes receives any at the post-construction stage. Therefore, the Commission imposes the following condition of approval:

- e. Acestes Power ULC 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 Acestes’ response to the complaints or concerns. In the event of complaints or concerns, Acestes shall file this report no later than 13 months after the project becomes operational.

26. The Commission notes that predictions in the solar glare assessment were premised upon the use of an anti-reflective coating on the project solar panels and the Commission imposes the following condition of approval:

- f. Acestes Power ULC shall use an anti-reflective coating on the project solar panels.

5 Other factors considered

27. Acestes’ participant involvement program was conducted in accordance with Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*. Acestes consulted with persons whose rights may be directly and adversely affected by the project as required. Acestes has confirmed there are no outstanding public or industry objections or concerns in relation to the applications.

28. Rule 007 requires an applicant to consult nearby landowners and relevant jurisdictions about potential solar glare impacts at the pre-application stage. During Acestes' participant involvement program, it provided a project-specific information package, including glare assessment results to local stakeholders and NAV CANADA. The Commission notes that no concerns regarding potential solar glare from the project were raised.¹⁶
29. The site-specific emergency response plan submitted by Acestes identified preliminary emergency mitigation measures and outlined site monitoring/communication protocols. Acestes submitted that local responders and authorities were provided a copy of the emergency response plan and Acestes did not receive any comments or feedback. Acestes committed to continue its consultation with local responders and authorities through the development, construction and operation of the project.¹⁷
30. With respect to end-of-life management, Acestes submitted a conservation and reclamation plan in accordance with the AEP *Conservation and Reclamation Directive for Renewable Energy Operations*. Acestes stated that it would build a dedicated fund for decommissioning and reclamation over the life of the project, as specified in its lease with the project landowner.¹⁸
31. Acestes explained that no Indigenous consultation was undertaken for the project because there is no Crown land nearby, no expected off-site impacts, no historical resources nearby and no Indigenous groups with access to the site for traditional land use.¹⁹
32. With respect to noise impacts, the Commission finds that the noise impact assessment submitted by Acestes meets the requirements of Rule 012 and accepts the conclusion that noise from the project will comply with the permissible sound levels established by that rule.²⁰
33. The Commission notes that Acestes has not finalized selection of equipment for the project, and equipment selection is expected to be finalized by January 2023.²¹ Consequently, the Commission imposes the following as a condition of approval:
- g. Once Acestes Power ULC has finalized its equipment selection and project layout, it must file a final project update with the Commission to confirm that the project has stayed within the final project update allowances for solar power plants. The final project update must be filed at least 90 days prior to the start of construction.
34. The Commission finds that the connection order application is in the public interest noting that FortisAlberta provided a letter of non-objection for the interconnection to Acestes' power plant.
35. For the reasons outlined above and subject to all of the conditions that form part of this decision as set out above and listed in Appendix A, the Commission finds that Acestes has satisfied the requirements of Rule 007 and Rule 012 and that in accordance with Section 17 of

¹⁶ Exhibit 27319-X0005, Appendix D - 2022-04-20 Tilley Solar - PIP Report_FINAL, PDF page 6.

¹⁷ Exhibit 27319-X0001, 2022-04-20 Tilley Solar AUC Application_FINAL, PDF pages 11 and 12.

¹⁸ Exhibit 27319-X0001, 2022-04-20 Tilley Solar AUC Application_FINAL, PDF page 14.

¹⁹ Exhibit 27319-X0005, Appendix D - 2022-04-20 Tilley Solar - PIP Report_FINAL, PDF page 5.

²⁰ Exhibit 27319-X0011, Appendix J - 20220411 NOI TilleySolarProjectNIA.

²¹ Exhibit 27319-X0023, 2022-05-17 Tilley Solar IR 1_FINAL, PDF page 12.

the *Alberta Utilities Commission Act*, 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.

6 Decision

36. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 27319-A001 and grants Acestes Power ULC the approval set out in Appendix 1 – Power Plant Approval 27319-D02-2022 to construct and operate the Tilley Solar Project (Appendix 1 will be distributed separately).

37. Pursuant to Section 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 27319-A002 and grants Acestes Power ULC the approval set out in Appendix 2 – Connection Order 27319-D03-2022 to connect the Tilley Solar Project to the electric distribution system of FortisAlberta Inc. (Appendix 2 will be distributed separately).

Dated on July 12, 2022.

Alberta Utilities Commission

(original signed by)

Neil Jamieson
Panel Chair

(original signed by)

Vincent Kostas
Acting Commission Member

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 are conditions of Decision 27319-D01-2022 that require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 27319-D02-2022:

- c. Acestes Power ULC shall submit an annual post-construction monitoring survey report to Alberta Environment and Parks (AEP) and the Commission no later than January 31 of the year following the mortality monitoring period, 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* and Section 4.0 of the *Post-Construction Survey Protocols for Wind and Solar Energy Projects*.
- g. Once Acestes Power ULC has finalized its equipment selection and project layout, it must file a final project update with the Commission to confirm that the project has stayed within the final project update 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 27319-D01-2022 that do not or may require a subsequent filing with the Commission:

- a. Acestes Power ULC shall consult Alberta Environment and Parks (AEP) on any additional mitigation measures to reduce potential impacts from the project to breeding birds, raptors, and sharp-tailed grouse leks, and implement the mitigation measures subject to AEP's review and approval.
- b. Acestes Power ULC shall not conduct any construction activities within tame grassland habitat during the grassland breeding bird restricted activity period (April 15 to August 15).
- d. Acestes Power ULC shall rotate the project solar panels to use a resting angle greater than or equal to three degrees during backtracking periods to mitigate glare from the project in particular to Highway 1.
- e. Acestes Power ULC 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 Acestes' response to the complaints or concerns. In the event of complaints or concerns, Acestes shall file this report no later than 13 months after the project becomes operational.
- f. Acestes Power ULC shall use an anti-reflective coating on the project solar panels.