



Sky Sustainable and Green Energy Corp.

47-Megawatt CastorWest Solar PV Plant

August 22, 2024

Alberta Utilities Commission

Decision 28961-D01-2024

Sky Sustainable and Green Energy Corp.

47-Megawatt CastorWest Solar PV Plant

Proceeding 28961

Application 28961-A001

August 22, 2024

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1 Decision summary

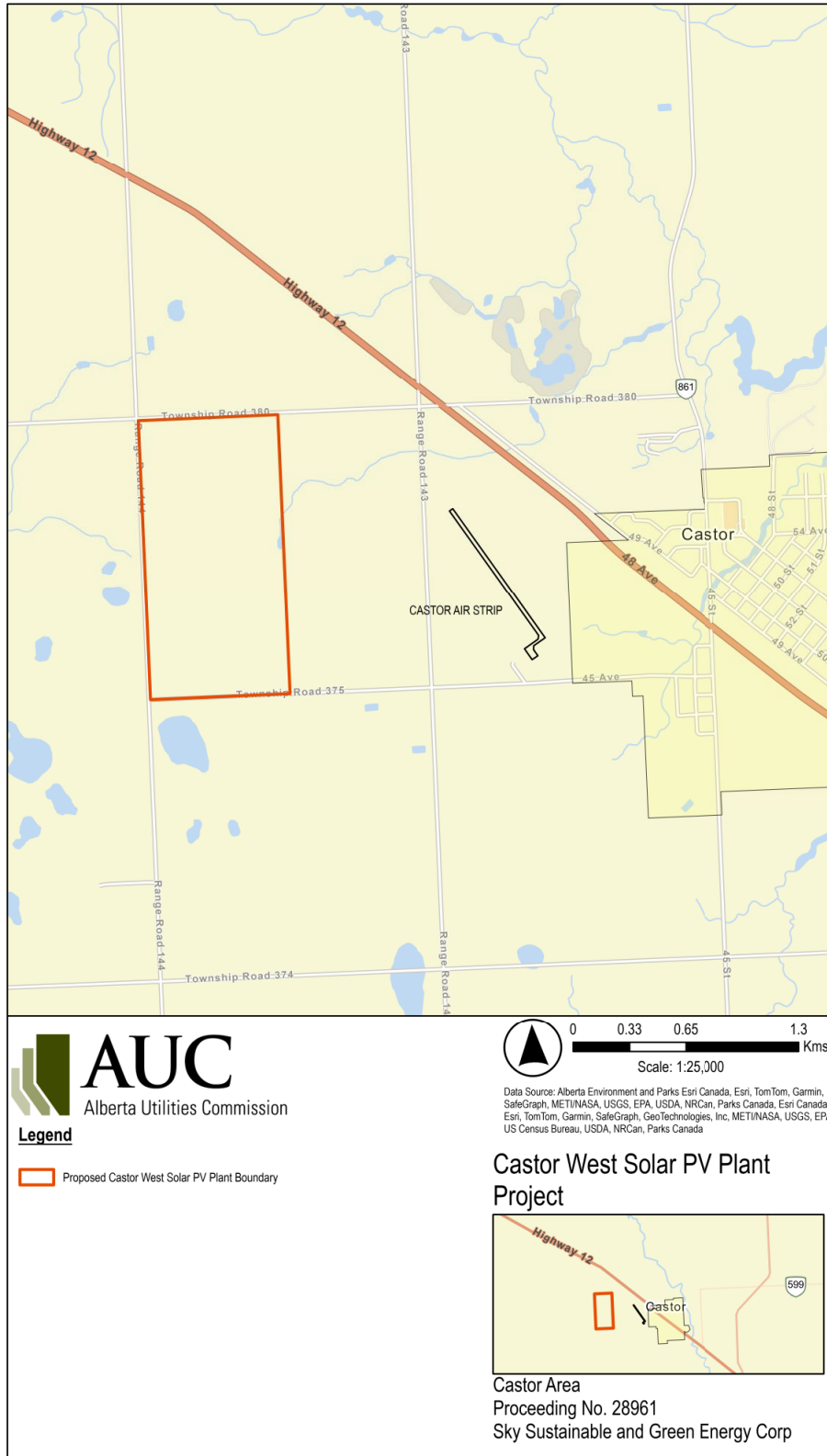
1. In this decision, the Alberta Utilities Commission approves an application from Sky Sustainable and Green Energy Corp. (SSGEC) to construct and operate a 47-megawatt (MW) solar power plant and project substation, designated as the CastorWest Solar PV Plant, located on private land in Paintearth County No. 18.

2 Application

2. SSGEC filed an application with the Commission for approval to construct and operate the 47-MW CastorWest Solar PV Plant (the project). The project would include approximately 95,816 modules mounted on a fixed-tilt racking system, a 69/34.5-kilovolt project substation, collector lines, photovoltaic (PV) racks, access gates, site fencing, construction trailers, parking, laydown area/storage, inverters, combiners and roads.

3. The project area is located on two parcels of privately owned land, approximately two kilometres west of the town of Castor, in the west half of Section 33, Township 37, Range 14, west of the Fourth Meridian, as shown in Figure 1. SSGEC stated that a separate transmission line and connection order application will be submitted by ATCO Electric Ltd. to connect the project to the Alberta Interconnected Electric System.

Figure 1. 47-Megawatt CastorWest Solar PV Plant location



4. SSGEC stated that the project is scheduled to begin construction in August 2025 and will be ready for commercial operation by October 2026.
5. The Commission issued a notice of application and no submissions were received in response to the notice.

3 Additional process for Commission interim requirements

6. This application was filed on April 12, 2024, and therefore was not subject to the approvals pause mandated by the *Generation Approvals Pause Regulation*.
7. On September 6, 2023, the Commission issued interim information requirements in Bulletin 2023-05 relating to agricultural land, viewscales, reclamation security and land use planning as part of the regulatory review process for new power plant applications.¹ The Commission subsequently issued another bulletin² requiring enhanced interim information requirements for reclamation security. The Commission required SSGEC to respond to these interim and enhanced interim information requirements.
8. On February 28, 2024, before the pause expired, the Minister of Affordability and Utilities issued a letter advising the Commission of the Government of Alberta's intention to advance certain policy, legislative and regulatory changes. The Commission will weigh applicable policy amongst the variety of public interest factors it considers in each application before it.

4 Findings

9. For the reasons outlined below, the Commission finds that approval of the project is in the public interest having regard to the social, economic, environmental and other effects. The Commission considers the application to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.
10. The Commission has reviewed the application and has determined that the information requirements specified in Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments, and Gas Utility Pipelines* and Rule 012: *Noise Control* have been met. Additionally, the Commission finds that SSGEC's participant involvement program satisfied the requirements of Rule 007.

4.1 Was the project appropriately sited to decrease environmental impacts?

11. In this section of the decision, the Commission determines that the power plant was well-sited from an environmental perspective.
12. The environmental evaluation³ detailed the existing environmental considerations of the project. Details included the project's location on lands with a Land Suitability Rating System

¹ Bulletin 2023-05, Interim Rule 007 information requirements, September 6, 2023.

² Bulletin 2024-08, AUC consultation on Rule 007 and enhanced interim information requirements, May 2, 2024.

³ Exhibit 28961-X0029, E-1_CSW_Environmental Evaluation.

(LSRS) soil classification of 4M(10)⁴ reducing the potential impacts to agriculture from the project. The environmental protection plan⁵ and conservation and reclamation plan⁶ detailed the mitigations and preliminary reclamation processes proposed and were suitable given the project risks.

13. The determination that the project is well-sited was supported by the Alberta Environment and Protected Areas (AEPA) renewable energy referral report, which determined an overall low risk to wildlife and wildlife habitat. All individual factors assessed within the referral report (e.g., fencing, raptor nests, sharp-tailed grouse) received a low risk ranking with the exception of the moderate risk rankings for birds and wetlands.⁷

14. The AEPA moderate risk ranking for birds resulted from high bird activity observed during field surveys. The most observed birds in the migratory surveys were geese and ducks, which were noted to be unlikely to be affected by solar arrays. Moderate risk for wetlands was based on the siting of solar panels through a 0.07-hectare portion of seasonal marsh which will be removed after obtaining a *Water Act* approval. As set out in the environmental protection plan, other Class III+ wetlands were provided a 100-metre setback following standards in the *Wildlife Directive for Alberta Solar Energy Projects*, and appropriate mitigation measures will be applied during construction. Based on the location of the project and with consideration to the proposed mitigations, the Commission concludes that the project was sited appropriately.

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

- a. Sky Sustainable and Green Energy Corp. 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 annual post-construction monitoring survey report and the Alberta Environment and Protected Areas' post-construction monitoring response letter to the Commission within one month of its issuance to Sky Sustainable and Green Energy Corp. These reports and response letters shall be subsequently filed with the same time constraints 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*.

4.2 What are the glare impacts and will they be mitigated?

16. SSGEC conducted a glare impact assessment for the project, which identified five dwellings, five local roads, and two flight paths at the Castor Airport (CER2) as receptors, and predicted that one dwelling, two local roads and one flight path will receive some

⁴ 4M(10) = 100% of the lands (10) have severe limitations (4) due to water holding capacity of the soils (M).

⁵ Exhibit 28961-X0030, E-6_CWS_Environmental Protection Plan.

⁶ Exhibit 28961-X0031, E-7_CWS_Conceptual Conservation & Reclamation Plan.

⁷ Exhibit 28961-X0026, E-5_CWS_AEPA Renewable Energy Referral Report.

yellow glare from the project.⁸ Specifically, the dwelling located southeast of the project is predicted to receive up to 4,531 minutes of yellow glare per year; Township Road 375, the most affected receptor, is predicted to receive up to 11,689 minutes of yellow glare per year; and one flight path at the Castor Airport is predicted to receive up to 4,957 minutes of yellow glare per year. In addition, SSGEC consulted the Castor Airport, which did not raise concerns about glare.

17. SSGEC explained that the actual glare impacts to receptors are expected to be less than predicted, because (i) the glare model used conservative assumptions that do not account for clouds, weather patterns or obstructions between the project solar panels and the receptors; (ii) vehicles are in motion so drivers will experience a fraction of the predicted glare; (iii) glare expected to impact flight paths is anticipated to occur for minimal daily durations restricted to certain seasons and during sunset; and (iv) the receptors that are predicted to receive glare from the project are also expected to simultaneously experience direct sunlight from the same general direction (i.e., the impact of the glare on affected receptors is expected to be eclipsed by sun-masking).

18. SSGEC confirmed that it will promptly address glare concerns or complaints once the project commences operation. SSGEC also confirmed that in the event of concerns or complaints about glare, it will perform detailed analysis and apply appropriate mitigations on a case-by-case basis.⁹ In particular, SSGEC considered vegetative screening as a potential mitigation measure if glare is identified as a problem. SSGEC submitted that “A perimeter vegetative screen would be particularly effective for lower elevation receptors, provided the vegetation was selected such that it would block most of the glint and glare before it reflects off site.”¹⁰

19. The glare impact assessment indicated that the project solar panels would be mounted on a fixed-tilt racking system. SSGEC commented on whether use of a tracking system that allows solar panels to follow the sun’s path would reduce glare from the project on receptors. SSGEC explained that compared to a fixed-tilt racking system, use of a tracking system could potentially help in reducing glare, but the tracking system may lead to the emergence of other issues, including icing damage to the trackers; alternatives such as vegetative screening may be more attractive based on cost of implementation and effectiveness.¹¹

20. The Commission notes that in the case of fixed-tilt solar panels where the tilt angle cannot be adjusted, vegetative screening may be the only feasible mitigation to reduce glare for ground-level receptors (e.g., dwellings and roads). However, the Commission considers that vegetative screening is unlikely to be an effective mitigation measure for aircraft in flight given the elevated nature of the receptors. The use of conservative assumptions in the glare model suggests that the actual glare impacts to flight paths associated with the Castor Airport are expected to be less than predicted. Further, the Commission accepts SSGEC’s explanation that

⁸ The glare assessment used colour codes to categorize effects of glare to a person’s eyes.

- Green glare: glare with low potential for temporary after-image.
- Yellow glare: glare with potential for temporary after-image.
- Red glare: glare with potential for permanent eye damage.

⁹ Exhibit 28961-X0048, SSGEC response to AUC information request round 2 - SSGEC-AUC-2024JUN27-001 to 005, PDF page 3.

¹⁰ Exhibit 28961-X0048, SSGEC response to AUC information request round 2 - SSGEC-AUC-2024JUN27-001 to 005, PDF page 3.

¹¹ Exhibit 28961-X0048, SSGEC response to AUC information request round 2 - SSGEC-AUC-2024JUN27-001 to 005, PDF page 3.

glare from the project is expected to be eclipsed by sun-masking as it is predicted to occur from the same direction as the sun.

21. The Commission requires that any glare issues associated with the project be addressed by SSGEC in a timely manner. If SSGEC receives concerns or complaints from residents or drivers on nearby roads (i.e., ground-level receptors) and glare is determined to be a problem, the Commission requires SSGEC to implement mitigation measures (e.g., vegetative screening) and demonstrate the effectiveness of the implemented mitigation measures. A similar response and mitigation process is required for glare issues leading to concerns or complaints from operators of aircraft using the Castor Airport. Therefore, the Commission imposes the following condition of approval:

- b. Sky Sustainable and Green Energy Corp. (SSGEC) shall promptly address any complaints or concerns regarding solar glare from the project. In the event of complaints or concerns, SSGEC shall file an annual report with the Commission detailing any complaints or concerns it receives regarding solar glare from the project during the first three years of operation, with the first report due to the Commission no later than 13 months after the project becomes operational. The report shall also detail SSGEC's response to the complaints or concerns, where applicable, describe the mitigation measures that SSGEC has implemented, and demonstrate the effectiveness of the implemented mitigation measures.

22. The Commission notes that predictions in the glare impact assessment were premised upon the use of solar panels with anti-reflective coating. Therefore, the Commission imposes the following condition of approval:

- c. Sky Sustainable and Green Energy Corp. shall use solar panels with anti-reflective coating for the project.

4.3 Will noise impacts from the project be compliant with Rule 012?

23. SSGEC conducted a noise impact assessment (NIA) for the project, which identified seven dwellings within 1.5 kilometres of the project as receptors, and modelled 15 inverters and one step-up transformer as project sound sources. SSGEC conservatively assumed these sound sources run continuously throughout the daytime and nighttime.¹²

24. SSGEC submitted that in the absence of noise data for existing energy-related facilities, emissions from baseline case facilities were assumed to be equal to permissible sound levels as set out in Rule 012. Based on the "no net increase" approach described in Rule 012, SSGEC predicted that noise contribution from the project will have negligible impact on cumulative sound levels and therefore, noise impacts from the project will be compliant with Rule 012.¹³

25. The Commission finds that SSGEC's NIA meets the requirements in Rule 012 in that SSGEC properly used the "no net increase" approach specified in Rule 012. The Commission accepts the conclusion of the NIA that noise from the project will be compliant with Rule 012.

¹² Exhibit 28961-X0022, C.3_CSW_Noise Impact Assessment.

¹³ Exhibit 28961-X0044.01, Response to SSGEC response to AUC information request round 1 - SSGEC-AUC-2024MAY16-001 to 014- IR Response Letter, PDF pages 10-12.

4.4 Is SSGEC's security and reclamation plan reasonable?

26. The Commission expects applicants to fully reclaim projects and to bear the costs of doing so. Applicants are required to explain how they will ensure that sufficient funds are available at a project's end of life to cover the cost of decommissioning and reclamation.

27. SSGEC stated that the reclamation security can be drawn upon in the event that the proponent defaults under its obligations to remove the project components, stating that the hosting landowner will be named the beneficiary of the reclamation security. SSGEC stated that it is obligated to provide reclamation security in the form of a third-party letter of guarantee such as a letter of credit, bond or guarantee from an investment grade entity.¹⁴ SSGEC stated that it will post the reclamation security prior to the tenth year of the initial operational period.

28. In response to Commission enhanced information requirements, SSGEC submitted a third-party reclamation cost estimate report completed by Wearmouth Canada (1951) Inc., which estimated a net total reclamation cost of \$1,950,000 for the project.¹⁵ It added that the cost estimate should be revisited to provide a baseline followed by periodic review as needed to adjust for regulatory and economic changing conditions, and that a more detailed cost estimate should be completed five years before end of life.

29. In response to Commission information requests,¹⁶ SSGEC confirmed that a baseline cost estimate will be conducted upon the start of operation and periodic cost reviews to update the baseline cost estimate will be conducted at an interval not to exceed five years. A reclamation definitive estimate will be completed five years prior to the anticipated end of project life to confirm the scope, timeline and details of the reclamation plan, and to ensure that the reclamation security meets the updated definitive plan.

30. On February 28, 2024, the Ministry of Affordability and Utilities indicated that it intends to develop a reclamation security regime for renewable energy projects. Specifically, the Minister provided a letter to the Commission indicating that the "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" and the "new requirements will apply [to] all approvals issued on or after March 1, 2024."¹⁷

31. The Commission considers that SSGEC may be responsible for posting security in accordance with the reclamation security regime referenced above. However, the specific parameters and scope of this regime are not yet known. In the meantime, the Commission must assess whether the project is in the public interest, including whether SSGEC's reclamation security program indicates that sufficient funds will be available to reclaim the project at its end of life.

¹⁴ Exhibit 28961-X0009, A-8_CSW_Interim Rule 007 Bulletin 2023-05-2024-04-10-18-43_EBA Signed, PDF page 19.

¹⁵ Exhibit 28961-X0043.01, Response to SSGEC response to AUC information request round 1 - SSGEC-AUC-2024MAY16-001 to 014 – Bulletin 2024-08.

¹⁶ Exhibit 28961-X0048, SSGEC response to AUC information request round 2 - SSGEC-AUC-2024JUN27-001 to 005, PDF page 7.

¹⁷ Letter re Policy Guidance to the Alberta Utilities Commission (28 February 2024) from Nathan Neudorf, Minister Affordability and Utilities.

32. SSGEC's reclamation security program includes a third-party letter of guarantee with the hosting landowner as the beneficiary. The reclamation security will be posted prior to the tenth year of the operational period and the decommissioning cost will be re-evaluated every five years from the date of operation. The Commission finds that SSGEC's approach to reclamation is sufficient for the purposes of satisfying the Commission that approval of the project is in the public interest.

4.5 Was the emergency response plan and participant involvement program completed in alignment with Rule 007 requirements?

33. The Commission accepts the site-specific emergency response plan (ERP) that was submitted. SSGEC stated it has contacted local responders and discussed the construction ERP provisions. It added that the necessary contact information was received and was incorporated into the ERP, and no other feedback or specific requirements were requested by local responders and authorities. SSGEC stated that a similar approach will be undertaken with the operational ERP once it is prepared after detailed design is completed.

34. SSGEC completed a participant involvement program for the project which included a project-specific information package, in-person consultation, phone and email consultation, and an open house held on November 23, 2022. SSGEC stated that contacts were added to the consultation list throughout the participant involvement program process and that it has consulted with all landowners, occupants and residents within 400 metres of the project boundary. It added that landowners and residents between 400 metres and 800 metres were provided personal notification. SSGEC stated that no concerns were identified during the consultation activities within 400 metres and that there were no interested parties beyond 800 metres.

35. SSGEC stated that it had discussions with Paintearth County No. 18 and the Town of Castor to seek guidance on development activities. In response to information requests from the Commission, SSGEC indicated that it will comply with the existing land-use bylaw requirements and the proposed bylaw amendments for the county. SSGEC added that the county acknowledged that the project complies with the land-use bylaw and proposed amendments.¹⁸

36. The Commission accepts that the participant involvement program was conducted in alignment with Rule 007 requirements.

37. SSGEC indicated that the preliminary design of the project is based on 645-watt panels, giving a total estimated count of 95,816 panels to be used. As SSGEC finalizes the design of the project, the Commission imposes the following condition of approval:

- d. Once Sky Sustainable and Green Energy Corp. 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.

¹⁸ Exhibit 28961-X0044.01, Response to SSGEC response to AUC information request round 1 - SSGEC-AUC-2024MAY16-001 to 014- IR Response Letter, PDF page 21.

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

5 Decision

39. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 28961-A001 and grants Sky Sustainable and Green Energy Corp. the approval set out in Appendix 1 – Power Plant Approval 28961-D02-2024 to construct and operate the 47-megawatt CastorWest Solar PV Plant.

40. Pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, the Commission approves Application 28961-A001 and grants Sky Sustainable and Green Energy Corp. the approval set out in Appendix 2 – Substation Permit and Licence 28961-D03-2024 to construct and operate the project substation for the CastorWest Solar PV Plant.

41. The appendixes will be distributed separately.

Dated on August 22, 2024.

Alberta Utilities Commission

(original signed by)

Matthew Oliver, CD
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 28961-D01-2024 that require a subsequent filing with the Commission and will be included as conditions of Power Plant Approval 28961-D02-2024:

- Sky Sustainable and Green Energy Corp. 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 annual post-construction monitoring survey report and the Alberta Environment and Protected Areas' post-construction monitoring response letter to the Commission within one month of its issuance to Sky Sustainable and Green Energy Corp. These reports and response letters shall be subsequently filed with the same time constraints 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*.
- Once Sky Sustainable and Green Energy Corp. 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 is a condition of Decision 28961-D01-2024 that only requires a subsequent filing if the noted events occur:

- Sky Sustainable and Green Energy Corp. (SSGEC) shall promptly address any complaints or concerns regarding solar glare from the project. In the event of complaints or concerns, SSGEC shall file an annual report with the Commission detailing any complaints or concerns it receives regarding solar glare from the project during the first three years of operation, with the first report due to the Commission no later than 13 months after the project becomes operational. The report shall also detail SSGEC's response to the complaints or concerns, where applicable, describe the mitigation measures that SSGEC has implemented, and demonstrate the effectiveness of the implemented mitigation measures.

The following is a condition of Decision 28961-D01-2024 that does not require a subsequent filing:

- Sky Sustainable and Green Energy Corp. shall use solar panels with anti-reflective coating for the project.