AUC
Alberta Utilities Commission

Neoen Renewables Canada Inc.

Sweetgrass Solar and Energy Storage Project

September 5, 2025

Alberta Utilities Commission
Decision 29372-D01-2025
Neoen Renewables Canada Inc.
Sweetgrass Solar and Energy Storage Project
Proceeding 29372
Applications 29372-A001 to 29372-A003

September 5, 2025

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

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1 Executive summary

1. In this decision, the Alberta Utilities Commission approves applications from Neoen Renewables Canada Inc. to construct and operate a 396-megawatt (MW) solar power plant, a 150-MW/300-megawatt-hour (MWh) energy storage facility (ESF) and the associated Sweetgrass 1160S Substation, collectively designated as the Sweetgrass Solar and Energy Storage Project (the project), subject to certain conditions. However, it does not approve any power plant infrastructure in a wetland complex in the northeast quarter of Section 35, Township 10, Range 26, west of the Fourth Meridian (the Cottonwood Wetland Complex).

2. The Granum Landowners Group (GLG) intervened in this proceeding in opposition to the project and outlined multiple impacts and harms from the project. The GLG requested that the Commission deny Neoen's applications or, if approved, include specific conditions as outlined in its submissions.[1] The Municipal District of Willow Creek No. 26 (MD of Willow Creek) also intervened but ultimately withdrew its statement of intent to participate indicating that Neoen had addressed its concerns.

3. Disagreements occurred between experts concerning the process and correctness of the delineation of the Cottonwood Wetland Complex. As the applicant, Neoen is responsible to demonstrate how the project satisfies the public interest. With respect to aspects of wetland delineation, the Commission concluded that Neoen did not. Given the disagreement between qualified experts, and the size and nature of the Cottonwood Wetland Complex, the Commission finds avoidance of this wetland complex appropriate and therefore, does not approve any power plant infrastructure in the Cottonwood Wetland Complex.

4. The Commission has weighed the concerns raised by the interveners against the benefits of the project and various mitigative measures proposed by Neoen. The Commission's reasons for finding the project, apart from any power plant infrastructure in the Cottonwood Wetland Complex, to be in the public interest are set out in detail in this decision and summarized below:

- The Alberta Environment and Protected Areas renewable energy referral report for the project determined that the project poses an overall low risk to wildlife and wildlife habitat. The Commission accepts that the project, excluding any power plant infrastructure in the Cottonwood Wetland Complex, is appropriately sited with respect to most *Wildlife Directive for Alberta Solar Energy Projects* guidance and finds the environmental impacts of the project to be reasonable considering the mitigations committed to and conditioned in this decision.

[1] Exhibit 29372-X0141, GLG Group Submissions_March 14, 2025.

- Fire risks associated with the ESF are limited and will be mitigated by Neoen's monitoring systems and emergency response plan to an acceptable level. The Commission requires Neoen to continually review and update the site-specific emergency response plan.

- The Commission finds that there may be a negative public perception of the project's effects on viewscapes that may translate into a negative effect on property value for some properties but is satisfied that these impacts are acceptable when balanced against the project's overall public benefits.

- The project is predicted to comply with the permissible sound levels as defined in Rule 012: *Noise Control*. The Commission requires Neoen to conduct a post-construction comprehensive sound level survey to verify the project's compliance with Rule 012.

- The project is unlikely to have glare impacts to nearby roads and the Commission requires Neoen to promptly address complaints or concerns regarding glare impacts during the project operations and implement effective mitigation measures where necessary.

- Neoen is required to adhere to applicable provincial regulations for agriculture. The Commission finds Neoen's proposed mitigations to be appropriate for the protection of agricultural assets.

- The Commission accepts that Neoen's approach to reclamation is reasonable. Neoen is required to fully reclaim the project and bear the costs of doing so by providing funds to the Government of Alberta.

5. Overall, the Commission finds that apart from any power plant infrastructure in the Cottonwood Wetland Complex, approval of the applications, as conditioned, is in the public interest, having regard to the social, economic, environmental and other effects of the project.

2 Introduction

2.1 Summary of Neoen Renewables Canada Inc.'s applications

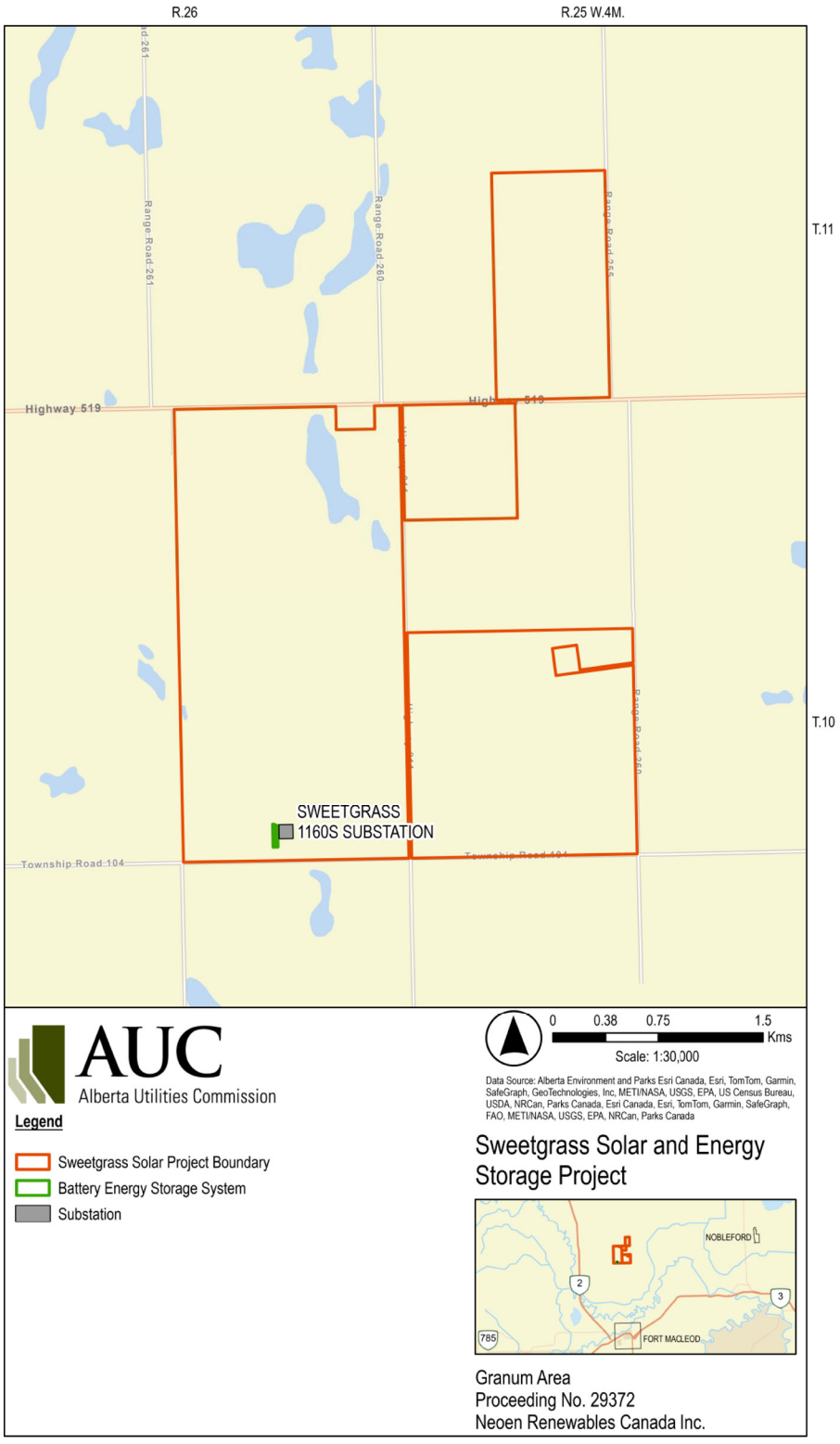
6. Neoen applied to construct and operate a 396-MW solar power plant, a 150-MW/300-MWh ESF and the associated Sweetgrass 1160S Substation.

7. The project is located approximately 4.5 kilometres east of Granum, in the Municipal District of Willow Creek No. 26, on approximately 662 hectares of private land within the following locations:

Quarter	Section	Township	Range	Meridian
NE/NW/SE/SW	25	10	26	W4
NE/NW/SE/SW	26	10	26	W4
NE/NW/SE/SW	35	10	26	W4
NE/SE	6	11	25	W4
NW	36	10	26	W4

8. The ESF and the substation will be located in the southwest quarter of Section 26, Township 10, Range 26, west of the Fourth Meridian. The project boundary is shown on the map in Figure 1.

Figure 1. Proposed project boundary



9. Neoen explained that it has not finalized its equipment for the project; however, the solar power plant is planned to include approximately 841,425 solar module panels using single-axis tracking, 90 Sungrow SG4400UD-MV inverter/transformer charger stations, and other associated equipment, with a total generating capability of 396 MW. The power plant will also include an underground collector system, which will be used for collecting the electric energy generated by the project solar panels and transmitting the electric energy to the associated Sweetgrass 1160S Substation.

10. The ESF will consist of 78 Tesla Megapack 2 XL energy storage containers and 39 ESF transformers, with a capability of 150 MW and storage capacity of 300 MWh. The ESF will be charged from the project solar panels and discharged to the Alberta Interconnected Electric System (AIES).

11. The Sweetgrass 1160S Substation will include two main step-up 34.5/240-kilovolt (kV), 150/200/250-megavolt ampere (MVA) transformers, two 240-kV circuit breakers, ten 34.5-kV circuit breakers and one control building.

12. Neoen submitted that the project substation will be located approximately 14 kilometres from the existing Transmission Line 1038L and would be the point of interconnection to the AIES. A separate market participant choice application will be submitted in the future to the AUC for the transmission line and connection to the AIES.

13. Neoen estimated that it would start construction in the third quarter of 2026 with an in-service date in the third quarter of 2028. The construction completion date of the approval and permit and licence was requested to be January 31, 2029, to allow Neoen time to finalize equipment specifications, prepare a final project update, and account for any delays during construction due to equipment procurement and supply chain delays.[2] The Commission expects that an applicant intends to construct the applied-for facilities within the time requested. Time extensions to initial approvals require good rationale beyond changing market conditions or supplier delivery uncertainties, as it is expected the applicant is already considering those realities. The Commission notes any subsequent requests for a time extension will require compelling support that demonstrates the delay resulted from extraordinary and/or unforeseeable circumstances.

14. Neoen submitted that the project would contribute to positive societal benefits, including clean energy generation, a community benefit fund, creation of employment and tax revenue. Neoen believes the project will provide reliability services to Alberta's transmission system grid through its ESF, reduce carbon emissions during its lifetime of operation and contribute to Alberta's overall efforts to reduce carbon-related impacts on the environment.

15. Neoen submitted that it will set up a community benefit sharing plan with $50,000 annual contributions commencing at project commercial operations and every year over the project's lifetime to support local organizations and initiatives. Neoen estimated that approximately 100,000 homes will be powered through clean energy annually from the project, over 400 local construction jobs will be created, there will be an increased demand for local services during construction of the project, five to 10 permanent local jobs during commercial operations of the project will be created, art installations from local artists at the project site, and tax revenues

[2] Exhibit 29372-X0001, Sweetgrass Solar with Storage Project - AUC Application, PDF page 8.

amounting to approximately $100 million will be generated for the MD of Willow Creek over a 35-year project lifespan.[3] In addition, Neoen offered rooftop solar systems to stakeholders within 800 metres of the project boundary.[4]

2.2 Interveners

16. The Commission issued a notice of applications in accordance with Rule 001: *Rules of Practice*. In response, the Commission received statements of intent to participate from members of the GLG and the MD of Willow Creek.

17. The Commission granted standing to some members of the GLG and permitted persons who did not have standing to join the GLG to participate in the proceeding. The GLG submitted evidence and argument on topics including environmental and wetland impacts, fire safety issues, emergency response, impacts on viewscape and property values, noise impacts, solar glare, agricultural impacts, and reclamation.

18. The MD of Willow Creek's concerns included issues related to compliance with municipal planning documents; agricultural impacts; protection of the MD of Willow Creek's roadways during construction; reclamation securities; fire safety measures; and appropriate vegetation, weed, soil erosion, traffic and waste management plans. The Commission granted the MD of Willow Creek full participation rights; however, the MD of Willow Creek ultimately withdrew its statement of intent to participate indicating that Neoen had addressed its concerns.

19. The Commission held an oral hearing from April 29 to May 1, 2025, to consider the applications.

20. In its argument, Neoen raised fairness concerns with the Commission's communications around hearing scoping. Neoen understood that the evidentiary record for certain issues, including wetlands, was sufficient and that the Commission did not anticipate questions in relation to these topics. During the GLG's questioning of Neoen, the Commission identified an issue with wetland delineation and questioned Neoen's environmental consultant on this matter. Neoen submitted that had it known wetlands were an outstanding issue that concerned the Commission, it would have approached its case differently.[5] In response to Neoen's fairness concerns, the Commission established a supplemental written process, agreed to by the parties, to consider the narrow issue of wetland delineation.[6]

3 The approval process for the project

21. In this section of the decision, the Commission describes the legal framework in which its decisions are made. First, the Commission explains its mandate and powers when considering facility applications. Then, the Commission describes how it assesses the public interest. Finally, the Commission addresses how it considers municipal planning instruments in its public interest assessment.

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3 Transcript, Volume 2, page 253, lines 8 to 25, page 254, lines 1 to 25, and page 255, lines 1 to 15.
4 Exhibit 29372-X0038, Sweetgrass Solar - AUC IR Responses, Neoen-AUC-2024NOV08-006, PDF pages 10-11.
5 Transcript, Volume 3, page 523, lines 15 to 25, page 524, lines 1 to 25, and page 525, lines 1 to 9.
6 Exhibit 29372-X0235, AUC letter - Schedule for further process on wetland delineation.

3.1 What is the role of the Commission?

22. The Commission is an independent regulator responsible for considering applications for power plants, substations and ESFs in accordance with the legislative framework.[7] The Commission must consider whether the proposed project is in the public interest, having regard to its social, economic, environmental and other effects.[8]

23. The applicant bears the onus of demonstrating that approval of its project is in the public interest. Interveners may attempt to show that the applicant has not met its onus by demonstrating the effects of the project on their interests, and explaining what a better balancing of the public interest might be. The Commission's role is to test and assess the evidence before it and engage in a multifaceted analysis established by the regulatory regime, to determine if the project should be approved, and if so, whether any conditions should apply.

24. On December 6, 2024, the *Electric Energy Land Use and Visual Assessment Regulation*[9] was enacted. The regulation was established to protect high-quality agricultural land, irrigable land and valued viewscapes from the impacts of electric energy generation development. Also, on June 4, 2025, the Government of Alberta issued the *Code of Practice for Solar and Wind Renewable Energy Operations*, effective May 31, 2025, which sets out the requirements for reclamation security provided directly to the government.

25. Both the *Electric Energy Land Use and Visual Assessment Regulation* and the *Code of Practice for Solar and Wind Renewable Energy Operations* came into effect after Neoen had filed its applications but before a decision was issued. The Commission addresses how it applies the *Electric Energy Land Use and Visual Assessment Regulation* and the *Code of Practice for Solar and Wind Renewable Energy Operations* in more detail, below.

3.2 How does the Commission assess the public interest?

26. When the Commission receives an application to construct and operate a power plant, Section 17(1) of the *Alberta Utilities Commission Act* is engaged. This provision states that, in addition to any other matters it may or must consider, the Commission must give consideration to whether the proposed project is in the public interest, having regard to its social, economic, environmental and other effects.

27. As a starting point, a power plant application filed with the Commission must comply with Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines* and Rule 012: *Noise Control*. These rules provide a comprehensive set of requirements that a facility application must contain.

28. The Commission also balances a variety of public interest considerations, taking into account the purposes of the *Hydro and Electric Energy Act* and the *Electric Utilities Act*. These statutes provide for the economic, orderly and efficient development of facilities and infrastructure, including power plants and ESFs, that are in the public interest. They also set out

7 *Hydro and Electric Energy Act*, sections 11, 13.01, 14, 15 and 19.
8 *Alberta Utilities Commission Act*, Section 17.
9 Government of Alberta Order-in-Council 368/2024.

a framework for a competitive generation market, where decisions about whether and where to generate electricity are left to the private sector.[10]

29. Conducting a public interest assessment requires the Commission to assess and balance the competing elements of the public interest in the context of each specific application before it. Part of this exercise is an analysis of the nature of the impacts associated with a particular project, and the degree to which the applicant has addressed these impacts. Balanced against this is an assessment of the project's potential public benefits. The assessment includes the positive and adverse impacts of the project on those nearby, such as landowners, and on those more distant, such as the general population of Alberta.

30. The Commission has previously affirmed that the public interest will be largely met if an application complies with existing regulatory standards, and the project's public benefits outweigh its negative impacts.

3.2.1 How does the Commission consider municipal planning instruments?

31. Municipalities play a unique role and possess expertise in local land use planning and have a strong interest in upholding local objectives. The Commission considers their land use authority and planning instruments when determining if a project is in the public interest[11] and values the insights municipalities can provide on the potential effects of projects including the regional context of their planning instruments.[12] While the Commission considers municipal land use planning policies in making its public interest determination, these land use planning policies are also assessed against existing provincial laws, project impacts (social, economic and environmental effects), and compliance with Rule 007 and Rule 012.

32. Although the Commission endeavors to achieve consistency with municipal planning instruments, pursuant to sections 619 and 620 of the *Municipal Government Act*,[13] the Commission's decision on applications takes precedence over municipal planning instruments.[14] This approach aims to reduce regulatory burdens and ensures that issues heard and determined at the provincial level are not reheard at the municipal level.

4 Discussion and findings

33. The Commission considers the proposed substation, ESF and power plant, except for any power plant infrastructure in the Cottonwood Wetland Complex, to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act* and other applicable enactments, subject to the conditions described below. The Commission has reviewed the applications and has determined that the information requirements specified in Rule 007 and

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10 *Hydro and Electric Energy Act*, sections 2 and 3; *Electric Utilities Act*, Section 5.

11 Decision 27842-D01-2024: Aira Wind Power Inc. – Aira Solar Project and Moose Trail 1049S Substation, Proceeding 27842, Applications 27842-A001 and 27842-A002, March 21, 2024, paragraph 28; Decision 27486-D01-2023: Foothills Solar GP Inc. – Foothills Solar Project, Proceeding 27486, Applications 27486-A001 and 27486-A002, April 20, 2023, paragraph 23.

12 Decision 28086-D01-2024: Three Hills Solar Power Corp. – Three Hills Solar Project, Proceeding 28086, Application 28086-A001, June 12, 2024.

13 *Municipal Government Act*, sections 619 and 620.

14 *Borgel v Paintearth* (Subdivision and Development Appeal Board), 2020 ABCA 192, paragraph 22. This was affirmed most recently by the Court of Appeal of Alberta in *Canmore (Town of) v Three Sisters Mountain Village Properties Ltd*, 2023 ABCA 278, paragraphs 74 to 75.

Rule 012 have been met. In the following subsections, the Commission discusses its findings regarding environmental and wetland impacts, fire risks and emergency response plan, visual impacts, noise impacts, solar glare impacts, agricultural impacts, and reclamation.

4.1 Environmental and wetland concerns

34. In this section of the decision, the Commission first determines that the power plant was generally well-sited from an environmental perspective and that the proposed environmental mitigations are reasonable. Then it examines whether the wetland delineation methodology was suitable and imposes a condition for avoidance of the Cottonwood Wetland Complex.

4.1.1 Does the project pose a significant environmental risk?

35. The Commission finds that Neoen suitably considered the standards and best management practices outlined in the *Wildlife Directive for Alberta Solar Energy Projects* (Wildlife Directive) when initially selecting a site for the project. The Wildlife Directive considers "[a]ppropriate site selection at the landscape level [as] the first and most critical factor in preventing significant negative effects on wildlife."[15] The environmental suitability of this site is confirmed by the Alberta Environment and Protected Areas (AEPA) renewable energy referral report, which determined an overall low risk to wildlife and wildlife habitat.[16]

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

a. Neoen Renewables Canada Inc. shall submit an annual post-construction monitoring survey report to Alberta Environment and Protected Areas (AEPA) no later than January 31 of the year following the mortality monitoring period and submit the annual post-construction monitoring survey report and AEPA's post-construction monitoring response letter to the Commission within one month of its issuance to Neoen. These reports and response letters shall be subsequently filed with the same time constraints every subsequent year for which AEPA requires surveys pursuant to Section 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*.

37. Based on the information provided in the environmental evaluation and mitigations provided in the environmental protection plan, the Commission is satisfied that environmental risks are reasonably considered, with the exception of the Cottonwood Wetland Complex, which is discussed further below.

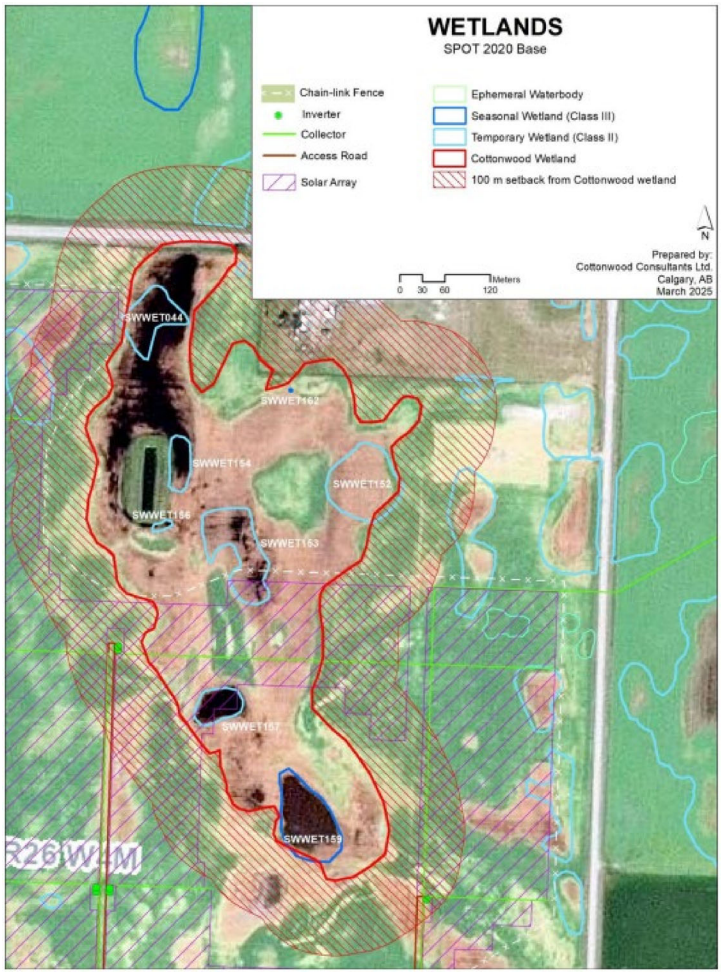
4.1.2 Was the project's wetland delineation methodology suitable and are setbacks appropriate for wetlands in the Cottonwood Wetland Complex?

38. Neoen retained Western EcoSystems Technology, ULC (WEST) to complete wetland delineation and field survey work activities. Within the Cottonwood Wetland Complex, WEST delineated and classified six Class II wetlands and two Class III wetlands. In response to the GLG's wetland impact concerns, the GLG retained Cottonwood Consulting Ltd. (Cottonwood), who disagreed with the wetland delineation boundaries and potential classification of these wetlands and instead found that it was more reasonable to group these wetlands into one

[15] *Wildlife Directive for Alberta Solar Energy Projects*, Alberta Environment and Parks, effective October 4, 2017.
[16] Exhibit 29372-X0011, Sweetgrass Solar with Storage Project - Appendix 10 - Referral Report.

contiguous larger Class III wetland complex[17] designated as the Cottonwood Wetland Complex, as shown in Figure 2.[18]

Figure 2. WEST's wetland delineations (Class II wetlands in light blue and Class III wetlands in dark blue) vs. the Cottonwood Wetland Complex delineation (red)



39. In Alberta, the *Alberta Wetland Identification and Delineation Directive*[19] (Delineation Directive) outlines the methods for determining wetland delineation, while the *Alberta Wetland Classification System*[20] outlines the methods for determining wetland classification. The Delineation Directive refers to these methods as pathways one through five and provides guidance for determining which pathway is appropriate for delineating a wetland based on land access, the complexity of a wetland, seasonal and annual variances in precipitation saturation, existing levels of disturbance, and availability of historical aerial imagery. Wetland boundaries may change over time based on human impacts and seasonal and annual precipitation differences, and therefore, pathways recommend varying degrees of fieldwork, historical aerial imagery, or both historical aerial imagery and fieldwork be used during wetland assessments.

[17] A wetland complex is a group of two or more wetlands that are hydrologically or ecologically connected.
[18] Exhibit 29372-X0147, Appendix F. Cliff Wallis Expert Report, PDF pages 2 to 3 and 47 to 53.
[19] *Alberta Wetland Identification and Delineation Directive*, Government of Alberta, 2015.
[20] *Alberta Wetland Classification System*, Government of Alberta, 2015.

40. WEST's wetland land cover shown in Figure 2 illustrates that it assessed that most of the wetlands in the wetland complex are classified as Class II or less. Cottonwood argued that it may be reasonable to consider the entirety of the wetland complex to be Class III. The *Alberta Wetland Classification System* requires that the deepest portion of a wetland covers at least 25 per cent of a wetland's total area for the entire wetland to be considered as one continuous classification (i.e., the wetland complex to be upgraded to a Class III).[21] Based on maps and data provided from both parties,[22] and the evidence submitted in the supplemental written process,[23] the Commission finds that the area of the Class III wetland within the wetland complex is significantly less than the 25 per cent needed to upgrade the wetland classification. Therefore, the Commission finds that the wetland complex should not be considered as one Class III wetland and accepts Neoen's classification of the Class II and Class III wetland portions as reasonable.

Which pathways did parties utilize during their wetland delineations?

41. Both WEST and Cottonwood had qualified wetland professionals (i.e., Authenticating Professionals) involved in their wetland delineations and classifications. Arguments from both sides were brought forward surrounding the qualifications of individuals involved in the completion of the wetland assessments; however, the Commission finds no issues as both WEST and Cottonwood had qualified professionals involved in conducting or reviewing wetland assessments.

42. Due to land access limitations, Cottonwood's wetland assessment used a fulsome historical aerial imagery review between 1951 and 2023 without the completion of field surveys.[24] This method of evaluation is most similar to Pathway 2 in the Delineation Directive. However, Neoen argued that the imagery Cottonwood used in some years was not indicative of a normal amount of precipitation and therefore could not be utilized to determine the normal delineation of the wetland complex.

43. WEST conducted a wetland field survey evaluation and a desktop wetland delineation. In questioning, WEST stated that Pathway 5 was appropriate for this project, and claimed to have conducted Pathway 5 during its wetland delineation. However, questions arose as to the extent of historical aerial imagery reviewed during WEST's desktop assessment, with as few as three images reviewed over a two-year time frame.[25] Pathway 5 states that the "availability of imagery will vary from location to location, making it impossible to establish a minimum standard or methodology;"[26] however, Section 2 of the Delineation Directive states evaluators should "[a]cquire and review the best available imagery from multiple dates and times of year."[27] The

[21] *Alberta Wetland Classification System*, Government of Alberta, 2015, PDF page 21.
[22] Exhibit 29372-X0003, Sweetgrass Solar with Storage Project - Appendix 02 - KMZ; Exhibit 29372-X0147, Appendix F. Cliff Wallis Expert Report; and Exhibit 29372-X0234, Field data in response to Undertaking No. 6.
[23] Exhibit 29372-X0237, Neoen reply evidence on wetland delineation; Exhibit 29372-X0239, Neoen Renewables Canada Inc. Response to GLG IR No. 2 - May 26, 2025.
[24] Exhibit 29372-X0147, Appendix F. Cliff Wallis Expert Report, PDF pages 22-40.
[25] Transcript, Volume 1, page 94, lines 13 to 25, page 95, lines 1 to 25, page 96, lines 1 to 15, and page 214, lines 8 to 22.
[26] *Alberta Wetland Identification and Delineation Directive*, Government of Alberta, June 1, 2015, PDF page 13.
[27] *Alberta Wetland Identification and Delineation Directive*, Government of Alberta, June 1, 2015, PDF page 9.

Delineation Directive further states that "preliminary analysis for wetland identification and delineation utilizes interpretation of best available and most representative airborne imagery."[28]

44. Pathway 5 requires a comprehensive desktop wetland delineation in conjunction with field verification. Cottonwood's use of multiple historical aerial imagery ranging from 1951 to 2023 supports that many years of aerial imagery was available for the wetland complex; however, WEST could not definitively say that it reviewed historical aerial imagery across this time frame.[29] The Commission therefore finds that WEST did not conduct Pathway 5 for its desktop wetland delineation, as the use of three historical aerial images over a two-year period is not considered comprehensive within the meaning of the Delineation Directive, particularly with the amount of historical aerial imagery available. The amount of available historical imagery remains high even if the years WEST assessed as abnormally wet or dry are excluded from Cottonwood's desktop wetland delineation. Instead, the Commission finds that wetland reporting produced by WEST more closely conformed to Pathway 3, which is described as a simple desktop wetland delineation with field survey verification.

45. In comparing Pathway 2 and Pathway 3, the Commission is unable to determine which method is likely to be most accurate, as historical aerial imagery may provide information on variability of wetlands that may not be obvious during a field survey, and field surveys may provide real-world information about disturbances and vegetation cover which is not readily apparent in aerial imagery.

Is Pathway 5 required based on wetland delineation methods in the Delineation Directive?

46. Section 3 of the Delineation Directive examines the characteristics of a wetland to determine which pathway should be utilized. The parameters it utilizes are the complexity of the wetland, variability in precipitation saturation, levels of disturbance and availability of historical aerial imagery. In review of the submissions from both Neoen and the GLG, the Commission assessed the facts for the wetland complex to determine each characteristic:

i. Wetland complexity, "complex and/or indistinct ecological boundaries," reflected by the number and varied classes of wetlands and the disagreements between experts conducting assessments.

ii. Variability in precipitation saturation, "periodically saturated with wetland indicators not visible at all times," reflected in the historical imagery presented by Cottonwood.

iii. Level of disturbance, "wetland had been disturbed," reflected in the historical imagery presented by Cottonwood and WEST field assessments.

iv. Availability of historical imagery, "available and high quality," from 1951 to 2023 in Cottonwood's submission.[30]

[28] *Alberta Wetland Identification and Delineation Directive*, Government of Alberta, June 1, 2015, PDF page 14.
[29] Exhibit 29372-X0230, Neoen Letter to AUC re Undertaking Responses, Undertaking No. 5 Response, PDF pages 2-3.
[30] *Alberta Wetland Identification and Delineation Directive*, Government of Alberta, June 1, 2015, PDF page 11.

47. The Delineation Directive states that Pathway 5 must be used when more than one of the first three questions above are answered in the affirmative, and historic imagery is available.[31] In reviewing these parameters, the Commission finds that Pathway 5 was the appropriate methodology to delineate the wetland complex. In response to questions, WEST commented that the scope and depth of the wetland delineation was appropriate for the present stage of the project, and that a permanence assessment would be conducted as part of a future *Water Act* application.[32] As WEST identified, the Delineation Directive does not contain an explicit definition for how many years or images forms a comprehensive versus simple review.[33] The professional judgment of the authenticating professional may play a role in determining how many images are needed to satisfy the objectives. In a case where professional judgment is applied to deviate from the language of a directive, such as WEST stating that three images from 2022-2023 were adequate for this stage, the Commission expects to see such reasoning documented in reporting explaining how the varied method satisfies the directive. As noted, the wetland delineation reporting did not contain that reasoning. Additionally, while the later *Water Act* application is required, the Commission is the body responsible for approving project boundaries and for assessment of the overall environmental impacts. The project is admittedly at an early stage; however, Neoen still bears the onus of providing sufficient information for the Commission to properly understand that wetland delineation and classification was conducted appropriately to justify the siting of a project. It is unhelpful when application reporting is sparse to such a degree that the Commission cannot confirm appropriate siting has occurred and it necessitates questioning at hearing and ultimately a request for submission of fieldwork data.

48. The Commission finds that since WEST failed to record an accurate detail of its wetland delineation methodology and did not conduct Pathway 5, WEST's reporting of wetland delineations is not considered sufficiently definitive or accurate to be compelling.

How does the Commission rectify the differences of professional opinion for the wetland complex delineation?

49. Due to the nature of the Cottonwood Wetland Complex and the absence of a documented and complete Pathway 5 analysis, the Commission cannot determine that either party's wetland delineations are accurate in accounting for both the real-world disturbances and natural annual and seasonal precipitation fluctuations of the wetlands. While a permanence assessment of the Cottonwood Wetland Complex submitted in Neoen's reply evidence is helpful, this does not fully fill the gap identified.[34] Without being able to prefer either submission, the Commission will apply a degree of conservatism to determine how best to satisfy the public interest.

50. Therefore, the Commission finds it most reasonable to accept Cottonwood's delineation of the wetland complex, as it is the most conservative, and considers wetland boundary fluctuations which may occur annually and seasonally. Even with the overly wet and dry images identified by WEST removed, Cottonwood's desktop review represents a comprehensive historical imagery review of 13 images between 1961 and 2023.[35] However, the Commission accepts WEST's wetland classifications within the wetland complex as it was based on field

[31] *Alberta Wetland Identification and Delineation Directive*, Government of Alberta, June 1, 2015, PDF page 12.
[32] Transcript, Volume 1, page 96, lines 9 to 10; Transcript Volume 2, page 242, lines 16 to 17 and page 244, lines 13 to 21.
[33] Transcript, Volume 2, page 243, lines 4 to 7.
[34] Exhibit 29372-X0237, Neoen reply evidence on wetland delineation, Appendix A, PDF pages 9-11.
[35] Exhibit 29372-X0237, Neoen reply evidence on wetland delineation, Appendix A, PDF pages 10 and 11.

survey data which considers vegetation and soil indicators, and a limited historical aerial imagery review. The impact of this finding means the Cottonwood Wetland Complex is considered a Class II wetland except where WEST has identified otherwise, such as the Class III wetland SWWET159 in Figure 2. Within the Cottonwood Wetland Complex, Class II wetlands are to be avoided by project infrastructure and may have a zero-metre setback; while all WEST identified features with 100-metre setbacks must maintain their existing 100-metre setbacks.

51. Based on the above, the Commission imposes the following condition to best satisfy the Delineation Directive's requirements for delineation of the Cottonwood Wetland Complex. The Commission notes that this condition also respects best management practice 200.2.2 of the Wildlife Directive regarding avoidance of Class II waterbodies.[36] Given the size and nature of the wetland complex, the Commission finds avoidance of this Cottonwood Wetland Complex appropriate:

b. Neoen Renewables Canada Inc. shall not construct any power plant infrastructure within the wetland complex, shown as the "Cottonwood Wetland Complex" in Figure 2 of Decision 29372-D01-2025. Neoen must maintain all currently proposed 100-metre wetland buffers such as the Neoen-identified Class III wetlands. A zero-metre wetland buffer can be applied to areas of the Cottonwood Wetland Complex that were not assigned a buffer in the applications. Neoen shall submit an updated project layout, showing these alterations, 90 days prior to project construction, including any reports submitted to Alberta Environment and Protected Areas (AEPA) for *Water Act* approvals, and feedback from AEPA.

4.2 Fire risks and emergency response plan

52. The GLG raised concerns regarding safety risks related to the ESF, including chemical exposure, potential fires and contamination, and associated air quality modelling. The GLG retained Integrated Modelling Inc. (IntMod) to review Neoen's air quality dispersion modelling report, to complete an analysis and recommendations report on Neoen's hazard evaluation and emergency response planning for the project, and to complete a new dispersion modelling report.

53. Neoen retained Calvin Consulting Group Ltd. (CCGL) to conduct air quality dispersion modelling for the project, and retained Dr. Stephen Ramsay from CCGL and Dr. Christopher Ollson from Ollson Environmental Health Management to respond to the GLG's concerns and to review IntMod's evidence regarding recommendations for battery safety and air quality dispersion modelling.

54. Several risk management strategies and mitigations were presented by Neoen to prevent, monitor and mitigate fire risks. Neoen filed a Safety Overview[37] and a Lithium-Ion Battery Emergency Response Guide (Guide),[38] in addition to a confidential hazard mitigation analysis report,[39] prepared by the battery manufacturer Tesla Inc. (Tesla), in relation to the proposed battery model to be used for the project. The Guide outlines emergency response measures,

[36] *Wildlife Directive for Alberta Solar Energy Projects*, Alberta Environment and Parks, effective October 4, 2017.
[37] Exhibit 29372-X0085, Sweetgrass Solar with Storage Project - AUC IR002 - Attachment F - Megapack Safety Overview.
[38] Exhibit 29372-X0086, Sweetgrass Solar with Storage Project - AUC IR002 - Attachment G - Megapack ERP Guide.
[39] Exhibit 29372-X0152-C, CONFIDENTIAL - Tesla MP2XL Hazard Mitigation Analysis.

including evacuation protocols for hazards associated with the proposed Tesla lithium-ion technology.

55. In this section, the Commission considers potential fire risks and related factors, including battery chemistry, equipment design and equipment siting, reviews the evidence about Neoen's detection and monitoring systems, and assesses mitigation measures and procedures in the emergency response plan (ERP). The Commission finds that fire risks associated with the ESF are limited and will be mitigated to an acceptable level by Neoen's monitoring systems and ERP, along with additional mitigations directed by the Commission. The Commission also requires Neoen to finalize the site-specific ERP ensuring that it incorporates emergency response measures provided by Tesla in its Guide (as revised) and consult with related municipalities and local fire departments.

4.2.1 What are the potential fire risks associated with the energy storage facility?

56. For the reasons set out below, the Commission makes the following findings related to the potential fire risks and associated air quality dispersion modelling for the ESF: (i) the use of lithium iron phosphate (LFP) batteries mitigates some safety concerns associated with battery chemistries such as nickel cobalt manganese; (ii) both dispersion scenarios modelled by Neoen and the GLG expert witnesses provide value to the Commission's public safety analysis; (iii) Acute Exposure Guideline Levels (AEGL) Level 2 (AEGL-2) with 60 minutes exposure time for hydrogen fluoride (HF) (24 parts per million [ppm])[40] is an appropriate threshold for assessing toxic gas emissions from the project ESF, and the predicted HF concentration at the closest residence is below this threshold; and (iv) ESF siting is an important preventative mitigation measure for safety and fire control.

57. First, the Commission will evaluate the stability properties of the LFP technology proposed for the project ESF.

58. Neoen stated that it has not completed final equipment selection for the ESF but that Tesla Megapack 2 XL containers with LFP chemistry are intended for the project. Neoen stated that this chemical composition is less prone to thermal runaway when compared to other battery compositions due to the stability of the phosphate-oxide bond. Each container contains 24 LFP battery modules, bi-directional inverters and a thermal monitoring system.

59. The Commission finds that the use of LFP batteries mitigates some safety concerns associated with other battery technologies, because LFP battery units are resistant to fire propagation from one container to another. This finding is consistent with previous Commission decisions on ESFs, in which the Commission found the LFP battery chemistry to be more stable

[40] United States Environmental Protection Agency's AEGLs are dictated by the severity of the toxic effects caused by the exposure, with Level 1 being the least and Level 3 being the most severe. Specifically, the three AEGL levels are defined below:
- AEGL-1: Notable discomfort, irritation, or certain asymptomatic non-sensory effects, little or no risk of adverse health effects for the general population.
- AEGL-2: Irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.
- AEGL-3: Life-threatening or result in death.

For each AEGL category, thresholds/criteria are defined for five relatively short exposure periods – 10 minutes, 30 minutes, 1 hour, 4 hours and 8 hours.

than other commercially available options and less likely to experience thermal runaway leading to a fire.[41]

60. Second, the Commission will consider whether Neoen's air quality dispersion modelling assessment was based on a reasonable emission scenario.

61. CCGL conducted an air quality dispersion modelling assessment for the project, which concluded that in the event of a fire, the maximum predicted air quality emissions at the closest residences to the ESF and along adjacent roadways will comply with the *Alberta Ambient Air Quality Objectives* out to approximately 75 metres beyond the ESF site fence; the maximum predicted concentrations of toxic gases at the closest residence comply with the *Alberta Ambient Air Quality Objectives*; that Immediately Dangerous to Life or Health (IDLH) values will not be exceeded on-site or beyond the project fenceline; and that the maximum predicted toxic gas concentrations are within the applicable AEGL thresholds.[42]

62. IntMod was concerned that the HF emission factor in CCGL's modelling appears to have been applied arbitrarily and a worst-case scenario fire involving the whole facility or simultaneous fire involving one or more battery cabinets was not modelled.[43] In response, Dr. Ramsay submitted that the emission factor derived by CCGL based on UL 9540A *Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems* test data is conservative and the prediction results based on this emission factor are considered to be more representative of real-world conditions than any other assumptions.[44] Dr. Ramsay further explained that selection of a higher emission factor for HF would overestimate the HF concentrations in an actual fire. Dr. Ramsay emphasized that when conducting emissions modelling of a possible battery fire, it is most appropriate to use an HF emission factor and model that are conservative in providing accurate ground level concentrations of HF in the event of an actual fire.[45] Dr. Ramsay also commented that CSA TS-800:24 *Large-Scale Fire Test (LSFT) Procedure*, which is for destructive tests, does not require gas testing or nearby air monitoring for gases, including HF, to be conducted, and therefore, it would not provide the necessary information to derive an HF emission factor.

63. Although fire events may be rare for the LFP battery technology, the Commission does not accept CCGL's contention that IntMod's worst-case scenario is inappropriate because the scenario is unlikely to occur. Rather, the Commission finds that both CCGL and IntMod modelled different scenarios for the thermal runaway/fire events and both modelling scenarios provide value to the Commission's public safety analysis. Specifically, CCGL's scenario is premised on the assumption that thermal runaway is limited to one container, and the chance to spread from container to container is low. However, IntMod's modelling scenario is more

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41 Previous decisions include Decision 28845-D01-2024: Warwick Gas Storage Ltd. – Warwick Battery Storage Facility, Proceeding 28845, Applications 28845-A001 and 28845-A002, June 11, 2024, PDF page 7; Decision 27971-D01-2023: Sunnynook Solar Energy Inc. – Sunnynook Solar + Energy Storage Project, Proceeding 27971, Applications 27971-A001 and 27971-A002, June 2, 2023, PDF pages 11-12; and Decision 27109-D01-2022: TA Alberta Hydro Inc. – WaterCharger Battery Storage Facility, Proceeding 27109, Application 27109-A001, November 3, 2022, PDF page 10.

42 Exhibit 29372-X0016, Sweetgrass Solar with Storage Project - Appendix 15 - Air Quality Dispersion Modelling, PDF page 34.

43 Exhibit 29372-X0144, Appendix C. IntMod Sweetgrass Solar and Energy Storage Facility Reports 2025-03-13, PDF pages 20 and 62.

44 Exhibit 29372-X0123, Sweetgrass - GLG IR Round 1 v1.0 (2025.02.28) Final for Issue, PDF page 21.

45 Exhibit 29372-X0174, Sweetgrass - AUC IR Round 4 Responses v1.0 (2025.04.08)_FINAL, PDF pages 15-16.

conservative in assessing potential exposure harms in that it employed a higher emission factor for HF. The use of the highest emission factor in published testing reports represents what is likely a possible worst-case scenario while potentially less probable when compared to CCGL's scenario. Overall, the Commission finds that IntMod's modelling scenario is more conservative but less likely to occur when compared to CCGL's scenario.

64. When considering air dispersion modelling for an unlikely event such as an ESF fire, the Commission's public interest weighing is necessarily informed by both scenarios presented by CCGL and IntMod. This is a balanced approach for modelling of fires where there is a high degree of uncertainty, as Dr. Ramsay described as requiring simulation "gymnastics" as the processes are beyond the current state of understanding of fires involving lithium batteries.[46] The results of a more probable failure scenario as presented by CCGL and described as "conservative" is one type of failure of interest. The results of modelling a more severe failure such as IntMod presented, even if less probable, is also of interest. Improbable worst-case failure conditions are particularly useful in identifying the most distant potential toxic endpoint distances from the ESF for human safety. In this regard, selecting a precise value for HF emission factor is not the key question facing the Commission. Of more importance is identifying a range of possible emission factors for any hazardous byproduct of combustion from a reasonable minimum to a reasonable maximum. In considering the maximum values possible, it is also appropriate to assume that passive or active protective systems, such as the battery management systems, are non-operative, even if that too is a lower probability event. Stated another way, the objective is not precision in assessing the most likely case, but understanding the potential range of outcomes of a variety of failure scenarios across a range of probabilities.

65. Third, the Commission will consider which threshold(s) are appropriate for evaluating air quality dispersion modelling results for the project ESF and whether the modelled concentration of potentially harmful chemicals at the closest residence are below the threshold(s). The closest residence to the ESF is located approximately 1.6 kilometres away and the next closest residence is located approximately 2.5 kilometres from the project ESF.[47]

66. Both CCGL and IntMod used the United States Environmental Protection Agency's AEGL-2-60 minutes (24 ppm) to assess public exposure to toxic HF concentrations that would be generated in a potential thermal runaway or fire at the ESF. In addition to AEGL-2-60 minutes, IntMod suggested AEGL-2-4 to 8 hours (12 ppm) also be considered as a threshold for circumstances where battery fires last beyond an hour.[48]

67. The Commission finds both parties agree that AEGL-2-60 minutes (24 ppm) is an appropriate threshold for assessing impacts of toxic gas emissions from the project ESF to public health. This finding is consistent with previous Commission decisions on ESFs, in which the Commission used AEGL-2-60 minutes when evaluating battery safety and associated air quality

[46] Transcript, Volume 1, page 171, lines 19 to 24.
[47] Exhibit 29372-X0016, Sweetgrass Solar with Storage Project - Appendix 15 - Air Quality Dispersion Modelling, Table 3, PDF page 26.
[48] Exhibit 29372-X0144, Appendix C. IntMod Sweetgrass Solar and Energy Storage Facility Reports 2025-03-13, Table 4, PDF page 14.

dispersion modelling results.[49] The Commission accepts IntMod's suggestion that AEGL-2-4 to 8 hours be used for a more conservative scenario (i.e., battery fires lasting more than one hour).

68. Both CCGL and IntMod predicted concentrations at the closest residence, which is located approximately 1.6 kilometres from the project ESF. As discussed above, CCGL modelled a more probable emissions scenario, while IntMod modelled a more conservative worst-case scenario. IntMod's more conservative modelling predicted a maximum one-hour concentration of 0.5 ppm at the nearest residence, which is below all the AEGL-2 thresholds, regardless of which duration or HF production rate is used.[50]

69. While the CCGL modelling suggested that hazardous levels of HF would not be achieved beyond the facility boundary fence, IntMod's model suggested a more distant boundary. Modelling by IntMod supported HF concentrations beyond AEGL-2 thresholds on the closest road, Township Road 104 for both one- and four-hour averaging periods. The Commission accepts IntMod's conclusion that for a worst-case type of failure, Township Road 104 may be included within the area of significant health risk to humans. This possibility is to be used to inform development of the ERP, discussed below.

70. Finally, the Commission considers that ESF siting is an important preventative mitigation measure for safety and fire control. The Commission understands that the ESF will be sited at a location with gravel or concrete hardscaping and an absence of vegetative fuel.[51] This design limits the risk of grass or wildfires from reaching the proposed ESF. Furthermore, the Commission considers that health and safety risks in the event of a thermal runaway or fire can be further reduced through measures and procedures in Neoen's ERP, which is discussed in Section 4.2.3 of this decision.

71. The assessments and analysis conducted by Neoen, and the discussion between the parties regarding ESF fire risks, were premised upon the use of the Tesla Megapack 2 XL battery units. Given that the project equipment has not yet been finalized, if the chemistry and/or battery vendor for the final project design are different than those described in the current applications, then such changes would require an amendment application in accordance with Rule 007. As such, the Commission imposes the following condition:

c. Neoen Renewables Canada Inc. shall select lithium iron phosphate batteries for the energy storage facility (ESF). If an alternate battery chemistry or vendor/manufacturer is selected, Neoen shall submit specifications such as the cell combustion phase duration and peak temperature to the Commission, along with confirmation that the alternate chemistry possesses better thermal stability than lithium iron phosphate, and appropriate hazard mitigation analysis. Neoen cannot proceed with construction of the ESF until it receives written approval from the Commission.

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[49] Previous decisions include Decision 27216-D01-2022: Concord Coaldale GP2 Ltd. – Coaldale Solar Project Battery Energy Storage System Addition, Proceeding 27216, Application 27216-A001, November 4, 2022, PDF page 8; Decision 27191-D01-2022: Concord Monarch GP2 Ltd. – Monarch Solar Project Battery Energy Storage System Addition, Proceeding 27191, Application 27191-A001, November 4, 2022, PDF page 8; and Decision 27205-D01-2022: Georgetown Solar Inc. – Georgetown Solar + Energy Storage Project, Proceeding 27205, Applications 27205-A001 and 27205-A002, November 2, 2022, PDF page 14.

[50] Exhibit 29372-X0144, Appendix C. IntMod Sweetgrass Solar and Energy Storage Facility Reports 2025-03-13, Table 7, PDF page 49.

[51] Exhibit 29372-X0180, Neoen Reply Evidence Submission, PDF page 7.

4.2.2 How will fire risks from the energy storage facility be monitored?

72. Neoen submitted that the project ESF will incorporate a 24 hours a day, seven days a week battery management system (BMS), which serves as an automated control and monitoring system. If the project experiences abnormal conditions, the BMS will transmit notifications to operational personnel to intervene manually and/or remotely to enact protection modes, shut-offs or other protection as needed.[52] Specifically, the BMS has one battery management unit for each battery module and each energy storage container is equipped with thermal, flammable gas and smoke sensors. If any issue is observed, the BMS will automatically isolate that module, and the site manager will be notified of the warnings or alarms from the management units.[53]

73. The GLG recommended that Neoen implement thermal camera monitoring on-site for fire detection. Neoen did not consider it necessary to implement thermal camera monitoring, because the battery model for the project already contains multiple thermal sensors, flammable gas detectors and smoke detectors.[54]

74. The Commission emphasizes that installation of a monitoring system that can automatically notify emergency response providers is essential for safety and fire risk control at the project ESF. The Commission imposes the following conditions of approval for the ESF:

d. Neoen Renewables Canada Inc. shall install a remote monitoring and fire detection system that can be programmed to automatically notify the monitoring operations centre who in turn will immediately notify local emergency responders. Excluding emergency situations, the project energy storage facility will not be operated without the system in use.

e. Neoen Renewables Canada Inc., and any subsequent operator, shall implement ongoing upgrades to improve the safety of the project energy storage facility, including but not limited to firmware and software enhancements, monitoring capability enhancements, process changes and safety standards as they are developed.

75. The Commission acknowledges that the ESF will be equipped with automated monitoring systems that are connected to sensors for each battery container. However, the Commission considers a thermal imaging camera that is independent of and does not rely on the monitoring systems embedded in the ESF would be an appropriate supplemental means of independently monitoring overall conditions at the facility. Specifically, thermal imaging cameras can monitor the ESF as a whole, while sensors and detectors proposed by Neoen monitor individual battery units or blocks. In summary, outdoor thermal cameras would provide an additional layer of monitoring at the site. Therefore, the Commission imposes the following condition:

f. Neoen Renewables Canada Inc. shall install thermal imaging cameras at the energy storage facility site for continuous monitoring, and to the extent possible, shall integrate the cameras into its emergency response planning.

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52 Exhibit 29372-X0001, Sweetgrass Solar with Storage Project - AUC Application, PDF page 10.
53 Exhibit 29372-X0123, Sweetgrass - GLG IR Round 1 v1.0 (2025.02.28) Final for Issue, PDF pages 49-50.
54 Transcript, Volume 1, page 209, lines 16-25, and page 210, line 1.

76. Finally, the Commission notes Neoen's commitment with respect to insurance coverage, and therefore imposes the following condition:

g. Neoen Renewables Canada Inc., and any subsequent operator, shall at all times during construction and operation of the project energy storage facility, maintain insurance coverage that is sufficient to protect against any reasonably foreseeable liabilities.

4.2.3 How does the emergency response plan address fire risks of the energy storage facility?

77. Neoen developed a draft site-specific ERP that describes practices and procedures to be used in the event of medical aid, serious injury, fire, explosion or other emergency situations.[55] Neoen stated that it will engage a third-party fire consultant to collaborate with the MD of Willow Creek's fire chief and emergency responders in finalizing the ERP, training programs, and response procedures to ensure the highest level of preparedness. Training programs will include hazardous chemical exposure training, high-voltage awareness training and other training determined in consultation with the relevant authorities. Neoen will also consider the procurement of specialized equipment on a case-by-case basis. Also, Neoen stated that it will conduct a review of the ERP on an annual basis and will amend the ERP whenever there is a change that affects the ERP.[56]

78. The Commission finds Neoen's ERP acceptable to mitigate fire risks from the project, with the imposition of additional conditions as described below.

79. The GLG expressed concerns about the adequacy of Neoen's ERP for the project and provided recommendations on how to improve the ERP. First, the GLG recommended that road barricades be established at the nearest practicable intersection, to allow for efficient rerouting of traffic in the event of toxic plume and battery fire. The GLG explained that based on IntMod's dispersion modelling, a portion of Township Road 104 (i.e., the local road running south of the project ESF) will be within the distance at which both the one- and four-hour AEGL-2 threshold (i.e., the threshold for irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape) may be exceeded. The GLG suggested that access to four-way intersections to the east and west of the facility be blocked to prevent the public from driving through a toxic plume during a thermal runaway or fire event at the ESF.[57]

80. Neoen committed to use traffic signs and road barricades if it is determined that they are required for emergency response purposes, through consultation with the MD of Willow Creek, the local fire departments and emergency responders.[58]

81. Second, the GLG recommended that residents within 1.5 kilometres of the ESF be automatically notified of incidents to aid early shelter-in-place actions. Neoen confirmed that it will notify residents within 1.5 kilometres of the ESF if there is a fire at the site. More generally,

[55] Exhibit 29372-X0083, Sweetgrass Solar with Storage Project - AUC IR002 - Attachment D - Updated ERP.
[56] Exhibit 29372-X0236, Neoen Commitment List (Sweetgrass Solar and Energy Storage Project), PDF pages 3-4.
[57] Exhibit 29372-X0144, Appendix C. IntMod Sweetgrass Solar and Energy Storage Facility Reports 2025-03-13, PDF page 21; Transcript, Volume 2, page 295, lines 23-25, and page 296, lines 1-2.
[58] Transcript, Volume 1, page 207, lines 21-25, and page 208, lines 1-17; Exhibit 29372-X0183, Appendix C - Reply Evidence and Curriculum Vitae of Dr. C. Ollson, PDF page 11; Exhibit 29372-X0236, Neoen Commitment List (Sweetgrass Solar and Energy Storage Project), PDF page 4.

Neoen committed to develop and outline emergency notification protocols within the project-specific ERP.[59]

82. Third, Neoen committed to procuring specialized equipment for the local fire departments to respond to an emergency, in the form of toxic gas detection devices for hazardous compounds such as HF, thermal imagery cameras, on-site water storage, or any other equipment recommended through collaboration between the third-party fire consultant and the MD of Willow Creek's fire chief and emergency responders.[60]

83. Finally, Neoen confirmed that it has shared the draft ERP with local emergency responders and incorporated and addressed preliminary concerns. The ERP will be a living document and revised, as needed, in consultation with the MD of Willow Creek and applicable fire and emergency response agencies. A site operations manager will assume responsibility for implementation of the ERP with emergency services.

84. With respect to emergency-related resourcing and training, Neoen is willing to provide training to local emergency responders to address a battery fire emergency. The level of training provided by Neoen to respond to thermal runaway events will be determined in consultation with a third-party fire consultant and the local fire departments. Neoen provided specific firefighting instructions and emergency response information for the Tesla Megapack 2 XL battery model.[61]

85. The Commission considers fire detection and response planning to be an integral part of mitigating fire risks associated with ESFs and is satisfied that Neoen is able to mitigate fire risks associated with the ESF and other emergency events to a satisfactory level through continuous and multiple monitoring systems and through continuous improvement of emergency response procedures in consultation with the MD of Willow Creek and local fire departments. However, given the GLG's concerns and recommendations and that the ERP is in draft form, the Commission imposes the following conditions of approval for the power plant and ESF:

h. Neoen Renewables Canada Inc. shall provide an updated project-specific emergency response plan to the Municipal District of Willow Creek No. 26 and the Alberta Utilities Commission 90 days before commissioning.

i. Neoen Renewables Canada Inc. shall continually, before and during construction and during operation, review and update the project-specific emergency response plan, and incorporate reasonable changes necessary to address concerns received from the Municipal District of Willow Creek No. 26 and local fire departments, and other interested stakeholders such as local landowners. The updated plans are to be provided to the Municipal District of Willow Creek No. 26 and the local fire departments.

j. Before the project commences operation, Neoen Renewables Canada Inc. shall consult with the Municipal District of Willow Creek No. 26 and the local fire departments about the necessity for on-site water storage, traffic signs and road barricades. If it is

[59] Transcript, Volume 1, page 210, lines 21 to 25, and page 211, lines 1 to 8; Exhibit 29372-X0183, Appendix C - Reply Evidence and Curriculum Vitae of Dr. C. Ollson, PDF pages 11-12; Exhibit 29372-X0236, Neoen Commitment List (Sweetgrass Solar and Energy Storage Project), PDF page 5.

[60] Transcript, Volume 1, page 211, lines 24 and 25, and page 212, lines 1 to 19; Exhibit 29372-X0236, Neoen Commitment List (Sweetgrass Solar and Energy Storage Project), PDF page 4.

[61] Exhibit 29372-X0086, Sweetgrass Solar with Storage Project - AUC IR002 - Attachment G - Megapack ERP Guide.

determined that on-site water storage, traffic signs and road barricades are required for emergency response purposes, Neoen shall pre-stage and make available on-site water storage, traffic signs and road barricades in response to an emergency at locations identified by the Municipal District of Willow Creek No. 26 and the local fire departments. All consultation and determination must take into account the latest recommendations from Tesla in its emergency response guide.

k. Before the project commences operation, Neoen Renewables Canada Inc. shall develop and outline emergency notification protocols within the project-specific emergency response plan. In particular, Neoen shall consult with the Municipal District of Willow Creek No. 26 and the local fire departments about automatic shelter-in-place notifications for nearby residents, and implement the notification as instructed by the municipal districts and the local fire departments. All consultation and determination must take into account the latest recommendations from Tesla in its emergency response guide.

l. When requested by local fire departments, Neoen Renewables Canada Inc. shall provide on-site training and emergency equipment as required.

4.3 Visual impacts

86. In this section, the Commission considers the potential visual impacts of the project on the Head-Smashed-In Buffalo Jump site valued viewscape and the GLG members who occupy residences directly adjacent to the project. The GLG stated that the project would be a new adverse visual impact for those residing directly adjacent to the project lands. The Commission finds that impacts on viewscape and property value are a consequence of the project that needs to be balanced against the project's public benefits.

4.3.1 How does the Commission consider the project impacts on viewscape and property value?

87. As previously set out, Neoen filed its applications before the *Electric Energy Land Use and Visual Assessment Regulation* came into force. Nonetheless, the Commission considered the underlying policy intent of the regulation in its assessment of the project. The Commission recognizes that the regulation intends to ensure applicants proposing power plants within a visual impact assessment zone submit a visual impact assessment (VIA) with their application. Neoen's project is located within a VIA-designated zone under the *Electric Energy Land Use and Visual Assessment Regulation* and considering the policy intent, a VIA is required.[62]

88. Neoen retained Green Cat Renewables Canada Corporation (GCR) to conduct a VIA of the project from the Head-Smashed-In Buffalo Jump interpretive centre. GCR determined that visual impacts naturally diminish with distance as observed with the project, and that while the project would be theoretically visible, GCR concluded that the project will have minimal, if any, visual impact on visitors at the Head-Smashed-In Buffalo Jump interpretive centre as it is unlikely to be noticeable by visitors.

89. The Head-Smashed-In Buffalo Jump is a World Heritage Site, which is available during the day for public recreation and tourism activities. The Commission finds that based on visual simulations and visual impact analysis conducted by GCR, the project is slightly visible from the selected viewpoint at the Head-Smashed-In Buffalo Jump interpretive centre but does not impede

[62] *Electric Energy Land Use and Visual Assessment Regulation*, Section 7(2) and Section 8.

the general view in this area. Given that the project would be located approximately 22 kilometres from the Head-Smashed-In Buffalo Jump interpretive centre, the Commission accepts that the project will result in minor visual impacts at that location and that no mitigation for project visual effects is required.

90. Members of the GLG raised concerns about the unsightliness of the solar module arrays and their potential to affect the resale values of their lands, and they fear the project will prohibit them from enjoying the views they currently enjoy. Some GLG members suggested that viewscapes in the project area are "pristine," and requested that Neoen conduct visual simulations from the viewpoints of three GLG members.[63]

91. Neoen declined to conduct visual simulations for the three GLG members stating that no visual impact concerns were raised or no visual simulations were requested during consultation, and that preparing visual simulations required significant time and cost. Instead, Neoen referred the GLG members to open house poster boards depicting outdated project visual simulations. However, Neoen, at the request of the Commission, eventually conducted visual simulations from the viewpoints of three GLG members.[64] Neoen retained GCR to prepare six representative visualizations, among which, three visualizations were submitted with the participant involvement program report and the other three were provided among the responses to information requests from the Commission.

92. The Commission accepts that the visualizations conducted by GCR demonstrate representative and reasonable visual impacts from the project. The Commission acknowledges that large solar projects alter the landscape and may result in visual impacts for nearby residents, but this is a factor that needs to be balanced against the project's broader public benefits.

93. With respect to property value impacts, the Commission accepts that change to viewscapes is one factor that may influence an individual's perception of the area as a place to reside. The Commission finds that there can be a negative public perception of the project's effects on viewscapes, and this may translate into a negative effect on property value for some properties. The Commission notes that there was no expert property value evidence to suggest a significant decrease to property values and the Commission accepts that some potential decrease in property values will exist; however, this is outweighed by the positive aspects of the project.

4.3.2 Will a visual screening plan mitigate visual impact concerns?

94. Neoen stated that it has developed the proposed project to comply with the MD of Willow Creek's land use bylaw residential setback requirement and confirmed there will be no residences within the 500-foot (152.4 metres) setback from final project infrastructure.[65]

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63 Exhibit 29372-X0141, GLG Group Submissions_March 14, 2025, PDF pages 16 and 17.

64 Exhibit 29372-X0174, Sweetgrass - AUC IR Round 4 Responses v1.0 (2025.04.08)_FINAL, Neoen-AUC-2025MAR26-003, PDF pages 5 and 6; Exhibit 29372-X0175, Appendix A - Sweetgrass - Landowner Visuals - V1.0 (2025.04.08); Exhibit 29372-X0213, Sweetgrass Solar and Storage - Dondale Property Visualization - Template - V1.0 (2025.04.28); Exhibit 29372-X0214, Sweetgrass Solar and Storage - Dondale Visualization Memo_FINAL.

65 Exhibit 29372-X0079, Sweetgrass Solar with Storage Project - AUC IR Round 2 Responses, Neoen-AUC-2024DEC24-002, PDF pages 3 and 4; Exhibit 29372-X0082, Sweetgrass Solar with Storage Project - AUC IR002 - Attachment C - Updated MD Setback Map.

95. However, four GLG members, Sherri Duerloo, Albert and Darlene Poelman, and Judy Dondale, whose properties are located directly adjacent to and face the proposed project, raised concerns regarding the visual impacts of the solar module arrays. They argued that Neoen should have designed a visual screening plan and provided it during project consultation for review.[66]

96. In responding to the GLG's concerns, Neoen identified that GLG member viewpoints measured from the project boundary, were 300 metres from J. Dondale's residence, 675 metres from S. Deurloo's residence, and 1.6 kilometres from A. and D. Poelman's residence. Neoen submitted that for a solar project at greater distances from viewpoints, individual solar modules become indistinguishable, and the project begins to blend into the landscape.[67]

97. At the viewpoints from the Poelman and Deurloo properties, Neoen advised that although the project is visible, it generally appears below the horizon, and that it is difficult to discern individual modules; and at the viewpoint from J. Dondale's residence, the project is primarily visible to the west and southwest and appears on or below the horizon.[68]

98. Neoen stated it was not feasible to design a detailed visual screening plan at this stage in project development and design. Neoen advised that a detailed visual screening plan, which could include vegetation and trees, fencing or other visual barriers or mitigations, needed to consider final engineering designs and site-specific feedback from residents and landowners based on those designs. Final engineering design changes could include project layout, equipment, grading and specific siting of modules and fencing within the project boundary, and it is best to develop a final visual screening plan during detailed engineering and design, in consultation with specific landowners, once there is regulatory certainty for the project.[69]

99. Neoen committed to developing a visual screening plan to mitigate visual impacts with the planting of vegetation on GLG members' properties facing the project, with the consent of these landowners, and at selective locations within the project boundary. In response, the GLG stated the climate conditions of the local area made it very difficult to maintain the health of local vegetation and expressed doubt as to how successful Neoen's visual screening plan would be.

100. Neoen also indicated its willingness to use fencing as another screening option;[70] however, it emphasized that while visual screening strategies will reduce the magnitude of the proposed project, they will not necessarily block all the views of the project.[71] Neoen advised that the specifics of a visual screening plan will be case-specific based on what the landowner's concerns are and what screening measure will work best to mitigate their visual impacts.[72]

101. During cross-examination, given the Dondale residence was identified as being the closest to the proposed project, GCR undertook to complete a preliminary visual screening plan to illustrate where potential screening could be installed on the Dondale property.[73] GCR advised

66 Exhibit 29372-X0141, GLG Group Submissions_March 14, 2025, PDF page 18.
67 Exhibit 29372-X0180, Neoen Reply Evidence Submission, PDF page 11.
68 Exhibit 29372-X0180, Neoen Reply Evidence Submission, PDF page 11; Exhibit 29372-X0214, Sweetgrass Solar and Storage - Dondale Visualization Memo_FINAL.
69 Exhibit 29372-X0180, Neoen Reply Evidence Submission, PDF pages 10 and 11.
70 Transcript, Volume 2, page 249, lines 3 to 5.
71 Transcript, Volume 2, page 249, lines 9 to 16.
72 Transcript, Volume 2, page 250, lines 9 to 19.
73 Exhibit 29372-X0231, Neoen Undertaking No 2 - Attachment A - Dondale Visualization.

that a dense row of existing hedges is currently present along the west and south edges of the property that screens the ground-level views towards the project, and that no views were expected to be impacted from the ground level of the property.

102. GCR stated that a range of visual screening options could be considered for the Dondale property including near-distance tree planting to break up the view of the solar array in the distance below the horizon, and mid-distance tree planting between the residence and the project, or alternatively in the road allowance setback between the northwest and northeast quarter section project areas to provide effective screening of the westernmost portion of the project.[74]

103. However, GCR cautioned that screening the full solar module arrays on the horizon may also obstruct views of the landscape and mountains from J. Dondale's second- and third-floor residence viewpoints.[75] Instead, GCR suggested that targeted trees or bushes could be planted along existing fences and hedges, or that landscaping fences could be installed, and would be dependent on further discussions with J. Dondale.[76]

104. Neoen committed to retaining an arborist to identify a species of tree that is suitable for the vegetation screens,[77] in addition to other visual screening commitments.[78] Neoen also committed to collaborating with GLG members towards developing a visual screening plan that is agreeable to all parties, while incorporating any final project designs, no later than 90 days before construction commences.[79]

105. In general, the Commission finds that Neoen's proposal to use vegetation and/or fencing as visual screens is a reasonable approach to mitigate the majority of GLG members' visual impact concerns. As the details of the screening have not been finalized and Neoen has committed to further site-specific discussion with the GLG members that have their properties facing the proposed project, the Commission will require Neoen to file a visual impact screening plan. Neoen, in the plan, should explain how the vegetation chosen will result in the most effective screening of the project as possible in both the near and long term for the GLG members. The Commission requires that Neoen use an arborist to assist in determining proper species and layout of vegetation. As such, the Commission imposes the following conditions of approval for the project:

m. Neoen Renewables Canada Inc. shall file a visual screening plan with the Commission, detailing discussions with the Granum Landowners Group members (Sherri Duerloo, Albert and Darlene Poelman, and Judy Dondale), and the final details of the visual impact mitigations. The visual screening plan must be filed at least 90 days before the start of construction.

n. Neoen Renewables Canada Inc., and any subsequent operator, shall maintain for the life of the project all vegetation screening associated with the project, including watering, maintenance and upkeep, removal and replacement of dead vegetation adjacent to the

74 Exhibit 29372-X0232, Neoen Undertaking No 2 - Attachment B - A. Van Horne Letter.
75 Transcript, Volume 1, page 33, lines 24 to 25, and page 34, lines 1 to 2 and 17 to 20.
76 Transcript, Volume 1, page 36, lines 18 to 25, and page 37, lines 1 to 18.
77 Exhibit 29372-X0123, Sweetgrass - GLG IR Round 1 v1.0 (2025.02.28)_Final for Issue, GLG-Neoen-2025FEB07-051(h), PDF pages 97-98.
78 Exhibit 29372-X0236, Neoen Commitment List (Sweetgrass Solar and Energy Storage Project), PDF page 6.
79 Transcript, Volume 1, page 49, lines 10 to 25, and page 50, lines 1 to 25.

Granum Landowners Group members' (Sherri Duerloo, Albert and Darlene Poelman, and Judy Dondale) properties.

4.3.3 Should visual impact mitigations include removal of project lands?

106. J. Dondale stated that her residence, located in the northeast quarter of Section 25, Township 10, Range 26, west of the Fourth Meridian, would experience significant visual impacts as the proposed solar module arrays were located directly adjacent to her property. J. Dondale advised in her statement of intent to participate that her view to the west, including from her second-floor balcony and third-floor window, would be altered by the power plant and requested that the project lands in the northwest quarter of Section 25, Township 10, Range 26, west of the Fourth Meridian be removed from the project layout.[80]

107. Through questioning at the hearing, Tara Dondale, representing her mother J. Dondale, clarified that the project lands located in the northeast quarter of Section 25, Township 10, Range 26, west of the Fourth Meridian should also be removed from the project layout.[81] Figure 3 outlines the project lands requested to be removed from the project layout.

Figure 3. J. Dondale and T. Dondale requested removal area of project lands (yellow)

108. GCR advised that the project lands in the northwest quarter section are relatively flat with a minor slope upwards in elevation, and as the project lands cross over Highway 811, the project lands begin to slope upwards significantly more. GCR submitted that removal of the solar module panels in the northwest quarter would not have a material change on the visual impact as the solar module panels would still be in view on or below the horizon. Neoen recommended that

[80] Exhibit 29372-X0056, Statement of intent to participate.
[81] Transcript, Volume 2, page 421, lines 22 to 25.

installing tree screening or fencing would be better options to mitigate J. Dondale's visual impacts.[82]

109. The Commission finds that removal of project lands from the northwest and northeast quarters of Section 25, Township 10, Range 26, west of the Fourth Meridian will not eliminate or substantially mitigate the visual impacts from the Dondale property. Since the topography slope on these lands are relatively flat compared to the project lands that slope upwards toward the horizon west of Highway 811, the Commission finds that removal of the project lands on the northwest and northeast quarters of Section 25, Township 10, Range 26, west of the Fourth Meridian is not an appropriate visual impact mitigation. Neoen's commitment to develop and implement a visual screening plan, as described in Section 4.3.2, will help to mitigate J. Dondale's visual impact concerns.

4.4 Noise impacts

110. The GLG had concerns about noise from construction and operation of the project.[83] The GLG retained Henk de Haan of dBA Noise Consultants Ltd. to review Neoen's noise impact assessment (NIA) and provide expert evidence on noise impacts of the project.[84] H. de Haan had the following concerns/recommendations about the NIA and noise impacts:

- Noise from the inverter-transformer station shows significant directivity according to the test data; however, the NIA did not consider source directivity.
- The sound power levels of the inverter-transformer station were established incorrectly. Manufacturer test data that were used to establish the sound power levels are low quality and should not be relied upon.
- Given uncertainties associated with sound power level determination, manufacturer noise data, propagation conditions, atmospheric sound absorption and assumed ambient sound levels, the overall uncertainty of the noise model is five to nine A-weighted decibels (dBA).
- Neoen should conduct a post-construction comprehensive sound level (CSL) survey to verify compliance with Rule 012.

111. Additionally, members of the GLG expressed concern over the impact of noise on their families and livestock. Additional noise could impact the success of livestock health such as cattle breeding activities. Interveners also were concerned about additional noise sources impacting the quiet rural setting, the enjoyment of their property, and particularly harmful impacts on sensitive family members.

112. Neoen retained GCR to complete an NIA for the project in accordance with Rule 012[85] and retained Cameron Sutherland of GCR to respond to the GLG's noise concerns. The NIA identified 18 dwellings within 1.5 kilometres from the project boundary as receptors and predicted that the project will be compliant with permissible sound levels (PSLs) set out in

[82] Transcript, Volume 2, page 251, lines 6 to 25, and page 252, lines 1 to 23.
[83] Exhibit 29372-X0141, GLG Group Submissions_March 14, 2025, PDF pages 20-22.
[84] Exhibit 29372-X0145, Appendix D. Henk de Haan Review NIA Sweetgrass Solar.
[85] Exhibit 29372-X0010, Sweetgrass Solar with Storage Project - Appendix 09 - NIA.

Rule 012 at all receptors. The NIA also conducted a low frequency noise analysis and concluded that the project is not expected to have any low frequency noise effects.

113. In this section, the Commission finds that the NIA meets the requirements of Rule 012 and accepts the conclusion in Neoen's NIA that noise from the project will comply with PSLs set out in Rule 012, with certain conditions, and is unlikely to result in harm to residents and their farming operations. If unexpected impacts of noise do result after commissioning, landowners may contact the facility owner and use the Commission's noise complaint process if resolution is not possible. The Commission requires Neoen to conduct a post-construction CSL survey at Receptor R08 to verify compliance.

4.4.1 Is the process to determine the sound power levels for the project inverter-transformer stations acceptable?

114. Neoen submitted two manufacturer test reports for the project inverter-transformer station model. Initially, the NIA included a manufacturer report, dated April 7, 2023, which presents measurements from three distances, one metre, five metres and 10 metres from the inverter-transformer station. H. de Haan and C. Sutherland disagreed about which measurement distance should be used to establish sound power levels for use in project noise models. H. de Haan questioned the sound power level of 97.4 dBA that C. Sutherland derived based on manufacturer measurements at one metre; instead, H. de Haan used the manufacturer measurements at five and 10 metres to calculate a sound power level of 102.3 dBA for the inverter-transformer station model. However, C. Sutherland believed that measurement data collected at further distances (i.e., five and 10 metres) may be contaminated by background noise (e.g., wind).

115. During the hearing, Neoen submitted an updated manufacturer noise test report, dated April 17, 2025, which presents noise measurements collected at 1.25 metres from the inverter-transformer station. Neoen submitted that the updated noise data indicates an overall sound power level of 97.0 dBA, which is marginally lower than the sound power level of 97.4 dBA used for the NIA and underscores the reasonableness of C. Sutherland's previous calculation. Neoen argued that while the GLG and its expert had concerns about the reliability of the manufacturer test data, it was the best data available at the current stage of project development, and the sound power level calculated based on this data was consistent to similarly sized inverter-transformer stations used at other solar power projects.[86]

116. Rule 012 requires the NIA to indicate whether sound data used in computer modelling is from field measurements, vendors/manufacturers, theoretical estimates or another source.[87] The Commission clarifies that sound power levels for a project should be determined using the best available data or methods to reasonably characterize noise emissions from the project. Regardless of which type of data is used, an NIA is required to describe and justify how sound power levels were established for project equipment.

117. The Commission understands that formulae for estimating sound power levels from these solar inverter units may not be available from engineering handbooks. In this case, manufacturer data may be the best and only data source available for determining sound power levels.

[86] Transcript, Volume 3, page 449, lines 22 to 25 and page 450, line 1.
[87] Rule 012: *Noise Control*, PDF page 19.

118. For this proceeding, the Commission accepts that the manufacturer noise data provided by Neoen is the best available data source for determining sound power levels from the project inverter-transformer station model. Given that the initial manufacturer report was a major topic of discussion during the hearing and that an updated manufacturer report was submitted to support the discussion, the Commission has considered both manufacturer test reports when deciding whether Neoen's process for determining sound power levels is acceptable.

119. Regarding the initial test report, the Commission accepts C. Sutherland's explanation that data from the measurements at one metre are more reliable, because measurements at five and 10 metres may be contaminated by background noise, which is why those measurements resulted in a higher apparent sound power level.

120. The updated manufacturer report consists of measurement data collected at one distance, 1.25 metres. The Commission finds that sound power levels established based on the updated manufacturer report are very similar to sound power levels established based on the one-metre measurement data from the original test report (i.e., 97.0 dBA from the updated manufacturer report vs. 97.4 dBA from the initial manufacturer report).

121. Based on the above analysis, the Commission finds that the process C. Sutherland used to determine sound power levels for the project equipment is reasonable and acceptable.

122. Furthermore, the Commission notes the GLG's argument that adequacy and reliability concerns about the manufacturer test data are ultimately related to project compliance, which can and will be tested in a post-construction CSL survey (discussed in Section 4.4.4 of this decision).

4.4.2 Does noise from the inverter-transformer station show directivity and tonality and how should these issues be addressed?

123. H. de Haan submitted that according to the manufacturer test data, noise from the inverter-transformer station model shows significant directivity, but the NIA modelled the inverter-transformer stations as omnidirectional point sources (i.e., the NIA did not consider directivity). H. de Haan recommended Neoen orient the inverter-transformer stations with the quieter front side pointed towards nearby receptors to take advantage of the directivity. H. de Haan was also concerned that the inverter-transformer stations could result in tonal noise at nearby receptors and recommended installation of sound barriers to reduce tonal noise.[88]

124. C. Sutherland explained that given that the project has yet to undergo detailed engineering, modelling the inverter-transformer stations as omnidirectional point sources provides a reasonable estimate of the noise impacts expected at receptors. With respect to tonal noise, C. Sutherland clarified that the available manufacturer data for the inverter-transformer station model does not provide sufficient information to conclude that tonality would be a concern, nor does it provide information required to conduct a tonality assessment in accordance with Rule 012. Given that the minimum receptor-inverter distance for the project is 480 metres, C. Sutherland suggested than any potential tonality in the emissions from the inverter-transformer stations would be attenuated during propagation to the receptors.[89]

[88] Exhibit 29372-X0145, Appendix D. Henk de Haan Review NIA Sweetgrass Solar, PDF page 4.
[89] Exhibit 29372-X0181.01, Appendix A - Reply Evidence and Curriculum Vitae of C. Sutherland (REDACTED), PDF pages 8, 9 and 11.

125. Neoen argued that disagreements between parties about directivity and tonality of the project equipment can be fully addressed through a CSL survey.[90]

126. With respect to directivity, the Commission finds that measured sound levels presented in the updated manufacturer report for the inverter-transformer station model range from 57.5 dBA (on the transformer side) to 80.4 dBA (on the inverter side). Given this variability in measured sound levels, the Commission agrees with H. de Haan that directivity effects are likely to be noticeable.

127. That said, the Commission accepts C. Sutherland's explanation that there would be little value to including source directivity in the NIA, given the project design has not yet been finalized and a specific orientation for the inverter-transformer stations has not yet been established. Therefore, modelling the inverter-transformer stations as omnidirectional point sources is an acceptable approach for the project NIA.

128. The Commission requires that, where practical, Neoen implement H. de Haan's recommendation that the final project design orient inverter-transformer stations with the quieter front side facing nearby receptors and/or dwellings. Given that the project has not yet been finalized, the Commission imposes the following conditions of approval for the power plant and ESF.

o. Once Neoen Renewables Canada Inc. has finalized its equipment selection for the power plant and energy storge facility, 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 and energy storage facilities specified in Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*. The final project update must be filed at least 90 days prior to the start of construction.

p. During detailed engineering and design, Neoen Renewables Canada Inc., wherever practical, shall orient each inverter-transformer station with the side emitting less noise towards the nearest receptor(s). As part of the final project update, Neoen shall confirm which inverter-transformer stations have been oriented with the less noisy side towards nearby receptor(s), and if it is not practical to implement such orientation for some inverter-transformer stations, provide an explanation. Neoen shall also submit an updated noise impact assessment that incorporates directivity for the inverter-transformer stations in the final project design.

129. With respect to tonality, Section 4.5 of Rule 012 specifies criteria for evaluating low frequency tonal noise based on measurements. The Commission requires Neoen to conduct tonality evaluation for low frequency noise during a post-construction CSL survey, which will be discussed in Section 4.4.4 of this decision.

130. Further, Rule 012 states that "The Commission may require tonality evaluation for all audible frequencies in a comprehensive sound level survey ordered in response to a noise complaint." At the current stage, the Commission does not require Neoen to conduct tonality evaluation for all audible frequencies. However, if Neoen receives a noise complaint from a nearby resident after the project is in operation, the Commission expects Neoen to make every

[90] Transcript, Volume 3, page 451, lines 5 to 6.

reasonable attempt to resolve the complaint in a timely manner. If Neoen is unable to resolve the complaint, Section 5 of Rule 012 sets out the process for residents near the facility to file a complaint directly with the Commission. The Commission will investigate any noise complaints that may arise once the project commences operations and, in response to a complaint, may order a comprehensive sound level survey to verify project compliance and evaluate noise impacts including tonality for all audible frequencies.

4.4.3 Should the project noise modelling incorporate an uncertainty factor?

131. H. de Haan and C. Sutherland discussed conservatism and uncertainty in the NIA. H. de Haan noted that the noise model had uncertainties associated with sound power level determination, manufacturer noise data, propagation conditions, atmospheric sound absorption and assumed ambient sound levels. Combining these different sources of uncertainty, H. de Haan concluded that predicted cumulative sound levels in the NIA likely had an overall uncertainty of 5 to 9 dBA.[91]

132. C. Sutherland explained that the uncertainties inherent to noise modelling were accounted for through conservative assumptions. In particular, the NIA assumed that project equipment, including inverter-transformer stations for the power plant and cooling fans for the ESF, would be operating with maximum sound power levels during both daytime and nighttime hours. C. Sutherland explained that in reality the inverters would only operate during a short part of the nighttime period (e.g., between 5 a.m. and 7 a.m. during mid-summer) and would otherwise be in standby mode during the nighttime period; in addition, cooling fans for the ESF may not operate during low temperature nighttime periods. Therefore, C. Sutherland concluded that the noise model is conservative, and addition of an uncertainty factor is neither appropriate nor required by Rule 012.[92]

133. While all noise models have a level of uncertainty, Rule 012 does not explicitly require an NIA to include uncertainty factors in noise modelling. Instead, noise practitioners are required to make conservative assumptions about propagation conditions and project operations to account for the level of uncertainty inherent in predictive noise modelling.

134. The Commission finds that the NIA has incorporated several conservative assumptions, including assumptions that all project equipment operates at full power all day and night and that all receptors are always downwind of all sound sources. The Commission agrees with C. Sutherland that conservative assumptions used in the NIA likely account for the level of uncertainty inherent in the noise model developed for the project, and therefore, the Commission does not require Neoen to incorporate as uncertainty factor as suggested by H. de Haan.

135. Noise from actual project operations will be tested in a post-construction CSL survey (discussed in Section 4.4.4 of this decision). If the project is determined to be non-compliant with Rule 012 during the survey, Neoen will be required to address the exceedance by mitigating or ceasing operation of project equipment that are responsible for the measured non-compliance.

136. Overall, the Commission finds that the NIA conducted for the project meets the requirements of Rule 012 and accepts the conclusion of the NIA that the project is expected to be compliant with the PSLs set out in Rule 012 at all receptors.

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[91] Exhibit 29372-X0145, Appendix D. Henk de Haan Review NIA Sweetgrass Solar, PDF pages 5, and 39-43.

[92] Exhibit 29372-X0181.01, Appendix A - Reply Evidence and Curriculum Vitae of C. Sutherland (REDACTED), PDF page 6.

4.4.4 Is it necessary to conduct a post-construction comprehensive sound level survey for the project?

137. With respect to the post-construction CSL survey recommended by H. de Haan, C. Sutherland's opinion is that given the NIA, which incorporated conservative assumptions, predicted project compliance with Rule 012, a post-construction noise survey is unnecessary. However, if the Commission decides to order a noise survey, C. Sutherland recommended limiting the survey to one receptor, R08. Neoen committed to conduct a post-construction CSL survey at Receptor R08.[93]

138. In his reply evidence, C. Sutherland raised a question as to whether Receptor R08 met the definition of a dwelling under Rule 012.[94] However, at the hearing, T. Dondale, representing her mother J. Dondale, confirmed that J. Dondale has retired and lives on the property full time, and that T. Dondale expects to visit and stay on the property during summers.[95] Rule 012 defines a dwelling as "any permanently or seasonally occupied structure used for habitation for the purpose of human rest." The Commission is satisfied that Receptor R08 is a dwelling for the purposes of Rule 012.

139. The Commission notes that the nighttime cumulative sound level is predicted to be 39.7 A-weighted decibels (dBA) at Receptor R08, which is close to the nighttime PSL of 40 dBA. Moreover, the project is predicted to be a dominant sound source at this receptor. For these reasons and given the GLG's concerns and Neoen's commitment, the Commission will require Neoen to conduct a post-construction CSL survey at Receptor R08 to verify compliance with Rule 012 once the project commences operation. Therefore, the Commission imposes the following condition:

q. Neoen Renewables Canada Inc. shall conduct a post-construction comprehensive sound level (CSL) survey, including an evaluation of low frequency noise, at Receptor R08. The post-construction CSL survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. Within one year of the project commencing operations, Neoen shall file a report with the Commission presenting measurements and summarizing the results of the post-construction CSL survey.

4.5 Glare impacts

140. The GLG had concerns about the glare from the project solar panels to road users, and requested that the Commission require Neoen to promptly address any complaints or concerns regarding solar glare from the project and report them to the Commission.[96] The GLG did not retain an expert witness on glare.

4.5.1 What are the glare impacts from the project and how will they be mitigated?

141. Neoen retained GCR to complete a solar glare assessment (SGA) for the project.[97] The SGA identified 15 dwellings, two highways (Highway 519 and Highway 811) and two local roads (Range Road 260 and Township Road 104) as receptors. The SGA indicated that the

[93] Exhibit 29372-X0236, Neoen Commitment List (Sweetgrass Solar and Energy Storage Project), PDF page 7.
[94] Exhibit 29372-X0181.1, Appendix A - Reply Evidence and Curriculum Vitae of C. Sutherland (REDACTED). PDF page 14.
[95] Transcript, Volume 2, page 418, lines 16 to 23.
[96] Exhibit 29372-X0141, GLG Group Submissions_March 14, 2025, PDF page 24.
[97] Exhibit 29372-X0006, Sweetgrass Solar with Storage Project - Appendix 05 - SGHA.

project solar panels would use a single-axis tracking system, which has a backtracking function to tilt the solar panels gradually back to horizontal or near-horizontal to minimize inter-row shading during periods when the sun is low in the sky. Resting angle is defined as the minimum rotation angle between the solar panels and the horizontal (i.e., the resting angle sets the lower limit for rotation during backtracking periods).

142. The SGA predicted that green and yellow glare[98] may be seen at Highway 519, Township Road 104 and nine dwellings if the resting angle is set between zero and three degrees. GCR recommended that a minimum resting angle of two degrees be implemented to eliminate predicted glare for Highway 519; but no mitigation is required for dwellings, because GCR does not expect glare to have an adverse effect on a resident's use of their home.

143. The Commission acknowledges that limiting the resting angle is an effective mitigation to minimize or eliminate glare impacts from the project. Compared to green glare (i.e., glare with low potential for temporary after-image), yellow glare (i.e., glare with potential for temporary after-image) can be potentially hazardous to road users. Given the GLG's concerns about potential glare impacts, the Commission requires Neoen to configure the solar panels to use a resting angle sufficient to eliminate yellow glare for road receptors. Therefore, the Commission imposes the following condition:

r. Neoen Renewables Canada Inc. shall, at the time it submits the final project update, determine the minimum resting angle at which predicted yellow glare from the project would be eliminated at road receptors and include this information in the update. Neoen shall configure the project solar panels to use a resting angle greater than or equal to the minimum resting angle required to eliminate yellow glare to road receptors.

144. The Commission requires Neoen to promptly address complaints or concerns from stakeholders regarding glare. Therefore, the Commission imposes the following condition:

s. Neoen Renewables Canada Inc. shall promptly address any complaints or concerns regarding solar glare from the project. In the event of complaints or concerns, Neoen 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 Neoen's response to the complaints or concerns, and describe the mitigation measures that Neoen has implemented.

145. The Commission notes that predictions in the SGA were premised upon the use of solar panels with anti-reflective coating. Therefore, the Commission imposes the following condition:

t. Neoen Renewables Canada Inc. shall use solar panels with anti-reflective coating.

[98] 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.

4.6 Agricultural impacts

146. In this section of the decision, the Commission examines the regulations Neoen is required to adhere to and the commitments Neoen has made, and finds that they are appropriate for the protection of agricultural assets.

4.6.1 Are there concerns with the use of agricultural land for this project?

147. On December 6, 2024, the Government of Alberta enacted the *Electric Energy Land Use and Visual Assessment Regulation.* This regulation outlines requirements for power plants on high-quality agricultural land, irrigable lands, and within buffer zones and visual impact assessment zones. The Government of Alberta's stated policy objective of "agriculture first" in the Minister's February 2024 letter is realized in the *Electric Energy Land Use and Visual Assessment Regulation*, which defines the focus of that policy to lands classified by the Land Suitability Rating System (LSRS) as Class 1 and 2 lands, or Class 3 in specific municipalities.[99]

148. GLG members submitted that the lands in question are high-producing agricultural lands, and that the Government of Alberta's stated goal of agriculture first meant these should be protected from solar development. Neoen argued that the intention of the government to protect agricultural lands had been fully expressed in the *Electric Energy Land Use and Visual Assessment Regulation*, and this extended to Class 3 lands only in designated municipalities that did not include these project lands.

149. The LSRS for the project lands are primarily LSRS 3M, meaning they have moderate limitations for the growth of spring-seeded small grains due to water holding capabilities of the soils.[100] The project is not located within an *Electric Energy Land Use and Visual Assessment Regulation* specified municipality where Class 3 lands are considered high-quality agricultural land. Therefore, the Commission accepts that high-quality agricultural land considerations under the *Electric Energy Land Use and Visual Assessment Regulation* do not apply, and no agrivoltaics plan is required. While preservation of high-producing land for agriculture is a public interest objective, so are the climate benefits of renewable energy sources, and the ability of landowners to determine how their lands should be best used.

150. GLG members were concerned with the potential proliferation of pest animals and weeds because of the project, and the adverse impacts these would have on agriculture in the area. The possible adverse impacts of the project fencing and noise on other animals was noted by several landowners. Some of these impacts were noted by landowners at other nearby operating solar projects.

151. Neoen has committed to an invasive plant and pest management plan, soil conservation plan, soil erosion management plan, long-term vegetation management plan and stormwater management plan. An animal management plan will be completed if Neoen determines co-location of agriculture is feasible and agreeable to interested parties. Most of these plans will be produced with input from the MD of Willow Creek. The Commission finds these proposed plans, the mitigations outlined in the environmental protection plan, the commitments in the conservation and reclamation plan, and the requirements for Neoen to adhere to applicable

[99] *Electric Energy Land Use and Visual Assessment Regulation*, Province of Alberta, December 6, 2024.
[100] Exhibit 29372-X0009, Sweetgrass Solar with Storage Project - Appendix 08 - C&R Plan, PDF pages 14 to 16.

provincial regulations (e.g., *Soils Conservation Act*, *Weed Control Act*) to be appropriate for the protection of agricultural assets and to mitigate the concerns raised by landowners.[101]

4.7 Reclamation security plan

152. 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.

4.7.1 Is it likely that the project will be adequately reclaimed at its end of life?

153. Neoen submitted a conceptual conservation and reclamation plan for the project. Neoen submitted that site reclamation will adhere to the requirements outlined in the *Conservation and Reclamation Directive for Renewable Energy Operations* and the terms of Neoen's lease agreements with project landowners. Based on the information provided, the Commission accepts that Neoen's approach to reclamation is reasonable. Neoen is required to fully reclaim the project and bear the costs of doing so.

154. Applicants for wind and solar energy projects in Alberta - including Neoen - must obtain a registration under the *Environmental Protection and Enhancement Act.*[102] One of the requirements to obtain registration, set out in the *Code of Practice for Solar and Wind Renewable Energy Operations*, is to provide reclamation security either to: (i) the Government of Alberta; or (ii) landowners as part of a negotiated agreement, as long as the Commission considers that security adequate; or (iii) a combination of the two options. Neoen has confirmed that it has chosen to provide security directly to the government for the entirety of the project. This means that the Commission will not assess the adequacy of Neoen's proposed reclamation security under the *Code of Practice for Solar and Wind Renewable Energy Operations*, and that the Commission can be reasonably assured that funds will be available to reclaim the project at its end of life. The Commission accordingly imposes the following condition:

u. Neoen Renewables Canada Inc. must provide security to the Government of Alberta in accordance with the *Code of Practice for Solar and Wind Renewable Energy Operations* and otherwise comply with all conditions and terms of Neoen's registration with respect to the Sweetgrass Solar and Energy Storage Project.

155. Based on the information provided, the Commission accepts that Neoen's approach to reclamation is sufficient for the purposes of satisfying the Commission that approval of the project is in the public interest.

5 Conclusion

156. In accordance with Section 17 of the *Alberta Utilities Commission Act*, the Commission finds that, with the exception of any power plant infrastructure in the Cottonwood Wetland Complex, approval of the project is in the public interest having regard to its social and economic effects and its effects on the environment. In coming to this conclusion, the

[101] Exhibit 29372-X0236, Neoen Commitment List (Sweetgrass Solar and Energy Storage Project); Exhibit 29372-X0008, Sweetgrass Solar with Storage Project - Appendix 07 – EPP; and Exhibit 29372-X0009, Sweetgrass Solar with Storage Project - Appendix 08 - C&R Plan.

[102] *Code of Practice for Solar and Wind Renewable Energy Operations*, Government of Alberta, Effective May 31, 2025.

Commission has considered the project's impacts and finds that they are outweighed by its benefits which include the generation of emissions-free electricity, generation of municipal tax revenue, the establishment of a community benefit fund and the creation of employment opportunities.

157. Overall, for the reasons outlined in this decision, and subject to the conditions in Appendix C, the Commission finds that Neoen has satisfied the requirements of Rule 007 and Rule 012, and that the negative impacts associated with the project are acceptable given the conditions imposed and mitigations required.

6 Decision

158. Under sections 11, 13.01(1) and 19 of the *Hydro and Electric Energy Act*, the Commission approves applications 29372-A001 and 29372-A002, except for any power plant infrastructure in the Cottonwood Wetland Complex, and grants Neoen Renewables Canada Inc. the approval set out in Appendix 1 – Power Plant and Energy Storage Facility Approval 29372-D02-2025, to construct and operate the Sweetgrass Solar and Energy Storage Project.

159. Under sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves Application 29372-A003 and grants Neoen Renewables Canada Inc. the permit and licence set out in Appendix 2 – Substation Permit and Licence 29372-D03-2025, to construct and operate the Sweetgrass 1160S Substation.

160. The appendixes will be distributed separately.

Dated on September 5, 2025.

Alberta Utilities Commission

(original signed by)

Matthew Oliver, CD
Panel Chair

(original signed by)

Vincent Kostesky
Acting Commission Member

(original signed by)

Doug Hawkins
Acting Commission Member

Appendix A – Proceeding participants

Name of organization (abbreviation) Company name of counsel or representative
Blake, Cassels & Graydon LLP Terri-Lee Oleniuk Elyse Bouey **Neoen Renewables Canada Inc.** Ryan Dick Maximiliano Jalif Brittany Morrison
Ackroyd LLP Richard Secord **Granum Landowners Group** Gary Goedhart (Goedwill Acres Ltd.) Sherri Deurloo Mike Neufeld Lorraine Neufeld Elaine Clay (acting on behalf of Hendrika Hermina Vandervalk Biessheuvel) Albert and Phyllis Darlene Poelman Henry Veldboom Leroy Poelman Joel Goedhart Bonny Smyth Tara Dondale (acting on behalf of Judy Dondale) Marty and Janine Van Ee Linda Joann de Maere John Dunlop Curt Bluekens (Le-Al Farms Ltd.)
Reynolds, Mirth, Richards & Farmer LLP Shauna Finlay **Municipal District of Willow Creek No. 26** Cindy Chisholm
Alberta Utilities Commission **Commission panel** Matthew Oliver, Panel Chair Vincent Kostesky, Acting Commission Member Doug Hawkins, Acting Commission Member **Commission staff** Rob Watson (Commission counsel) Taylor Campbell (Commission counsel) Dan Burton Joan Yu Glenn Harasym

Appendix B – Oral hearing – registered appearances

Name of organization (abbreviation) Name of counsel or representative	Witnesses
Neoen Renewables Canada Inc. Terri-Lee Oleniuk, Blake, Cassels & Graydon LLP, counsel Elyse Bouey, Blake, Cassels & Graydon LLP, counsel	Ryan Dick Maximiliano Jalif Brittany Morrison Alex Van Horne Cameron Sutherland Dr. Stephen Ramsay Dr. Christopher Ollson Janet Bauman
Granum Landowners Group Richard Secord, Ackroyd LLP, counsel	Sherri Duerloo Elaine Clay Tara Dondale Mike Neufeld Albert and Phyllis Darlene Poelman Marty Van Ee Henry Veldboom Bonny Smyth Henk de Haan Jason Binding Marc Polivka

Appendix C – 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 29372-D01-2025 that require subsequent filings with the Commission and will be included as conditions of Approval 29372-D02-2025:

a. Neoen Renewables Canada Inc. shall submit an annual post-construction monitoring survey report to Alberta Environment and Protected Areas (AEPA) no later than January 31 of the year following the mortality monitoring period and submit the annual post-construction monitoring survey report and AEPA's post-construction monitoring response letter to the Commission within one month of its issuance to Neoen. These reports and response letters shall be subsequently filed with the same time constraints every subsequent year for which AEPA requires surveys pursuant to Section 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*.

b. Neoen Renewables Canada Inc. shall not construct any power plant infrastructure within the wetland complex, shown as the "Cottonwood Wetland Complex" in Figure 2 of Decision 29372-D01-2025. Neoen must maintain all currently proposed 100-metre wetland buffers such as the Neoen-identified Class III wetlands. A zero-metre wetland buffer can be applied to areas of the Cottonwood Wetland Complex that were not assigned a buffer in the applications. Neoen shall submit an updated project layout, showing these alterations, 90 days prior to project construction, including any reports submitted to Alberta Environment and Protected Areas (AEPA) for *Water Act* approvals, and feedback from AEPA.

h. Neoen Renewables Canada Inc. shall provide an updated project-specific emergency response plan to the Municipal District of Willow Creek No. 26 and the Alberta Utilities Commission 90 days before commissioning.

m. Neoen Renewables Canada Inc. shall file a visual screening plan with the Commission, detailing discussions with the Granum Landowners Group members (Sherri Duerloo, Albert and Darlene Poelman, and Judy Dondale), and the final details of the visual impact mitigations. The visual screening plan must be filed at least 90 days before the start of construction.

o. Once Neoen Renewables Canada Inc. has finalized its equipment selection for the power plant and energy storge facility, 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 and energy storage facilities specified in Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*. The final project update must be filed at least 90 days prior to the start of construction.

p. During detailed engineering and design, Neoen Renewables Canada Inc., wherever practical, shall orient each inverter-transformer station with the side emitting less noise towards the nearest receptor(s). As part of the final project update, Neoen shall confirm which inverter-transformer stations have been oriented with the less noisy side towards nearby receptor(s), and if it is not practical to implement such orientation for some inverter-transformer stations, provide an explanation. Neoen shall also submit an updated noise impact assessment that incorporates directivity for the inverter-transformer stations in the final project design.

q. Neoen Renewables Canada Inc. shall conduct a post-construction comprehensive sound level (CSL) survey, including an evaluation of low frequency noise, at Receptor R08. The post-construction CSL survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. Within one year of the project commencing operations, Neoen shall file a report with the Commission presenting measurements and summarizing the results of the post-construction CSL survey.

r. Neoen Renewables Canada Inc. shall, at the time it submits the final project update, determine the minimum resting angle at which predicted yellow glare from the project would be eliminated at road receptors and include this information in the update. Neoen shall configure the project solar panels to use a resting angle greater than or equal to the minimum resting angle required to eliminate yellow glare to road receptors.

The following are conditions of Decision 29372-D01-2025 that do not or may require subsequent filings with the Commission:

c. Neoen Renewables Canada Inc. shall select lithium iron phosphate batteries for the energy storage facility (ESF). If an alternate battery chemistry or vendor/manufacturer is selected, Neoen shall submit specifications such as the cell combustion phase duration and peak temperature to the Commission, along with confirmation that the alternate chemistry possesses better thermal stability than lithium iron phosphate, and appropriate hazard mitigation analysis. Neoen cannot proceed with construction of the ESF until it receives written approval from the Commission.

d. Neoen Renewables Canada Inc. shall install a remote monitoring and fire detection system that can be programmed to automatically notify the monitoring operations centre who in turn will immediately notify local emergency responders. Excluding emergency situations, the project energy storage facility will not be operated without the system in use.

e. Neoen Renewables Canada Inc., and any subsequent operator, shall implement ongoing upgrades to improve the safety of the project energy storage facility, including but not limited to firmware and software enhancements, monitoring capability enhancements, process changes and safety standards as they are developed.

f. Neoen Renewables Canada Inc. shall install thermal imaging cameras at the energy storage facility site for continuous monitoring, and to the extent possible, shall integrate the cameras into its emergency response planning.

g. Neoen Renewables Canada Inc., and any subsequent operator, shall at all times during construction and operation of the project energy storage facility, maintain insurance coverage that is sufficient to protect against any reasonably foreseeable liabilities.

i. Neoen Renewables Canada Inc. shall continually, before and during construction and during operation, review and update the project-specific emergency response plan, and incorporate reasonable changes necessary to address concerns received from the Municipal District of Willow Creek No. 26 and local fire departments, and other interested stakeholders such as local landowners. The updated plans are to be provided to the Municipal District of Willow Creek No. 26 and the local fire departments.

j. Before the project commences operation, Neoen Renewables Canada Inc. shall consult with the Municipal District of Willow Creek No. 26 and the local fire departments about the necessity for on-site water storage, traffic signs and road barricades. If it is determined that on-site water storage, traffic signs and road barricades are required for emergency response purposes, Neoen shall pre-stage and make available on-site water storage, traffic signs and road barricades in response to an emergency at locations identified by the Municipal District of Willow Creek No. 26 and the local fire departments. All consultation and determination must take into account the latest recommendations from Tesla in its emergency response guide.

k. Before the project commences operation, Neoen Renewables Canada Inc. shall develop and outline emergency notification protocols within the project-specific emergency response plan. In particular, Neoen shall consult with the Municipal District of Willow Creek No. 26 and the local fire departments about automatic shelter-in-place notifications for nearby residents, and implement the notification as instructed by the municipal districts and the local fire departments. All consultation and determination must take into account the latest recommendations from Tesla in its emergency response guide.

l. When requested by local fire departments, Neoen Renewables Canada Inc. shall provide on-site training and emergency equipment as required.

n. Neoen Renewables Canada Inc., and any subsequent operator, shall maintain for the life of the project all vegetation screening associated with the project, including watering, maintenance and upkeep, removal and replacement of dead vegetation adjacent to the Granum Landowners Group members' (Sherri Duerloo, Albert and Darlene Poelman, and Judy Dondale) properties.

s. Neoen Renewables Canada Inc. shall promptly address any complaints or concerns regarding solar glare from the project. In the event of complaints or concerns, Neoen 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 Neoen's response to the complaints or concerns, and describe the mitigation measures that Neoen has implemented.

t. Neoen Renewables Canada Inc. shall use solar panels with anti-reflective coating.

u. Neoen Renewables Canada Inc. must provide security to the Government of Alberta in accordance with the *Code of Practice for Solar and Wind Renewable Energy Operations* and otherwise comply with all conditions and terms of Neoen's registration with respect to the Sweetgrass Solar and Energy Storage Project.