



PACE Canada Development LP

Harvest Sky Solar Farm

June 6, 2025

Alberta Utilities Commission

Decision 29274-D01-2025

PACE Canada Development LP

Harvest Sky Solar Farm

Proceeding 29274

Application 29274-A001

June 6, 2025

Published by the:

Alberta Utilities Commission

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1 Decision summary

1. In this decision, the Alberta Utilities Commission denies an application from PACE Canada Development LP (PACE), on behalf of its general partner 2518365 Alberta Ltd., to construct and operate the Harvest Sky Solar Farm (the project). The project would have consisted of a 15-megawatt (MW) solar power plant connected to the ATCO Electric Ltd. distribution system.

2. The Commission's decision to deny the application is primarily associated with the siting of the project in close proximity to the Hanna Airport. The Hanna Airport is a registered but uncontrolled airport. Approximately 200 takeoffs and landings occur at the airport each year. The airport has three runways, one of which is paved. PACE proposed to place solar panels approximately 120 metres away from the centreline of the primary paved runway, and on both sides of that runway. Based on the evidence filed, the Commission understands that the project's proximity to an uncontrolled airport is unique in North America.

3. The Commission finds that PACE provided insufficient evidence to persuade the Commission that the project and the Hanna Airport can safely operate together. The project would remove obstacle-free land on either side of the paved runway for aircraft performing emergency landings. If an emergency landing by an airplane is needed due to, as examples, turbulence impacts caused by the solar arrays on aircraft landing and taking off, a bird strike, or for other reasons, then because of the project's siting the aircraft may crash in the solar arrays. If this occurs, the solar arrays present a unique challenge for firefighters, resulting in a heightened safety risk for both firefighters and pilots.

4. The Commission finds that PACE did not provide a sufficiently robust emergency response plan to demonstrate how the safety risks are adequately mitigated in the event of an aviation incident within the project fenceline. Ultimately, the Commission finds that the project's proposed location is not suitable for a solar power plant.

5. Even if the Commission were to accept PACE's submissions as to why the project would be in the public interest, including consideration of benefits such as reducing carbon in electricity generation, additional property taxes and creation of jobs, the impacts of the project in relation to safety are simply unacceptable. As a result, the Commission finds that the project is not in the public interest and therefore denies the application.

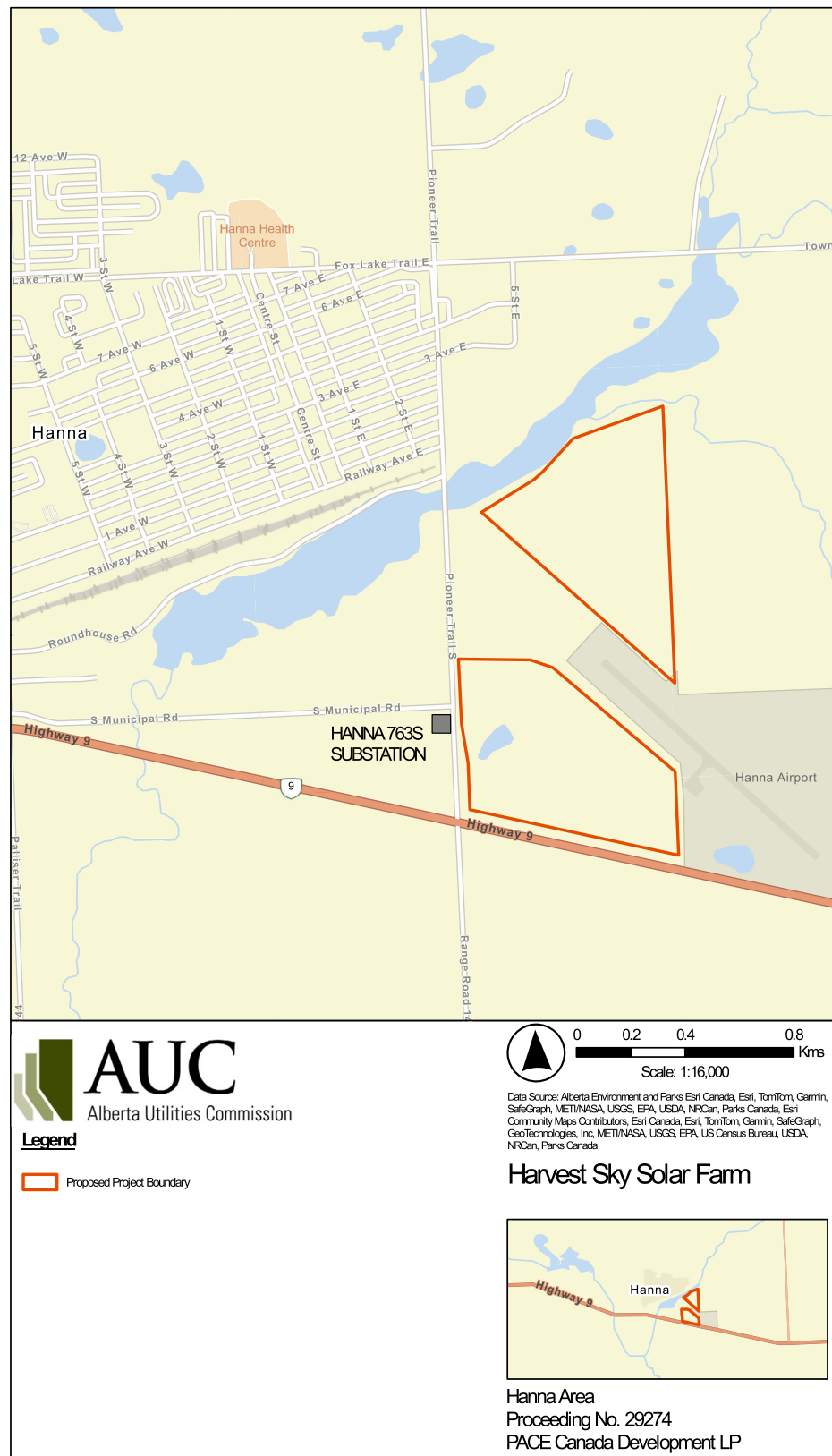
6. In the following sections of this decision, the Commission provides its findings. The Commission begins with an overview of its process, including its mandate and an explanation of how it balances public interest considerations. The Commission then addresses aspects of the project that contributed to the Commission's decision to deny the application. These are impacts on the Hanna Airport and its use, and the adequacy of the emergency response plan.

1.1 Background

7. PACE proposed to locate the project on approximately 171 acres of private pastureland in the Municipal District of Provost No. 52, Alberta, within the urban boundary of the town of Hanna, adjacent to the Hanna Airport, as shown in Figure 1. The project was sited on land that is classified as Class 2 land under the Land Suitability Rating System (LSRS).

8. The power plant would have consisted of approximately 44,016 Longi 545-watt bifacial solar panels/modules on a mixture of single-axis tracking system and a fixed-tilt system. The project would also have included three SMA MV 4,000-kilowatt inverters, access roads, fences, temporary workspaces and a 34.5-kilovolt (kV) underground collector system. The project would have connected to ATCO's Hanna 763S Substation via an ATCO-built 72-kV radial line.

Figure 1. Proposed location of the project



9. The Commission issued a notice of application and received statements of intent to participate from:

- area landowners, who formed the Hanna Landowner Opposition Group (HLOG);
- the Hanna Flying Association (HFA), a group comprised of the Hanna Flying Association and its member pilots;
- the Town of Hanna; and
- the Special Areas Board.

10. All of these interveners opposed the project. HLOG's concerns include siting, residential impacts, visual impacts, noise, environmental impacts, glare, agricultural impacts, weeds, property value and fire. The HFA raised concerns with the siting of the project, glare, aviation and pilot safety, and consultation. While the Town of Hanna opposed the project, it worked with PACE to reach agreements on a number of commitments to address its concerns, should the project be approved. The Town of Hanna's remaining concerns were the impacts to the airport and construction of an all-weather public access road around the perimeter of the project as part of the emergency response plan.

11. The Commission granted standing to members of HLOG and HFA, as well as to the Town of Hanna. The Special Areas Board was not granted standing but was granted full participation rights; however, the Special Areas Board chose not to participate in the proceeding. The Commission held an oral hearing to hear intervener concerns.

1.1.1 Hanna Airport

12. The Hanna Airport is a registered aerodrome located in the southeast portion of the town of Hanna, just north of Highway 9. The airport is uncontrolled; there is no control tower to direct pilots. The airport consists of three runways; the main paved runway is designated as Runway 12/30, and the two grass runways are designated as Runway 02/20 and Runway 15/33.

13. The airport is used by commercial crop spraying companies, charter companies for oil and gas workers, STARS, the Alberta Health Services air ambulance, flight training, recreational flying, and pipeline inspection. The HFA anticipated a scheduled air service may start at the Hanna Airport in the coming years; however, PACE submitted that this operation is at the conceptual stage, and it is not certain that it will materialize into a flight operation. The HFA estimated over 200 takeoffs and landings occur at the Hanna Airport every year.

14. The primary focus of the proceeding was on Runway 12/30, which has proposed solar panels adjacent to both sides of the runway, approximately 120 metres away from the runway centreline.

2 How the Commission assessed the proposed project

15. The Commission is an independent regulator tasked with considering the approval of applications such as this one for power plants, substations and energy storage facilities.¹ The

¹ *Hydro and Electric Energy Act*, sections 11, 13.01, 14, 15 and 19.

Commission must consider whether the proposed project is in the public interest, having regard to the social and economic effects of the project and its effects on the environment.²

16. In fulfilling this mandate, the Commission balances a variety of public interest considerations, also 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 energy storage facilities, that are in the public interest. They also set out a framework for a competitive generation market, where decisions about whether and where to generate electricity are left to the private sector.³

17. 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.

18. Part of conducting a public interest assessment is an analysis of the nature of the adverse impacts associated with a particular project, and the degree to which a project proponent has addressed these impacts. Balanced against this is an assessment of the project's potential public benefits.

19. The existence of applicable regulatory standards and guidelines, including those from other municipal, provincial and federal authorities, and a proponent's adherence to these standards are important elements in deciding if potential adverse impacts are acceptable. 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.⁴

3 Discussion and findings

3.1 Can the project and the Hanna Airport safely operate together?

20. In this section of the decision, the Commission assesses how the project may impact the Hanna Airport in relation to physical proximity, turbulence, bird activity, glare and communication system interference.

21. The Commission finds that PACE has not presented sufficient evidence to persuade it that the solar project will not impact the safe use of the Hanna Airport or that these impacts can be adequately mitigated. The Commission finds that solar glare and electromagnetic interference concerns are minor and can be adequately mitigated.

22. Overall, the safety risks are significant enough to warrant denial of the project.

² *Alberta Utilities Commission Act*, Section 17.

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

⁴ Alberta Energy and Utilities Board Decision 2001-111: EPCOR Generation Inc. and EPCOR Power Development Corporation expansion of Genesee power plant, Application 2001173, December 21, 2001, PDF page 11.

3.1.1 Parties and independent witnesses

23. PACE submitted that the project does not pose a hazard to flight operations surrounding the Hanna Airport. PACE argued that project is properly sited, noting that Transport Canada, NAV Canada and Alberta Health Services did not raise concerns with the proximity of the solar project to the airport runways.

24. Both the Town of Hanna and the HFA expressed significant concerns about the proposed location of the solar project due to its close proximity to the Hanna Airport and its potential negative impacts on aviation safety. The Town of Hanna argued that PACE has not proven that its project is safe, given its proximity to the airport, and requested that if the Commission approves the project that it also requires PACE to construct an all-weather public access road around the perimeter of the project as part of the emergency response plan. The HFA opposed approval of the project, expressing concerns with the project's impacts on aviation, safety and the continued operation of the Hanna Airport. HLOG also submitted general concerns with the proximity of the proposed project to the airport.

25. The Commission received expert independent evidence from witnesses retained by each of PACE, the Town of Hanna and the HFA. An overview of the respective expert witnesses and the scope of the evidence they provided is as follows:

- PACE experts:
 - i. Dr. Jonathan Rogers (Persimia, LLC) performed an independent analysis of potential aviation risks related to wind shear or turbulence.
 - ii. Austen McDonald (JetPro Consultants Inc.) performed computational fluid dynamics (CFD) modelling.
- The Town of Hanna experts:
 - i. Julius Ueckermann (WSP Canada Inc.) provided evidence on solar glare and impacts of the project on other flight and airport operations.
 - ii. Andrew Faszer (WSP Canada Inc.) provided evidence on solar glare and impacts of the project on other flight and airport operations.
- The HFA experts:
 - i. Dr. Peter Georgiou (SLR Consulting Australia) provided evidence related to glare impact and wind shear/wake turbulence.
 - ii. Dr. Neihad Al-Khalidy (SLR Consulting Australia) reviewed documentation related to wind shear and wake turbulence impact.

3.1.2 What are the safety concerns associated with the close proximity of the project to the Hanna Airport?

26. The HFA emphasized that, if the project were approved, it would thereby significantly reduce the landing options available to pilots during critical situations. PACE argued that the project land is zoned as urban reserve and, if the project were not approved, then buildings could be constructed on the proposed project lands that raise similar concerns in relation to creating obstacles that could inhibit emergency landings of aircraft. It pointed to the Brandt dealership as an example of an existing obstacle in the urban reserve zone that could inhibit emergency

landings of aircraft.⁵ David Mohl, the Town of Hanna's fire chief, disagreed with PACE's position regarding zoning. He explained that for urban reserve lands, uses such as solar power plants and commercial development are discretionary, and are considered in a development permit application by the Town of Hanna on a case-by-case basis. One of the policies the Town of Hanna would consider is whether the proposed development is incompatible with the Hanna Airport's operation.⁶ D. Mohl also explained that, in relation to emergency response, if an aircraft crashed into a building, first responders can respond to events occurring at a structure. In contrast, first responders cannot respond to a crash that occurs in the solar array because the solar arrays remain energized.⁷

27. PACE stated that there are no regulations that prohibit the siting of the project in the proposed location. It added that Transport Canada and NAV Canada did not raise any concerns.⁸ PACE's witness, A. McDonald of JetPro Consultants Inc. also submitted that the project is sited properly and meets the obstacle limitation surface standard, as defined in Advisory Circular 301-001.⁹ Obstacle limitation surface means surfaces that establish the limit to which objects may project into the airspace associated with an aerodrome so that aircraft operations at the aerodrome may be conducted safely. In the Commission's view, Advisory Circular 301-001 is intended to apply to an aerodrome that has an Instrument Approach Procedure (IAP) or has one that is imminent. The evidence on the record is that the Hanna Airport does not have an IAP and it has not been established that one is imminent. At this time, PACE's use of the obstacle limitation surface is illustrative only but if it did apply, the project would satisfy obstacle limitation surface criteria.

28. Nonetheless, based on the evidence in this proceeding related to the risks to aviation and emergency responders given the close proximity of the proposed project to Runway 12/30, the Commission does not believe that a project's compliance with an obstacle limitation surface, nor Transport Canada and NAV Canada's acceptance of the project, is sufficient to dispel these risks.

29. The Commission finds that the placement of solar panels flanking Runway 12/30 is problematic. The proposed placement of solar panels is approximately 120 metres away from the runway centreline of the primary paved runway and solar panels would be placed on both sides of the runway. The Commission considers that aircraft are most susceptible to dangerous conditions during takeoff and landings, due to low power, speed and altitude.¹⁰ If an emergency situation were to occur during takeoff and landings at the Hanna Airport, the Commission finds that the presence of obstacles (being solar arrays) around the runways could inhibit the ability of an aircraft to perform a safe landing, resulting in a crash into the solar arrays.

30. The Commission finds that solar arrays present a unique challenge for firefighters. Panels can remain energized even when illuminated by artificial light such as from fire or lighting from first responders. Given that the solar panels generate electricity from light, a fire from an aviation incident or emergency lighting from emergency responders could electrify the power generation components even if the project was shut off from the grid.

⁵ Transcript, Volume 4, page 649, lines 3 to 7.

⁶ Transcript, Volume 3, pages 476-477.

⁷ Transcript, Volume 3, pages 523-536.

⁸ Exhibit 29274-X0303, 20250226 Reply Evidence from PACE, PDF page 32.

⁹ Transcript, Volume 1, page 193, lines 9 to 16.

¹⁰ Exhibit 29274-X0218, Hanna_HarvestSkySolar_WSP_ReviewEvidence_Airport_Final, PDF page 9.

31. In addition, given D. Mohl's evidence, the Commission is not persuaded that: (i) the Town of Hanna would permit the project lands to be similarly covered by buildings due to the land's zoning as urban reserve; or that (ii) even if the Town of Hanna permitted this type of development, that there would be the same level of risk to emergency responders in the case of an aircraft crash on the lands at issue. Because of this, the Commission finds that siting a power plant on the project lands creates an enhanced safety risk for users of the Hanna Airport and for emergency responders in comparison to potential other uses of the lands.

32. WSP described the Hanna Airport site as unique as it appears to be the first airport in North America to have such a large array of solar panels proposed so close to an active runway, and submitted that the lack of comparable situations makes it challenging to assess or quantify certain risks.¹¹ While PACE referenced other airports with solar panels in similar proximity to runways, such as Thunder Bay and Windsor, as evidence that solar power plants and airports can operate safely in close proximity, the Commission finds that the referenced airports are not useful comparators. This is because the referenced airports are controlled airports, whereas the Hanna Airport is an uncontrolled airport. For uncontrolled airports, pilots carry all the responsibility for safe operation without mandatory radio frequencies or air traffic control, and are responsible for collision avoidance.¹² As cautioned by Rob Palmer, of the HFA:

The Hanna Flying Association has requested PACE to provide examples to us of other small uncontrolled airports like Hanna that have solar -- that have a solar farm this close to the airport runways as proposed in this project. PACE has not provided any examples of a -- for us that fit this criteria. We do not want to be a test airport for this type of project.¹³

33. Considering this, the Commission finds that the project's proximity to an uncontrolled airport is unique in North America, and that the safe operation of the project and the Hanna Airport is not demonstrated by reference to other controlled airports proximate to power plants.

34. Considering the limitations the project imposes on potential emergency landing areas, the unique challenges that solar arrays present for firefighters, and the apparent unprecedented nature of this project's proximity to an uncontrolled airport runway in North America, the Commission finds that the proposed location of the solar panels raises significant safety concerns.

3.1.3 Will the project create unacceptable risks of turbulence affecting aircraft operating at the Hanna Airport?

35. The next issue the Commission addresses is whether the project's solar panels create unacceptable risks of turbulence affecting aircraft operating at the Hanna Airport. Parties raised concerns that the solar panels, situated close to the paved runway, would cause turbulence on aircraft during takeoffs and landings. Aircraft are in a low power, speed and altitude state during takeoffs and landings, and sudden turbulence at these times could impact a pilot's control of the

¹¹ Exhibit 29274-X0218, Hanna_HarvestSkySolar_WSP_ReviewEvidence_Airport_Final, PDF pages 3, 15 and 20.

¹² Transcript, Volume 3, pages 406-407.

¹³ Transcript, Volume 3, page 398.

aircraft. The solar panels surrounding the runway would also occupy space that may be needed to perform an emergency landing, compounding the impact.

36. The Commission received expert independent evidence in relation to a computational fluid dynamics simulation, and the National Airports Safeguarding Framework Guideline B (NASF-B) criteria.¹⁴

37. PACE retained JetPro Consultants Inc. to determine the extent the project's solar panels would affect aircraft movements at the Hanna Airport based on airflow generating wake turbulence over the panels. JetPro conducted a computational fluid dynamics (CFD) simulation using SimScale software. It used a simplified model with a four-panel representation (two pairs) to simulate the effects of multiple panels and two spacing intervals (8.5 metres and 14 metres).¹⁵ JetPro concluded that the solar panels are at such a distance from the runway centreline that little to no wake turbulence effects should be experienced by aircraft approaching the runway. A. McDonald of JetPro submitted that additional parameters would create a potentially more accurate model, but that, based on professional experience, the final outcome would not change that drastically.¹⁶

38. The HFA raised concerns with the adequacy of the turbulence modelling and retained SLR Consulting Australia. SLR cautioned the Commission against relying on JetPro's CFD study, saying it is oversimplified and missing relevant parameters. SLR submitted that the four-panel representation is incapable of reproducing the full cumulative impact of the entire solar facility with thousands of panels and the changed turbulent boundary layer.¹⁷ SLR recommended that the CFD study be redone to capture the full effect of the array as a whole in order to capture turbulence accurately.

39. The SLR report also raised the use of the NASF-B as a tool used to assess turbulence. NASF-B is a guideline adopted by Australia's Civil Aviation Safety Authority that provides a framework for assessing the risks of wind shear and turbulence¹⁸ generated by buildings near airports. This guideline uses a multi-stage assessment process to determine if proposed structures pose a risk to aviation operations. The Commission notes that no specific Canadian regulations administered by Transport Canada directly specify acceptance criteria for the impact of ground-structure related turbulence on aviation operations near runways at aerodromes like the Hanna Airport.

40. PACE defended the use of the four-panel simulation as a demonstration of the relatively short distance over which turbulence dissipates and to illustrate interaction effects for the planned panel spacing.¹⁹ However, SLR disagreed, stating that there will be a cumulative and increasing impact on turbulence levels downstream of a large array.²⁰

¹⁴ Exhibit 29274-X0315, Appendix L - Report from Persimia re Wind Shear and Turbulence, PDF page 3.

¹⁵ Exhibit 29274-X0044, Harvest Sky - Turbulence Assessment, PDF page 3.

¹⁶ Transcript, Volume 1, pages 150-151.

¹⁷ Exhibit 29274-X0222, Appendix B - SLR Report, PDF page 11.

¹⁸ Wind shear refers to a sudden change in wind speed and/or direction over a short distance. Turbulence is the irregular motion of the air.

¹⁹ Exhibit 29274-X0271, 20250218 Response from PACE to AUC re IR Round 2 PACE-AUC-2025FEB03-001 TO 012, PDF page 28.

²⁰ Exhibit 29274-X0222, Appendix B - SLR Report, PDF page 15.

41. The Town of Hanna also raised concerns with JetPro's use of two pairs of solar panels to demonstrate the turbulence impacts of the entire project and retained WSP to comment on the JetPro report. WSP stated that the JetPro's CFD study demonstrated that there should be no adverse turbulence affecting aircraft; however, WSP's opinion was limited to the interpretation of the results presented by JetPro, assuming the model results were accurate.²¹

42. Because the scope of JetPro's turbulence was not intended to model the entirety of the project, the Commission finds JetPro's assessment is of limited use in relation to confirming or quantifying the turbulence experienced on the runway from the solar panels. PACE's position that the four-panel model shows the rapid dissipation of turbulence, and SLR's position that there is a cumulative and increasing turbulence due to multiple solar arrays, cannot be confirmed absent a CFD model of the entire project.

43. PACE, in response to concerns regarding the limitations of the CFD modelling approach taken, retained Persimia, LLC to conduct a turbulence and wind shear assessment based on NASF-B. The first step of the multi-step NASF-B analysis asks whether the structure at issue is located within the NASF-B assessment trigger area. The project falls within the assessment trigger area, meaning that the assessment methodology continues to the next step. No parties disputed this result.

44. The next step in the NASF-B analysis is to assess whether the structure penetrates the 1:35 height limitation surface.²² Persimia concluded that all of the proposed solar panels lie below this 1:35 height limitation surface and therefore were unlikely to cause unsafe wind shear or turbulence. Under NASF-B, if the structure does not penetrate the 1:35 surface, then no further analysis is required from a wind shear and turbulence perspective.²³

45. The HFA and its expert, SLR, did not agree that these guidelines were directly applicable to a large, ground-mounted solar farm. SLR argued that the NASF-B framework was primarily developed for assessing single buildings and may not be applicable to screen out cumulative turbulence effects of a large array of solar panels. Given this uncertainty, SLR recommended a more comprehensive CFD analysis, using internationally recognized criteria that accounts for these factors, to confirm whether turbulence from the solar project is a concern.

46. The Commission agrees with SLR that because NASF-B was intended to assess the effect of a single building, once there is a group of buildings (which would be a group of solar panels in this case), then the buildings (solar panels) cannot be amalgamated and considered as one building (solar panel) under the guideline. Accordingly, the Commission finds that NASF-B is of limited use in this context. The Commission notes that Dr. P. Georgiou of SLR authored the first edition of NASF-B,²⁴ and found his explanation of how NASF-B is interpreted and applied to a structure, as compared to several structures, to be persuasive.

47. While SLR cautioned against applying the NASF-B screening criteria in the circumstances, SLR submitted that NASF-B was useful for providing turbulence criteria, and

²¹ Exhibit 29274-X0252.01, Town of Hanna Round 1 - Information Request Response to AUC, PDF page 9.

²² The 1:35 height limitation surface is an imaginary inclined plane that extends from the extended runway centreline of an airport. It is defined by a slope of one metre in height for every 35 metres of lateral distance away from the runway centreline.

²³ Exhibit 29274-X0315, Appendix L - Report from Persimia re Wind Shear and Turbulence, PDF page 4.

²⁴ Exhibit 29274-X0222, Appendix B - SLR Report.

particularly the four-knot turbulence metric.²⁵ This metric specifies that for heights below 200 feet, the gust and turbulence components in the horizontal direction caused by a wind-disturbing structure, in combination with ambient surface roughness, must remain below a root mean square (RMS) value of four knots.²⁶ SLR testified that the four-knot value was independent of where the turbulence came from and that the criteria just states that under a crosswind condition, if a pilot is experiencing turbulence levels greater than four knots, they are likely to have difficulties landing.²⁷

48. Because Persimia's analysis found that the solar panels do not penetrate the 1:35 height limitation surface, Persimia concluded, based on the NASF-B guideline, that the project is likely safe from a turbulence and wind shear standpoint and no additional modelling or experiments are necessary. PACE stated that the existing hangars at the end of the runway likely generate turbulence on the runway and pilots are currently able to safely use the Hanna Airport. Persimia submitted that solar panels would not add to the risk from turbulence currently experienced at the airport.

49. The Commission notes that there is no Canadian standard governing assessment of turbulence on a runway caused by structures. Considering that the NASF-B screening criterion from a foreign regulatory framework does not fully address the unique characteristics of a large solar power plant near an uncontrolled aerodrome, and considering the divergent expert opinions regarding the potential for cumulative turbulence effects not captured by the initial modelling, the Commission finds that the evidence regarding the potential for unsafe turbulence is inconclusive. More comprehensive analysis, potentially including CFD modelling that addresses the concerns raised regarding cumulative effects and topography, is needed to reach a definitive conclusion.

50. While turbulence could already be experienced by pilots landing at the Hanna Airport due to the presence of existing hangars, the only evidence on the record is from pilots using the airport, as there is no report or study on the record of this proceeding quantifying the impacts. The HFA stated that pilots tend to land long at Hanna Airport, past the hangars to avoid potential turbulence from the hangars. The Commission finds that if that is the case, pilots would not be able to land long past the solar panels to avoid turbulence from the panels given that the panels are located further down the runway length as compared to the hangars. The Commission finds that the airport is primarily used by light planes and often used for pilot training, and that turbulence may have a more significant impact on these aircraft and aircraft users. The Commission acknowledges that the turbulence concern is primarily associated with cross winds; however, the evidence is that there is no predominate wind direction and therefore there is no runway oriented in a direction that minimizes cross winds.

51. Overall, PACE has not satisfied the Commission that the solar project will not create a turbulence hazard for users of the Hanna Airport.

3.1.4 Has PACE adequately addressed bird strike risk due to the project?

52. The HFA and Town of Hanna argued that the project's location, in close proximity to the airport and the CN Reservoir, could attract birds to the site and increase the risk of collisions

²⁵ Transcript, Volume 2, pages 335-336.

²⁶ Exhibit 29274-X0222, Appendix B - SLR Report, PDF page 9.

²⁷ Transcript, Volume 2, page 352, lines 18 to 22.

with aircraft. The Town of Hanna also submitted that the solar photovoltaic arrays could potentially attract birds by providing perches, reflecting polarized light that attracts insects, and potentially being mistaken for waterbodies due to reflected light (the “lake effect”).²⁸

53. PACE suggested that the risk of increased bird strikes may be low and referenced an Alberta Environment and Protected Areas mortality database for existing solar facilities in the province, which indicates that predation and collisions with fencing, not the panels themselves, are the primary causes of bird mortality. PACE argued that this data suggests that the “lake effect” has not been a significant issue at other solar facilities in Alberta.²⁹

54. The Commission finds that the evidence does not establish that bird strike risk will increase if the project is built. However, there is adequate evidence to find that if a bird strike occurs, the consequence of such an event could be more severe. This is because if a bird strike with an aircraft occurs during takeoff or landing, it may result in the need for an emergency landing, and the presence of the solar project around the runway reduces the landing options available to pilots during those critical situations. An airplane crashing within the solar arrays would be more challenging for emergency responders to provide rescue services to in comparison to a crash occurring on land without solar panels, for the reasons described in this decision.

55. PACE discussed several potential mitigation measures to deter birds, such as physical objects placed on fences and transmission lines, and the use of a propane cannon to scare away birds during periods of migration, if mitigation measures were required at all.³⁰ The Town of Hanna expressed concerns about the noise impacts of the cannons. The Commission is not satisfied that these mitigation measures will be effective, as these proposals arose during the oral hearing and were not supported by evidence from wildlife experts or noise experts.

3.1.5 Will the project create unacceptable levels of glare impacting pilot safety at the Hanna Airport?

56. The next issue the Commission addresses is whether the project will create unacceptable levels of glare impacting pilot safety at the Hanna Airport.

57. PACE retained Green Cat Renewables Canada Corporation (GCR) to conduct a solar glare hazard analysis, aimed to predict solar glare at receptors within 800 metres of the project boundary and at registered and known unregistered aerodromes within 4,000 metres. Receptors included residences, roads, flight paths and flight circuits. The assessment predicted green and yellow glare on receptors.

58. The Town of Hanna retained WSP Canada Inc. to review GCR’s assessment. WSP concluded that it has no concerns provided PACE’s commitment to eliminate yellow glare was fulfilled.³¹ The HFA and its experts raised concerns that PACE’s commitment was for a narrower field of view of ± 25 degrees. The HFA requested that PACE commit to eliminating yellow-grade

²⁸ Exhibit 29274-X0253.01, Town of Hanna Round 1 - Information Request Response to PACE, PDF page 7.

²⁹ Exhibit 29274-X0303, 20250226 Reply Evidence from PACE, PDF page 18.

³⁰ Transcript, Volume 4, page 634.

³¹ Exhibit 29274-X0218, Hanna_HarvestSkySolar_WSP_ReviewEvidence_Airport_Final, PDF page 8.

glare for all operational flight paths, flight circuits and helicopter flight paths using a ± 50 degrees field of view.³²

59. In response to the concerns, PACE committed to implementing a minimum 19-degree panel resting angle to eliminate yellow glare in a ± 50 -degree field of view for the evaluated flight paths and circuits.³³ GCR's glare modelling indicates that limiting backtracking to angles of 19 degrees and steeper will eliminate yellow glare within the ± 50 -degree field of view of all evaluated airplane flight paths, flight circuits and helicopter flight paths.³⁴

60. Based on the solar glare hazard analysis report and the commitments made by PACE to implement a minimum panel resting angle of 19 degrees, the Commission finds that the potential impacts of solar glare from the project can be adequately mitigated through the proposed operational design and commitments. The Commission acknowledges that there is potential for green glare to be experienced at receptors; however, the Commission accepts that green glare does not generally constitute a hazard or have an adverse impact on an observer. Any unforeseen glare issues that may arise during operation can be addressed through the proposed investigation and remediation of complaints.

3.1.6 Can the project interfere with Hanna Airport's communication systems and are mitigations available?

61. The Town of Hanna raised concerns that the project could interfere with radio frequencies used for airport operations including the non-directional beacon (NDB) located near Runway 30 and the radio system used by the Town of Hanna's emergency response services. The Town of Hanna's expert, WSP, recommended that the project should not be approved until PACE could provide assurances that the airport and surrounding radio frequencies will not be affected by electromagnetic interference, even from certified inverters. Alternatively, WSP requested that PACE perform on-site testing before energizing the panels to demonstrate no impact on radio frequencies.

62. The Commission finds that electromagnetic interference issues are minor and can be adequately mitigated. The Commission agrees with PACE that the substantial distance between the proposed inverters and the NDB, coupled with the industry standard for electromagnetic compatibility met by the equipment, provides a reasonable basis to conclude that significant electromagnetic interference is unlikely to occur. If any unforeseen interference would have been detected post-installation, PACE committed to implementing shielding measures on the inverters to mitigate such issues.³⁵

3.1.7 Does the emergency response plan mitigate the risk to the Hanna Airport?

63. During the proceeding, PACE committed to design, provide and abide by a final emergency response plan, that would be addressed as a condition of approval at the development permit stage to the Town of Hanna's satisfaction. However, PACE and the Town of Hanna were unable to reach agreement on the Town of Hanna's request that PACE build and maintain an

³² Exhibit 29274-X0220, HFA Group Submissions final, PDF page 10.

³³ Exhibit 29274-X0303, 20250226 Reply Evidence from PACE, PDF pages 28 to 29.

³⁴ Exhibit 29274-X0271, 20250218 Response from PACE to AUC re IR Round 2 PACE-AUC-2025FEB03-001 TO 012, PDF page 7.

³⁵ Transcript, Volume 1, page 28, lines 21 to 23.

all-weather public access road around the perimeter of the project.³⁶ The Town of Hanna submitted that the road was needed to act as a fire break and provide essential access for emergency services.³⁷ Accordingly, the Town of Hanna requested that if the Commission approves the project, that it requires PACE to build this road.

64. While the Commission appreciates that PACE and the Town of Hanna are willing to finalize the ERP at the town's development permit stage, except for the issue of the all-access road, the Commission is concerned that the ERP is largely a draft document and lacks specifics on key items including site-specific dangers associated with the close proximity to the Hanna Airport.

65. One potential mitigation is for PACE to purchase a firetruck intended to fight fires at solar power plants. D. Mohl advised that special aircraft rescue fire trucks exist, which cost in excess of \$2 million.³⁸ These trucks can spray foam hundreds of yards to address concerns with the energized solar panels. The Town of Hanna stated that the requested road is a low-cost item compared to this truck. PACE did not commit to purchasing such a truck.

66. The Commission notes PACE's intention for remote monitoring post-construction with a subject matter expert that will be available 24/7, 365 days a year, to provide advice in the event of an emergency. However, in the Commission's view, this does not adequately address the need for immediate on-site response capabilities, especially given the increased risk of man-made or electrical fires associated with a project of this nature and size. As explained by D. Mohl:

If that same plane goes down in a solar panel array, we are sitting at the gate waiting because we have no way of knowing whether the plane's [*sic*] energized. We have no way of knowing what's shut off, what's not. And you can do tons of training on that, but if you do not have full-time staff that are able to meet us at the gate to tell us what's going on, we are blind.³⁹

67. The Commission finds that PACE has not adequately demonstrated how it would overcome the Town of Hanna's concerns with remote assistance in the case of an aviation incident and how the electrical systems could be isolated and grounded in the event of an emergency.

68. In relation to the all-access road for firefighting purposes, the Commission finds that such a road would not fully mitigate the Commission's safety and emergency response concerns. While the road would act as a fire break and access for first responders, there are already existing roads and highways around most of the project that may already serve this purpose. The Commission is not persuaded that deferring the remainder of the ERP's contents to the development permit stage would mitigate the Commission's concerns.

3.1.8 Conclusion on Hanna Airport safety

69. The Commission finds that the impacts of the project on the safe operation of the Hanna Airport are unacceptable and that the project is not in the public interest. The project's

³⁶ Exhibit 29274-X0214, Ltr (Jan 17-25) Town of Hanna to AUC re. Commitments, PDF pages 3-4.

³⁷ Transcript, Volume 3, pages 477-478; Transcript, Volume 4, page 752.

³⁸ Transcript, Volume 3, pages 537 and 600.

³⁹ Transcript, Volume 3, page 535.

siting, surrounding an uncontrolled airport runway, raises significant safety concerns. These include:

- the limitations the project imposes on potential emergency landing areas;
- the unique challenges that solar arrays present for firefighters;
- the apparent unprecedented nature of this project's proximity to an uncontrolled airport runway in North America, and associated risks with an unproven project siting proposal;
- potential turbulence hazards caused by solar arrays on users of the Hanna Airport, the consequence of which could be more severe due to the project siting;
- if a bird strike with an aircraft occurs, the consequence of such an event could be more severe due to the project siting; and
- PACE has not adequately demonstrated that the project can be operated safely with respect to fire hazards and emergency response.

70. As a result of this finding, the Commission has not decided on other aspects of the project.

4 Conclusion

71. In accordance with Section 17 of the *Alberta Utilities Commission Act*, in addition to any other matters it may or must consider, the Commission must consider whether approval of the Harvest Sky Solar Farm is in the public interest having regard to the social and economic effects and the effects on the environment. In general, the Commission considers 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, including effective mitigation of impacts experienced by more discrete members of the public.

72. PACE submitted that the project would be in the public interest for a variety of reasons, including reducing carbon in electricity generation, additional property taxes and creation of jobs. However, the Commission finds the potential benefits associated with the project do not outweigh the adverse safety impacts of the project, to users of the Hanna Airport and to emergency responders. The Commission finds these safety risks to be unacceptable. As a result, the Commission is not satisfied that the overall benefits of the project outweigh its negative impacts.

5 Decision

73. For the reasons outlined in the decision, the Commission finds that approval of the application is not in the public interest, and in accordance with sections 11 and 19 of the *Hydro and Electric Energy Act*, the Commission denies the application.

Dated on June 6, 2025.

Alberta Utilities Commission

(original signed by)

Michael Arthur
Panel Chair

(original signed by)

Douglas A. Larder, KC
Vice-Chair

Appendix A – Proceeding participants

Name of organization (abbreviation) Name of counsel or representative
PACE Canada Development LP. (PACE) Claude Mindorff Rhonda Barron Marlé Riley
Town of Hanna Jeneane Grundberg

Name of organization (abbreviation)
Name of counsel or representative
Hanna Landowner Opposition Group (HLOG)
Richard Secord
Alice and Rolland Seaman
Archie and Geraldine Kittler
Arlene McNeil
Bill Rees
Brenda Best
Byron Irwin
Carol Lenfesty
Cody Gross
Darryl Irion
David and Darleen Allsopp
Dean Howery
Debbie Clark
Donna Hickie
Doug Ebel
Evangeline and Philip Baker
Fred Crowle
Garrett Beaudoin
Gary and Margaret Moore
Gordon and Shirley Robertson
Harriet Griffith
Jim Bylsma
Jodi and Quinn Hansen
Kelly Pedersen
Kevin and Sandra Madge
Kevin Murphy
Kevin Reid David Unsworth
Margaret Sauter
Mark Fecho
Martha and Albert Viste
Mary-Anne Crowle
Mavis Zielke
Michael and Nancy Hudyma
Mike Rowe
Nicholas Toth
Peggy (Dee) Unsworth
Richard and Charlotte Preston
Robert Jaap
Shirley Hickie
Stan and Trish Hickie
Steve and Sandra Beaudoin
Sue Patterson
Svend Pedersen
Sylvia and Jules Brisbois
Terry Link
Thomas Ross and Lana Greene

Name of organization (abbreviation)
Name of counsel or representative
Hanna Flying Association (HFA) Ifeoma Okoye Bob Gainer Cody Williams Craig Larson Dean Raugust Ellison Krismer Ian Morrison James Wasdal Jeff Fortna John Vandervies Rob Palmer Robert Jaap
Kyle Olsen
Michael O'Neill
Deborah-Ruth Wallace
Special Areas Board (Jordon Christianson)
Deb Moench
Kari Bott
Deanna Reesor
Clint Hutton
Dianne Hutton
Teri Griffith
Douglas Webster
Tammy MacMillan
Elaine Wasdal
Tim Lenfesty
Alberta Utilities Commission Commission panel Michael Arthur, Panel Chair Douglas A. Larder, KC, Vice-Chair Commission staff Jaimie Graham (Commission counsel) Alyssa Marshall (Commission counsel) Victor Choy Derek Rennie Joan Yu

Appendix B – Oral hearing – registered appearances

Name of organization (abbreviation) Name of counsel or representative	Witnesses
PACE Canada Development LP (PACE) Marlé Riley, DLA Piper (Canada) LLP, counsel Parker Fogler, DLA Piper (Canada) LLP, Student-at-Law	Claude Mindorff Rhonda Barron Nicholas Doane Albert Floomman Merlin Garnett Darryl Jarina Jason Mah Austen McDonald Rhonda Millikin Jonathan Rogers Steven Tannas Rob Telford Alex Van Horne
Hanna Landowner Opposition Group (HLOG) Richard Secord, Ackroyd LLP, counsel	Martha Viste Brenda Best Michael Hudyma Nancy Hudyma Sandra Beaudoin Fred Crowle Cliff Wallis
Hanna Flying Association (HFA) Ifeoma Okoye, Ackroyd LLP, counsel	Peter Georgiou Neihad Al-Khalidy Rob Palmer Jeff Fortna Cody Williams
Town of Hanna Jeneane Grundberg, Brownlee LLP, counsel	Matthew Norburn David Mohl Julius Ueckermann Andrew Faszer