



Elemental Energy Renewables Inc.

Brooks Solar II Power Plant

January 16, 2020

Alberta Utilities Commission

Decision 24573-D01-2020

Elemental Energy Renewables Inc.

Brooks Solar II Power Plant

Proceeding 24573

Application 24573-A001

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1 Decision summary

1. In this decision, the Alberta Utilities Commission considers whether to approve an application from Elemental Energy Renewables Inc. to construct and operate a solar power plant designated as the Brooks Solar II Power Plant and to interconnect the power plant to the FortisAlberta Inc. electric distribution system. The power plant would consist of solar photovoltaic panels and inverter/transformer stations, and would connect to the Alberta Interconnected Electric System using two distribution feeders.

2. After consideration of the record of the proceeding, and for the reasons outlined in this decision and subject to the specified conditions, the Commission approves the project, finding it is in the public interest having regard to the social, economic, and other effects of the project, including its effect on the environment.

2 Introduction

2.1 Application

3. Elemental Energy Renewables Inc. filed a facility application with the Commission requesting approval to construct and operate a 26.5-megawatt (MW) solar power plant in Newell County, northeast of the city of Brooks. Elemental also applied for an order to connect the power plant to FortisAlberta Inc.'s electric distribution system using two different feeders (the project). The application, filed pursuant to sections 11 and 18 of the *Hydro and Electric Energy Act*, was registered on May 15, 2019, as Application 24573-A001.

2.2 Procedural background

4. Before the Commission issued a notice of application, a statement of intent to participate was filed in the proceeding by Elsie and Robert Strach, landowners in the project area. On June 27, 2019, the Commission issued a notice of application to stakeholders identified by Elemental in its application and advertised the notice in the Brooks Bulletin. In response to the notice of application, the Commission received eight additional statements of intent to participate. The Commission issued a standing ruling on August 21, 2019, granting standing to all individuals who submitted statements of intent to participate.¹ The interveners formed a group under the name the Brooks Residents.² A list of the members of the Brooks Residents is found at Appendix B.

¹ Exhibit 24573-X0047, AUC ruling on standing.

² The Brooks Residents also referred to themselves as the Objectors in Exhibit 24573-X0059.01.

5. The Commission determined that an oral hearing was required and issued a notice of hearing for the project in accordance with Section 7 of Rule 001: *Rules of Practice* on September 9, 2019. The hearing was scheduled to commence on October 16, 2019.
6. On September 17, 2019, the Commission received a statement of intent to participate from Neil Johnson, the owner of a parcel of land on which the project would be sited. The Commission granted standing to Mr. Johnson on September 25, 2019.³ Mr. Johnson was supportive of the project and was not a member of the Brooks Residents.
7. On October 9, 2019, the Brooks Residents filed a motion requesting that the hearing be adjourned to allow it additional time to retain experts and consultants to provide evidence about its concerns. The motion stated that the Brooks Residents anticipated it would take several months for its experts to have the opportunity to visit the project site and prepare their reports, and that Elemental would likely want to retain experts to reply to those reports. The Brooks Residents suggested that the hearing be rescheduled for a date early in 2020. In response to the motion, Elemental submitted that an adjournment would result in prejudice to Elemental, as it had already taken steps to prepare and file its evidence and engage experts in anticipation of the scheduled hearing. Elemental further submitted that a delay in the proceeding may negatively impact the project's timelines and viability. On October 10, 2019, the Commission granted a shorter adjournment than that requested by the Brooks Residents, rescheduling the hearing to commence on December 3, 2019.⁴
8. On November 18, 2019, the Brooks Residents filed a second motion to adjourn the hearing, reiterating that it required more time to retain experts to prepare reports on areas of concern to its members. Elemental responded that an adjournment had already been granted to allow the interveners additional time to retain experts and prepare evidence and that a further adjournment would have the effect of granting the Brooks Residents' original request to reschedule the hearing for early 2020, which the Commission previously denied. Elemental also stated that a further delay in receiving project approval could delay construction and prevent the project from achieving its planned in-service date, which could have a material impact on the project and jeopardize its viability. On November 22, 2019, the Commission denied the motion to adjourn the hearing for a second time, stating that a second adjournment for the same purpose would not be reasonable and would be prejudicial to the applicant.⁵
9. A public hearing commenced on December 3, 2019, in the city of Brooks and concluded on December 4, 2019.

3 Legislative scheme

10. The Commission is considering this application under sections 11 and 18 of the *Hydro and Electric Energy Act*. These sections stipulate that no person can construct or operate a power plant or connect a power plant to the Alberta Interconnected Electric System without the Commission's approval.

³ Exhibit 24573-X0051, AUC ruling on standing.

⁴ Exhibit 24573-X0057, AUC ruling on adjournment request.

⁵ Exhibit 24573-X0075, AUC Ruling on motion to adjourn hearing.

11. In accordance with Section 17 of the *Alberta Utilities Commission Act*, the Commission must assess whether the project is in the public interest, having regard to its social, economic and environmental effects.

12. The Commission has previously found 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.⁶ The Commission must take into account the purposes of the *Hydro and Electric Energy Act* and the *Electric Utilities Act*,⁷ and cannot consider the need for the project or whether it is the subject of a renewable electricity support agreement under the *Renewable Electricity Act*. The Commission must also determine whether an applicant has met the requirements of Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments* and Rule 012: *Noise Control*. An applicant must also obtain all approvals required by other applicable provincial or federal legislation.

4 Project description

13. The project would consist of a 26.5-MW solar power plant, including solar photovoltaic panels, inverter/transformer stations, access roads, a perimeter fence and a vegetation buffer. The power plant would contain approximately 90,000 solar photovoltaic modules mounted on a solar-tracking racking system that would orient the panels to the east and slowly rotate around a single axis to track the sun's movement to the west. The power plant would also consist of up to 13 inverter/transformer stations with a maximum operating voltage of 1,500 volts each. Elemental stated that it had not finalized the specific make and model of the major project components but expected to finalize these by the second quarter of 2020 or earlier.⁸ Elemental confirmed that it would inform the Commission and stakeholders of its final equipment selection.⁹

14. The project would be sited on approximately 88 hectares of privately-owned agricultural land in Newell County. The project site comprises two parcels of land, each adjacent to the existing 15-MW Brooks Solar I Power Plant and located in the northwest and southeast quarters of Section 3, Township 19, Range 14, west of the Fourth Meridian, as shown on the map below.

⁶ EUB Decision 2001-111: EPCOR Generation Inc. and EPCOR Power Development Corporation 490-MW Coal-Fired Power Plant, Application No. 2001173, December 21, 2001, page 4.

⁷ *Hydro and Electric Energy Act*, RSA 2000 c H-16, sections 2, 3.

⁸ Exhibit 24573-X0030, Information Request No. 1 - Final Response, PDF page 8.

⁹ Exhibit 24573-X0030, Information Request No. 1 - Final Response, PDF page 8; Transcript, Volume 1, page 60, lines 4-9.

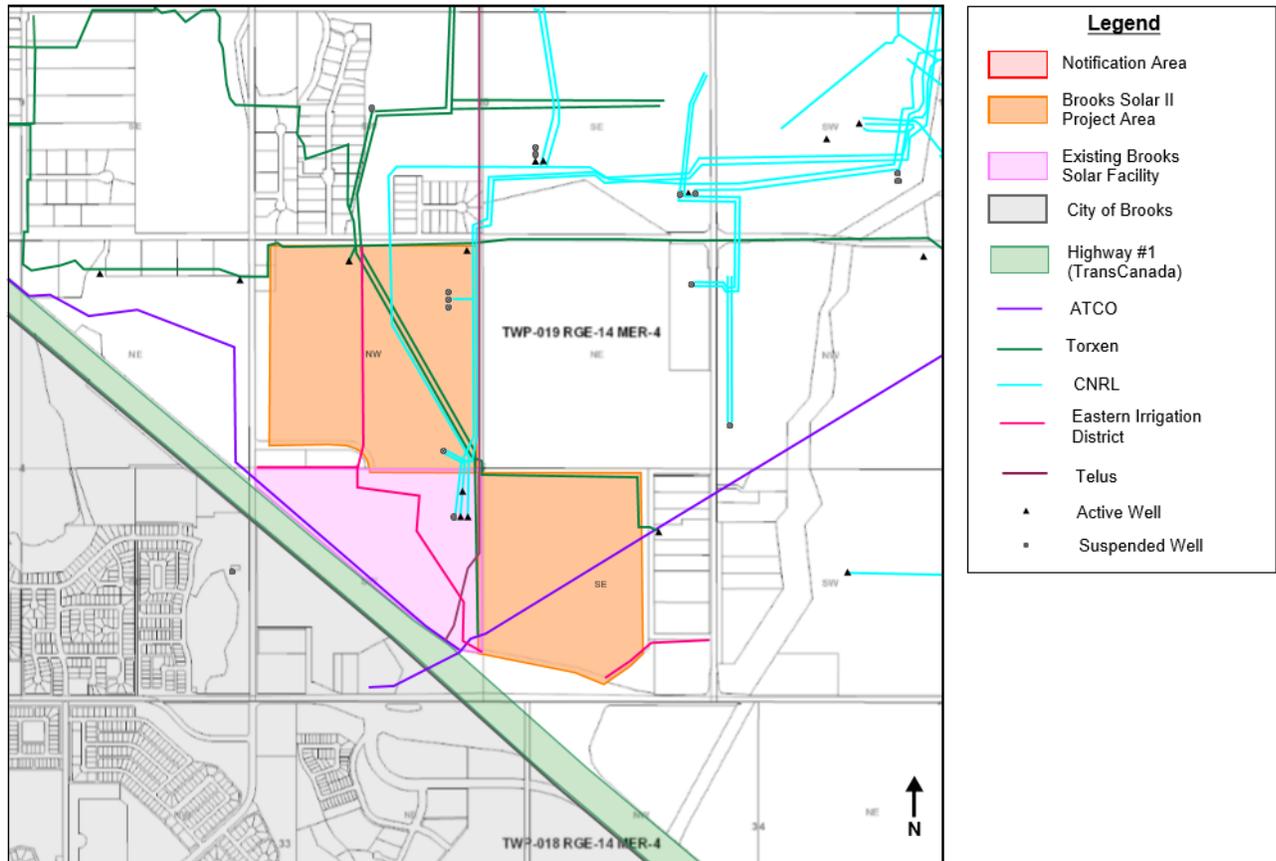


Figure 1: Brooks Solar II Power Plant project area¹⁰

15. Elemental stated that the portion of the project in the northwest quarter would include a 12.5-MW connection to FortisAlberta's distribution feeder 121S-83L, and the portion of the project in the southeast quarter would include a 14-MW connection to FortisAlberta's distribution feeder 121S-257LE. Elemental submitted consent forms from FortisAlberta stating that it was prepared to allow both interconnections.¹¹

16. Elemental indicated that it plans to begin construction in May 2020, with an anticipated commercial operation date of December 2020.

5 Consultation

5.1 Views of the applicant

17. Elemental asserted that it conducted a participant involvement program that was based on the guidelines set out in Rule 007.

18. Elemental identified that the Commission's guidelines in Appendix A1 of Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments* recommend notification within 2,000 metres of the project site boundary and consultation within 800 metres of the project site boundary for power plants

¹⁰ Exhibit 24573-X0018, Appendix 10 - Energy Facility Map.

¹¹ Exhibit 24573-X0020, Appendix 12 - DFO Interconnection Consent.

greater than 10 MW. However, in its application, Elemental described the project as having unique and specific characteristics which Elemental submitted warranted deviating from the Commission's guidelines in this case because adhering to the guidelines "...would require an unnecessary level of consultation with persons who are not potentially directly and adversely affected by the Project."¹² In particular, Elemental specified that the project would be located adjacent to an operating solar facility and that while the project would be located within 2,000 metres of the city of Brooks, the project would be separated from the city of Brooks by Highway 1. Elemental submitted that the project would not be visible to many of the occupants, residents and landowners located within the notification and consultation radii specified in the Commission's participant involvement program guidelines due to the low profile of the project. For these reasons, Elemental only notified stakeholders within 800 metres of the project boundary and consulted only with potentially affected landowners, residents and occupants within the first row of development surrounding the project. Elemental indicated that it did, however, place newspaper and radio advertisements that would reach residents of the County of Newell and the city of Brooks, that public notification was also provided directly to occupants, residents and landowners within the city of Brooks that may have a viewscape of the project, and that it held an open house on September 18, 2018 at the Brooks Solar I Power Plant.

19. Elemental submitted that in response to concerns raised by stakeholders during its consultation, it increased the setback from residents and committed to install a vegetation buffer in visually sensitive areas.

5.2 Views of the Brooks Residents

The Brooks Residents submitted that Elemental's participant involvement program did not adequately respond to the concerns its members raised. It submitted that Elemental knew that property value impacts were a genuine concern of the Brooks Residents based on the participant involvement program, but that Elemental did nothing to address these concerns until it filed reply evidence 16 months after consultation began. The Brooks Residents also argued that a 15-metre setback increase and a vegetation buffer that will take years to grow tall enough to be effective did not amount to meaningfully responding to landowner concerns.

5.3 Commission findings

20. For the reasons set out below, the Commission finds that Elemental's participant involvement program meets the requirements of Rule 007.

21. In Decision 2011-436, the Commission described how it assesses the effectiveness of a public consultation program:

The Commission acknowledges that even a very effective consultation program may not resolve all intervener concerns. This is not the fault of the applicant or the intervener; it merely reflects the fact that the parties do not agree. With this in mind, the Commission will consider a consultation program to be effective if it meets AUC Rule 007 requirements and has allowed interveners to understand the project and its implications for them, and to meaningfully convey to the applicant their legitimate concerns about the project.¹³

¹² Exhibit 24573-X0004, Appendix 2 - PIP Summary Report, PDF page 9.

¹³ AUC Decision 2011-436, Heartland Transmission Project, Proceeding 457, Application 1606609, November 1, 2011, paragraph 284.

22. The Commission recognizes that some stakeholders had concerns about the extent of accommodation made by Elemental to address their concerns. The Commission is of the view, however, that the participant involvement program was sufficient to communicate to potentially affected parties the nature, details and potential impacts of the project. The Commission is also satisfied that potentially affected parties were given the opportunity to ask questions, to identify areas of concern and had a reasonable opportunity to engage in a dialogue with representatives of Elemental with the goal of eliminating or minimizing those concerns.

23. The Commission accepts Elemental's rationale for deviating from the recommendations provided in Rule 007 with respect to notification and consultation, in the circumstances of this application. In particular, the Commission finds that the unique and specific characteristics of this project, including its low profile, its location adjacent to an existing solar facility and the fact that Highway 1 physically separates the project from the city of Brooks, collectively constitute acceptable reasons for deviating from the Commission's participant involvement program guidelines. The Commission therefore finds that the Elemental's notification and consultation were sufficient in this case.

6 Safety

6.1 Views of the applicant

24. Elemental's written evidence stated that on July 9, 2019, it consulted with Stewart Luchies, who is the deputy fire chief for the City of Brooks and the acting rural fire and emergency services coordinator for the County of Newell, about the fire-related risks of and an emergency response plan for the project. In response to a Commission interrogatory, Elemental stated that it would develop an emergency response plan in consultation with the County of Newell, the City of Brooks and Elemental's contractor when applying for a municipal development permit. Elemental committed to notifying the Commission if it became aware of the City of Brooks or the County of Newell receiving comments or concerns about fire-related risks or the emergency response plan.¹⁴

25. During the hearing, Elemental confirmed that its solar photovoltaic panels would contain exclusively solid-state materials and there would be no gases or liquids contained within the solar panels.¹⁵

26. William Patterson, an Elemental witness, stated at the oral hearing that he is not aware of any fire events or emergency incidents having occurred at the existing Brooks Solar I Power Plant.¹⁶ He also indicated that the risk of a fire at the project site would likely be mitigated through Elemental's vegetation management plan, which would also limit the extent of any fire that may occur at the site.

6.2 Views of the Brooks Residents

27. The Brooks Residents raised concerns about the safety of the project, including specific concerns regarding fire hazard. Mark Brown questioned whether residents would have time to evacuate their homes in the event of a fire. Ashley Becker testified that he had spoken with the

¹⁴ Exhibit 24573-X0030, Information Request No. 1 - Final Response, PDF page 13.

¹⁵ Transcript, Volume 1, page 183, lines 1-3.

¹⁶ Transcript, Volume 1, page 182, lines 1-4.

fire marshal in the county who assured him that there is no increased fire hazard associated with the current state of weeds and vegetation at the project site; however, Mr. Becker expressed concern that the fire hazard would increase if Elemental were to walk away from the project.¹⁷

28. Shaun Webb expressed concerns regarding toxins being released in the event of a fire, a hailstorm, or if a panel were struck by lightning.¹⁸ Other safety-related concerns raised by the Brooks Residents included increased local ambient temperature caused by radiant heat from the panels and by sunlight reflected off the panels, as well as the risk that construction activities would bring unknown individuals into the neighbourhood.

6.3 Commission findings

29. Based on the record of the proceeding, the Commission finds no persuasive evidence that the project, operating as proposed in the application, is likely to result in an increased fire risk or an increase in other safety risks for nearby residents. Based on Elemental's evidence, the Commission is persuaded that the project components, including the solid-state photovoltaic panels, would not materially increase the risk of a fire at the project site.

30. With respect to vegetation on the project lands, the Commission notes that Elemental acknowledged that it is subject to the *Weed Control Act* and that it committed to engaging a contractor to maintain and water the trees that it proposed to plant to create an evergreen tree buffer (as described in the following section of this decision). The Commission finds that Elemental's commitment to meet its obligations under the *Weed Control Act* by implementing a vegetation management plan and to maintain the tree buffer around the project site serves to eliminate or substantially reduce any potential for the project to increase the risk of a fire starting in the project area or of a fire that starts outside of the project being fuelled by vegetation on the project lands.

31. The Commission acknowledges that Elemental consulted with the deputy fire chief for the City of Brooks and the acting rural fire and emergency services coordinator for the County of Newell regarding fire-related risks and the creation of an emergency response plan for the project. Elemental has committed to notify the Commission if any comments or concerns are raised in respect of its emergency response plan or fire-related risks.

32. The Commission directs Elemental to continue consulting with the City of Brooks and the County of Newell in the course of developing its emergency response plan, and to notify the Commission if any concerns are raised. Additionally, given the safety concerns expressed by some of the Brooks Residents, the Commission directs Elemental to provide a copy of its finalized emergency response plan to any member of the Brooks Residents who requests a copy. Elemental can redact the personal information of a resident or other member of the public from copies of the plan that are distributed to members of the Brooks Residents.

¹⁷ Transcript, Volume 2, page 276, line 23, to page 277, line 6.

¹⁸ Transcript, Volume 2, page 296, lines 8-11.

7 Visual impacts

7.1 Visual aesthetics

7.1.1 Views of the applicant

33. In its application, Elemental committed to a 30-metre setback between the solar panels and the property line in areas of visual sensitivity, and committed to planting a vegetation buffer along the project boundaries in visually sensitive areas to mitigate the visual impacts of the project. The vegetation buffer would be planted along the green lines as indicated in the map below.

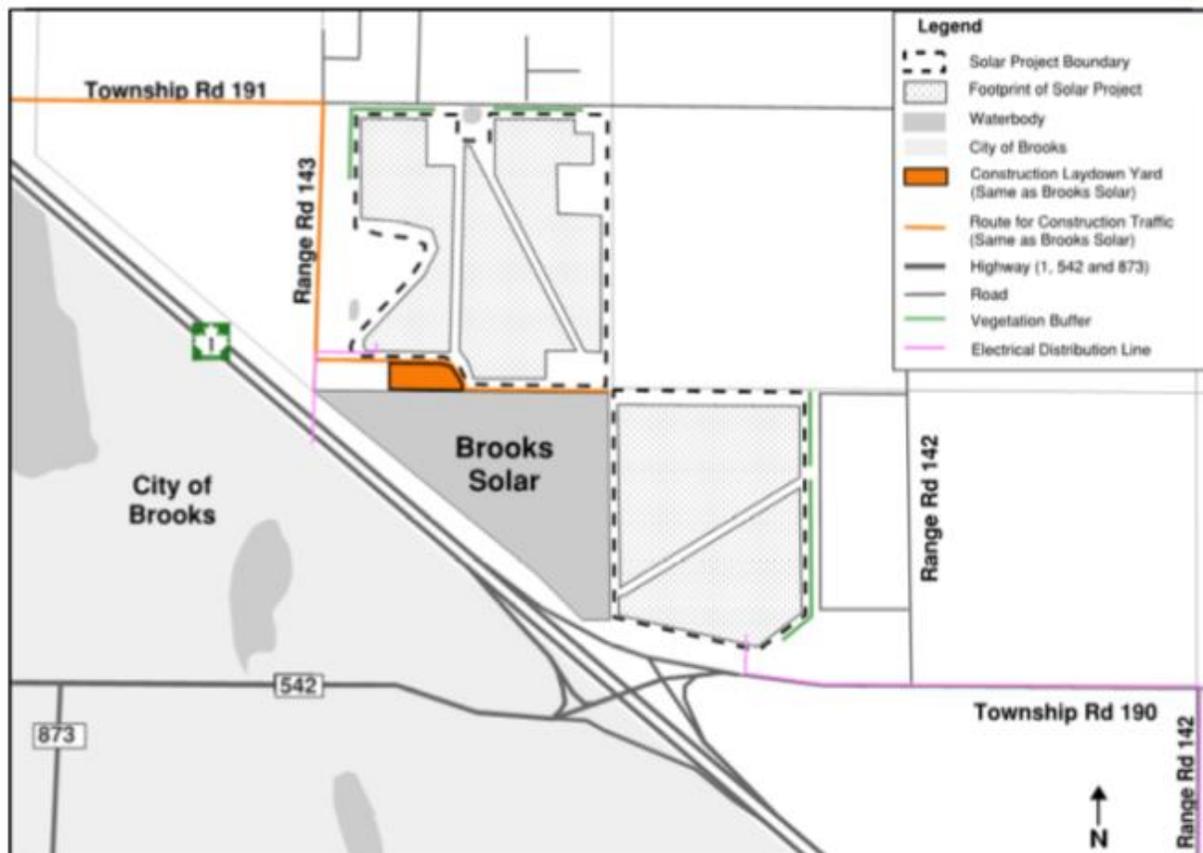


Figure 2: Proposed vegetation buffer for the Brooks Solar II Power Plant project¹⁹

34. Elemental committed to installing a staggered four-foot evergreen tree buffer either prior to or in parallel with construction to reduce the visual impact from the 2.1-metre-tall panels.²⁰ In response to a hearing question from the Commission, Mr. Patterson stated that the vegetation buffer would border the project fence, and he estimated that there would be a 15 to 20-metre setback between the vegetation buffer and the project property line.²¹ Elemental stated that it originally proposed to install a caragana shrub buffer, however, during consultation stakeholders requested staggered evergreen trees to better mitigate visual concerns year-round. Elemental's decision to plant four-foot-tall evergreen trees as opposed to planting taller, more mature trees as

¹⁹ Exhibit 24573-X0008, PIP Appendix Part 4 of 4, PDF page 21.

²⁰ Transcript, Volume 2, page 356, lines 10-13.

²¹ Transcript, Volume 1, page 197, lines 15-18.

requested by the Brooks Residents²² was based on consultation with other stakeholders who suggested that larger trees have a lower survival rate than smaller trees when transplanted. Elemental submitted that, based on consultation with landscaping firms, it expects the trees to grow between one and 1.5 feet in height per year.²³

35. Elemental filed a visual rendering of the project's proposed tree buffer, viewed from the southern edge of the Hajash Subdivision looking west, as seen below.



Figure 3: Visual rendering of the Brooks Solar II Power Plant from the southern edge of the Hajash Subdivision looking west²⁴

7.1.2 Views of the Brooks Residents

36. The Brooks Residents expressed concerns about the visual impacts of the project from their residences. Several members of the Brooks Residents submitted photographs²⁵ of the views of the project site from their residences and expressed that the project would blight the views from their homes, causing a decrease in their enjoyment of the land.

37. Cathy MacDonald submitted that the solar project would turn the MacDonald's property from a quiet rural farm setting to an industrial park.²⁶ She submitted that her property was "a little piece of paradise over there, and we love it, and we enjoy the agricultural setting."²⁷

38. Warren Gray testified that "no trees or caraganas are going to be tall enough to take away a view of the panels."²⁸

²² Exhibit 24573-X0059.01, submissions, PDF page 22.

²³ Transcript, Volume 1, page 77, lines 21-23.

²⁴ Exhibit 24573-X0018, Appendix 10 - Energy Facility Map.

²⁵ Exhibit 24573-X0068, Appendix 1a; Exhibit 24573-X0069, Appendix 1b and Exhibit 24573-X0070, Appendix 1c.

²⁶ Exhibit 24573-X0068, Appendix 1a, PDF page 2.

²⁷ Transcript, Volume 2, page 291, lines 5-8.

²⁸ Transcript, Volume 2, page 316, lines 4-5.

39. Mr. Becker stated that the “visual picture will be altered, replacing nice, mature -- or western sunsets and vistas with an array of solar panels”²⁹ and went on to state that there will be no way that his family would not see the solar panels numerous times a day because of the overpass and higher elevation of the ground.³⁰ Mr. Becker expressed his appreciation for the flat land, watching the fields grow and flourish and produce a harvest.³¹ He requested that the vegetation buffer be eight-foot staggered spruce trees planted prior to any construction.³²

40. Mr. Webb expressed that the project “would be taking away arguably the nicest country residential acreages in the County of Newell by putting them 100 feet away from an industrial park.”³³ He explained that his dining room table looks directly out into the field where the project would be.³⁴ Mr. Webb also expressed visual impact concerns arising from inadequate weed control. With respect to the existing Brooks Solar I Power Plant, he stated that “[y]ou go past it and it’s an eyesore right now. State of neglect.”³⁵

7.1.3 Commission findings

41. The Commission notes that there are existing visual disturbances in the area where the project is proposed to be sited, including Highway 1 and the existing Brooks Solar 1 Power Plant. While the Commission recognizes that the project may be closer to some of the Brooks Residents and therefore result in greater visual impacts, the Commission accepts that Elemental’s proposed vegetation buffer will mitigate some of those visual impacts.

42. The Commission finds that Elemental’s commitment to maintain an evergreen tree buffer in visually sensitive areas for the duration of the project life, and to maintain and provide water for the vegetation buffer, is an acceptable approach to mitigate the visual effects of the project. The Commission notes that Elemental’s obligation to control weeds in accordance with the *Weed Control Act* applies with respect to both the vegetation buffer and the overall project site.

43. Therefore, Elemental is required to comply with the following conditions of approval:

- a. Elemental shall plant a vegetation buffer along portions of the project boundaries in visually sensitive areas as indicated in its application.
- b. Elemental shall ensure that the vegetation buffer is developed in consultation with a registered arborist.
- c. Elemental shall take reasonable measures to ensure that the vegetation buffer is regularly maintained throughout the lifespan of the project including watering, pruning and replacing dead trees.

²⁹ Transcript, Volume 2, page 274, lines 1-3.

³⁰ Transcript, Volume 2, page 274, line 22 to page 275, line 1.

³¹ Transcript, Volume 2, page 275, lines 14-16.

³² Transcript, Volume 2, page 278, lines 9-11.

³³ Transcript, Volume 2, page 295, line 23 to page 294, line 1.

³⁴ Transcript, Volume 2, page 297, lines 7-9.

³⁵ Transcript, Volume 2, page 339, lines 13-14.

7.2 Solar glare impacts

7.2.1 Views of the applicant

44. Elemental retained Green Cat Renewables Canada Corporation to assess the potential for solar glint and glare from the project. Green Cat prepared a technical memorandum on glare that was filed with Elemental's evidence,³⁶ and a technical memo responding to the Brooks Residents' evidence that was filed as part of Elemental's rebuttal evidence.³⁷ Cameron Sutherland of Green Cat testified on behalf of Elemental at the hearing.

45. Green Cat stated that solar panels are specifically designed to absorb light rather than reflect it, and that most panels now being built have an anti-reflective coating that helps to further mitigate reflections. Green Cat submitted that solar panels are substantially less reflective than common surfaces like bare soil and vegetation.³⁸ Mr. Sutherland testified that "because of the use of a tracker system and given the angles of reflection that we would expect from light onto those panels when they operate in practice ... there wouldn't be the potential for glare at the local receptors that were considered."³⁹ Mr. Sutherland explained that in arriving at its conclusion, Green Cat had assessed glare at receptor dwellings that were considered to be two-stories tall and therefore had a receptor height of 4.5 metres. Mr. Sutherland characterized this approach as conservative. He also stated that Green Cat had assessed the effects of glare on users of local roadways and the aviation path associated with a nearby heliport and determined that no drivers or pilots would experience glare from the project.⁴⁰

46. In response to concerns raised about glare if the tracking system broke, Mr. Sutherland testified that a mechanical failure of the tracking system could be expected to affect only a small proportion of the project, as each tracking unit only moves between 80 and 100 panels.⁴¹ As part of an undertaking, Elemental submitted that planned maintenance of the tracking system would typically take place outside of daylight hours, and estimated that unplanned maintenance could be expected to affect approximately 15 trackers, representing 0.8 per cent of the project's panels, for approximately one day per year.⁴² Elemental stated that its proposed vegetation buffer would also help to mitigate any concerns related to solar glare in the case of mechanical failure related to the tracking system.

47. At the hearing, in response to the Brooks Residents' evidence, Elemental committed to using anti-reflective coating for the solar panels and to filing a report with the Commission detailing any complaints about solar glare from the project. Elemental also committed to procuring Tier 1 solar photovoltaic panels.⁴³

³⁶ Exhibit 24573-X0008, PIP Appendix Part 4 of 4, PDF pages 37-57.

³⁷ Exhibit 24573-X0081, Appendix C - Expert Report and Curriculum Vitae of Cameron Sutherland.

³⁸ Exhibit 24573-X0008, PIP Appendix Part 4 of 4, PDF page 41.

³⁹ Transcript, Volume 1, page 61, lines 2-3.

⁴⁰ Exhibit 24573-X0008, PIP Appendix Part 4 of 4, PDF page 57.

⁴¹ Transcript, Volume 1, page 99, lines 5-10.

⁴² Exhibit 24573-X0099, Elemental Undertaking No.2, PDF page 3.

⁴³ Tier 1 solar panels are solar panels that are made by a manufacturer that has been rated as Tier 1 by a reputable independent photovoltaic industry analyst.

7.2.2 Views of the Brooks Residents

48. The Brooks Residents expressed doubt that 90,000 solar panels would not produce solar glare and questioned how solar glare impacts would be mitigated in the event of a failure of the tracking system.

49. Nicole Schmidt stated “[n]o matter what anybody says, there’s going to be a glare.”⁴⁴ She submitted that the existing solar glare from the Brooks Solar I Power Plant occurs “most of the evening hours. Usually after about 3:30, 4 is when it starts, and it will last just about till sundown.”⁴⁵

50. Kevin Brown presented photos at the hearing, which he said showed solar glare from the existing solar project. He noted that “[t]here’s certain times of the day that are specifically worse than others; certain times of the year that are worse than others, depending on where the sun is in the sky.”⁴⁶ He stated that solar glare from the Brooks Solar I Power Plant is worst in the spring and in the fall.⁴⁷

51. Mr. Mark Brown stated that there is glare from the existing project which he described as “unbelievable”. He went on to say that “if the glare is as bad as off the new ones as the old ones, it could be uninhabitable.”⁴⁸

52. The Brooks Residents requested that if the project were to be approved, it be subject to the same conditions of approval respecting solar glare that were imposed on Aura Power Renewables Ltd.’s Fox Coulee Solar Project in Approval 23951-D02-2019.⁴⁹ These conditions are as follows:

Aura shall use a standard anti-reflective coating for the solar panels used in the project. If Aura determines that it cannot or will not use such panels, it must notify the Commission immediately and provide the specifications of the panels Aura intends to use.

Aura shall file a report with the Commission detailing any complaints or concerns it receives or is made aware of about solar glare from the project during its first year of operation as well as Aura’s response. Aura shall file this report no later than 13 months after the project becomes operational.⁵⁰

7.2.3 Commission findings

53. The Commission accepts the expert analysis and conclusions of Green Cat that there would be no solar glare impacts associated with the project at the receptor dwellings when the tracking system is functioning as anticipated. The Commission also accepts the evidence of Elemental that interruptions to the tracking system’s functionality are expected to be minor and, except for unplanned maintenance, would take place outside of daylight hours. The Commission

⁴⁴ Transcript, Volume 2, page 287, lines 4 and 5.

⁴⁵ Transcript, Volume 2, page 326, lines 14-16.

⁴⁶ Transcript, Volume 2, page 284, lines 2-5.

⁴⁷ Transcript, Volume 2, page 325, lines 17 and 18.

⁴⁸ Transcript, Volume 2, page 301, lines 18-20.

⁴⁹ Power Plant Approval 23951-D02-2019, Proceeding 23951, Application 23951-A001, August 13, 2019.

⁵⁰ Power Plant Approval 23951-D02-2019, Proceeding 23951, Application 23951-A001, August 13, 2019. PDF page 2.

notes that the vegetation buffer would reduce the impact of any solar glare in the event of a tracking system failure.

54. Notwithstanding its conclusion that there would be no solar glare impacts at the assessed receptors from the project when properly functioning, and minimal impacts during maintenance or failure of the tracking system, the Commission directs Elemental to promptly investigate any concerns raised regarding solar glare from the project and to share the results of its investigation with the person(s) who raised the concern. The Commission expects Elemental to take reasonable measures to mitigate or eliminate any solar glare that is determined to result from the project, including implementing any reasonable requests for additional visual screening or other mitigation to reduce or eliminate solar glare experienced by the complainant(s). For the first year of the project's operation, the Commission will also require Elemental to log any complaints related to solar glare, a description of any actions taken by Elemental to address and resolve each such complaint and to file a report, including the log, with the Commission.

55. The Commission will require Elemental to comply with the following conditions of approval:

- d. Elemental shall exclusively use solar panels equipped with a standard anti-reflective coating. If Elemental determines that it cannot or will not use such panels, it shall notify the Commission immediately and provide the specifications of the panels Elemental intends to use.
- e. Elemental shall file a report with the Commission detailing any complaints or concerns that it receives, or of which it is made aware, regarding solar glare from the project during its first year of operation, as well as Elemental's response to such complaints. Elemental shall file this report no later than 13 months after the project becomes operational.

8 Environmental impacts

8.1 Views of the applicant

56. Elemental retained McCallum Environmental Ltd. to prepare an environmental evaluation report for the project (EE Report).⁵¹ Robert McCallum of McCallum Environmental testified at the hearing on behalf of Elemental. Elemental also filed an Alberta Environment and Parks (AEP) renewable energy referral report for the project.

57. The EE Report described the environmental components present in the project area, the project's potential effects on these components, mitigation measures to avoid or reduce the project's predicted adverse environmental effects and monitoring proposed to evaluate the efficacy of those measures.

58. With respect to siting, and the general environmental effects of the project, the EE Report indicated that approximately 85 per cent of the total land use within the project boundaries is cultivation with the remaining land use being oil and gas activities.⁵² The EE Report concluded that the potential effects on wildlife and wildlife habitat are expected to be low. It noted that the

⁵¹ Exhibit 24573-X0012, Appendix 5 – Environmental Effects Assessment.

⁵² Exhibit 24573-X0012, Appendix 5 – Environmental Effects Assessment, page 3.

project avoids critical wildlife habitat, native prairie, federally and provincially protected areas and provincially designated areas.⁵³

59. AEP issued a renewable energy referral report in March 2019 that ranked the project as low risk based on project siting, overall wildlife in the vicinity of the project, and the commitments made by Elemental to mitigate and monitor wildlife impacts.⁵⁴ AEP assessed that there would be a moderate mortality risk as the project is sited in proximity to Stafford Lake and Johnson Lake; however, it concluded that the project area is on previously disturbed land and in an area of increased anthropogenic activity, which prevents the project from becoming a further elevated risk. AEP noted that Elemental has committed to maintaining current wildlife surveys throughout project construction, and to consulting and working with AEP if new wildlife features or issues are identified.⁵⁵

60. Elemental submitted a construction and operation mitigation plan and a post-construction monitoring plan that set out detailed mitigation measures to be implemented to reduce the potential environmental effects of the project.⁵⁶ More specifically, Elemental proposed several mitigation measures to reduce the project's indirect effects on wildlife and wildlife habitat, including additional field work and studies as required by the *Wildlife Directive for Alberta Solar Energy Projects*, restricted construction activities and times, and post-construction monitoring. Elemental also committed to operational adaptive management strategies related to avian impacts and other wildlife disturbances related to project operations.⁵⁷ If excessive wildlife mortalities are found during post-construction monitoring, Elemental committed to using bird deterrents such as white gridlines on solar panels, and to adopting any additional mitigation measures required following consultation with AEP.⁵⁸

61. In response to concerns raised by Cliff Wallis, a professional biologist with Cottonwood Consultants Ltd. retained by the Brooks Residents as an environmental expert, regarding environmentally significant areas (ESAs), Mr. McCallum submitted that ESA values are intended to inform land use planning rather than restrict development.⁵⁹ Mr. McCallum noted that Stafford Lake is not listed as an ESA and indicated that it is not included in the Fiera (2014) data sheet for Brooks wetlands.⁶⁰ Mr. McCallum further submitted that he used the ESA data as intended, as part of the project's pre-construction siting and planning stages.⁶¹

62. Mr. McCallum submitted that although Stafford Lake is located within the 1,000-metre setback prescribed for named lakes, during the preliminary design of the project there were no defined setbacks for solar energy projects. Elemental noted that the *Wildlife Directive for Alberta Solar Energy Projects* states that in the event there are impacts to wildlife or other species' habitat, then suitable mitigation should be identified. Mr. McCallum stated that in AEP's

⁵³ Exhibit 24573-X0012, Appendix 5 – Environmental Effects Assessment, pages 27 and 28.

⁵⁴ Transcript, Volume 1, page 29, lines 12-17.

⁵⁵ Exhibit 24573-X0011, Appendix 4B – AEP Referral Report.

⁵⁶ Exhibit 24573-X0012, Environmental Protection Plan, PDF pages 78-96.

⁵⁷ Exhibit 24573-X0011, Appendix 4B – AEP Referral Report, page 10.

⁵⁸ Transcript, Volume 1, page 200.

⁵⁹ Exhibit 24573-X0012, Appendix 5 – Environmental Effects Assessment, page 27.

⁶⁰ Exhibit 24573-X0083, Appendix E 1/2 – Expert Report of Robert McCallum, page 5.

⁶¹ Exhibit 24573-X0083, Appendix E 1/2 – Expert Report of Robert McCallum, page 5.

renewable energy referral report, AEP recognized that the project would be within the setback for Stafford Lake and deemed that Elemental's proposed mitigation was appropriate.⁶²

63. Responding to Mr. Wallis' evidence concerning wetland setbacks, Mr. McCallum, submitted that the project avoids Class III and higher wetlands. He also stated that if the project does directly impact wetlands, then functional assessments will be completed to support any approvals required under the *Water Act*.⁶³ Mr. McCallum noted that during the environmental assessment process, the project area was assessed by desktop analysis, which included a review of the Alberta Merged Wetland Inventory data, followed by field assessments to delineate potential wetlands.⁶⁴ Field verification of the geographic information system mapping and aerial photos was completed on May 11, 2017.⁶⁵

64. Mr. McCallum acknowledged that there could be potential for impact to wildlife and wildlife habitat as a result of encroachment on prescribed setbacks; however, he submitted that with appropriate use of mitigation developed through consultation with AEP, the overall risk of the project based on siting would be low.⁶⁶ Elemental noted that it has committed to three years of post-construction monitoring, as set out in the renewable energy referral report, and, if required, following the results of the post-construction monitoring, to developing mitigation measures with AEP that would be appropriate based on the circumstances.⁶⁷

65. Additionally, Dan Eaton, a witness for Elemental, explained that AEP is familiar with the Brooks Solar I Power Plant, and has not raised any concerns regarding wildlife or other environmental issues in respect of that project.⁶⁸

66. In response to concerns regarding the project being abandoned without being reclaimed, Elemental submitted that the Brooks Residents inappropriately compared the project to Medicine Hat's solar facility which uses concentrated solar technology as opposed to photovoltaic technology. Elemental submitted that these are two distinct and separate technologies, and that the economics of the project and a concentrated solar technology project are not comparable.

67. Elemental stated that conservation, reclamation and decommissioning activities would be implemented in alignment with AEP's *Conservation and Reclamation Directive for Renewable Energy Operations*. Elemental submitted a decommissioning plan for the project⁶⁹ and committed to "decommission and reclaim the project in accordance with the regulatory requirements in place at the time of such activities".⁷⁰ McCallum submitted that this would include completion of a pre-disturbance site assessment prior to the start of construction.⁷¹

⁶² Transcript, Volume 1, pages 128 and 129.

⁶³ Exhibit 24573-X0083, Appendix E 1/2 – Expert Report of Robert McCallum, page 6.

⁶⁴ Exhibit 24573-X0012, Appendix 5 – Environmental Effects Assessment, page 53.

⁶⁵ Exhibit 24573-X0083, Appendix E 1/2 – Expert Report of Robert McCallum, page 8.

⁶⁶ Exhibit 24573-X0083, Appendix E 1/2 – Expert Report of Robert McCallum, page 7.

⁶⁷ Transcript, Volume 2, pages 365 and 366.

⁶⁸ Transcript, Volume 1, page 184, lines 8-17.

⁶⁹ Exhibit 24573-X0010, Appendix 4A - Environmental Assessment to AEP, PDF pages 63 and 64.

⁷⁰ Exhibit 24573-X0078, Reply Evidence of Elemental Energy Renewables Inc., PDF page 6.

⁷¹ Exhibit 24573-X0012, Appendix 5 – Environmental Effects Assessment, page 82.

8.2 Views of the Brooks Residents

68. The Brooks Residents expressed a number of concerns with the project's potential effects on ESAs, wetlands and named lakes.⁷² The group submitted that the project is sited in an area that hosts a large number of bird species and questioned the adequacy of protective measures for wildlife species and the environment.⁷³

69. The Brooks Residents retained Mr. Wallis to file evidence and testify on its behalf as an expert on environmental matters. Mr. Wallis filed a report discussing the project's environmental impacts and potential mitigation measures. He highlighted concerns with the project's proximity to ESAs, potential impacts to bird species in the area and encroachments on prescribed setbacks for wetlands and named lakes.

70. Mr. Wallis raised concerns about the proximity of the project to ESAs classified at regional and local significance levels in the landscape surrounding the project area. These ESAs include waterfowl, marsh birds, shorebirds, species of conservation/management concern and wetlands.⁷⁴ In his report, Mr. Wallis identified the project area as being surrounded by ESAs of regional significance and within 1,000 metres of Stafford Lake which is a priority migratory bird habitat.⁷⁵

71. With respect to wetlands, Mr. Wallis submitted that ephemeral water bodies in the project area will be directly impacted and mandatory setbacks for wetlands and best management practices have not been adhered to.⁷⁶ Mr. Wallis noted that AEP's *Wildlife Directive for Alberta Solar Energy Projects* indicates that solar proponents should avoid temporary water bodies and watercourses.⁷⁷

72. Mr. Wallis provided two recommendations should the project be approved. He recommended that the project strictly follow mandatory setback requirements outlined in the latest AEP directive. Specifically, with respect to setbacks Mr. Wallis stated:⁷⁸

The 1 km setback from named water bodies and the 100 m setback from wetlands of Class III+ should be followed as these are clear mandatory standards (requirements). Although McCallum (2019) describes mitigation for wetlands, the mandatory setbacks are not used:

“For marsh wetlands (Class III, IV, V) setbacks will be used. Wetlands are sensitive to disturbance and the setback distance will reduce the potential for soil erosion/sedimentation, protect nesting habitat for waterfowl, and protect breeding habitat for amphibians.”

My recommendation is to strictly follow these mandatory requirements (100.1.8 and 100.1.9) even if the proposed mitigation partly offsets some of the specified risks.

⁷² Exhibit 24573-X0065, Cliff Wallis Report.

⁷³ Transcript, Volume 2, pages 291-293.

⁷⁴ Exhibit 24573-X0065, Cliff Wallis Report, PDF page 2.

⁷⁵ Transcript, Volume 2, page 217.

⁷⁶ Transcript, Volume 2, pages 218 and 219.

⁷⁷ Exhibit 24573-X0090, Opening Statement of Cliff Wallis, page 11.

⁷⁸ Exhibit 24573-X0065, Cliff Wallis Report, PDF page 15.

73. Concerning bird species and mortality risk, Mr. Wallis recommended that if the Commission approves the project, the mitigation Elemental proposes to implement if issues are discovered in the initial post-construction monitoring should instead be implemented at the start of construction, including the addition of white edges/lines to solar reflectors.⁷⁹

It is my recommendation that some of the proposed mitigation that Elemental Energy Renewables (2019) describes if mortality issues are discovered in the initial monitoring, should be part of any project approval for the initial construction, e.g. addition of white edges/lines to solar reflectors.

74. Mr. Wallis stated that although he agrees that the overall risk of the project is low,⁸⁰ the elevated (moderate) mortality risk associated with the project's encroachments on prescribed mandatory setbacks warrants mitigation during the design and construction phase of the project.⁸¹

75. The Brooks Residents questioned whether solar projects are economical in Alberta and raised concerns about the site should Elemental abandon the project or not appropriately decommission the site.⁸² The Brooks Residents referenced the Medicine Hat concentrated solar facility that was mothballed prior to that project's end of life.

8.3 Commission findings

76. The Commission acknowledges the concerns raised by the Brooks Residents about the proposed siting of the project, but finds that the environmental impacts from the project are expected to pose a low risk to wildlife and wildlife habitat. The Commission notes in particular that the encroachments on wetland setback buffers and named lakes were considered and addressed by AEP and that the mitigation measures developed by Elemental in consultation with AEP address the risks assessed.

77. With respect to the project's siting in relation to wetlands, the Commission finds that the siting of project infrastructure on previously cultivated lands significantly mitigates the project's potential effects on wetlands. The renewable energy referral report indicates that the encroachment of some of the project's infrastructure on AEP's minimum wetland setbacks was acceptable to AEP, given the project's proposed mitigation and overall low potential for residual effects on wetlands. As part of its overall consideration of whether the proposed setbacks from wetlands in the project area are reasonable, the Commission has taken into account AEP's perspective, Elemental's EE Report,⁸³ Mr. McCallum's responses to Mr. Wallis' report⁸⁴ in respect of the project's potential effects on wetlands, and the mitigation measures proposed by Elemental and accepted by AEP. The Commission notes that AEP was aware of the justifications for the relaxation of the wetland setbacks when it issued the renewable energy referral report following consultation with Elemental.

78. With respect to the project's siting within one kilometre of Stafford Lake, the Commission notes that in the renewable energy referral report, AEP identifies both Stafford and Johnson lakes as staging and breeding water bodies for various species of water-obligate birds.

⁷⁹ Exhibit 24573-X0065, Cliff Wallis Report, PDF page 44.

⁸⁰ Transcript, Volume 2, page 216.

⁸¹ Exhibit 24573-X0090, Opening Statement of Cliff Wallis, page 17.

⁸² Transcript, Volume 2, page 324, lines 5 and 6.

⁸³ Exhibit 24573-X0012, Appendix 5 – Environmental Effects Assessment.

⁸⁴ Exhibit 24573-X0078, Reply Evidence of Elemental Energy Renewables Inc., PDF pages 8 and 9.

The Commission notes, however, that the proposed project site is also in close proximity to existing industrial activities and is proposed to be located on previously disturbed lands, both of which were facts that AEP considered in its renewable energy referral report. The Commission finds that these facts reduce the potential incremental impacts of the project on wildlife and wildlife mortality and support a finding that the overall risk of the project to wildlife and wildlife habitat is low.

79. The Commission is satisfied that with diligent application of Elemental's mitigation measures, construction and post-construction monitoring, implementation of any additional mitigation measures as directed by AEP, and compliance with the Commission's conditions of approval, the potential adverse environmental effects, including those on wildlife and wildlife habitat, as a result of the siting, construction and operation of the project's facilities can be adequately mitigated. The Commission notes AEP's acceptance of Elemental's adaptive management program and finds that, due to the project's overall low risk assessed by AEP, it is not necessary for Elemental to implement the mitigation measures prior to construction as suggested by Mr. Wallis. The Commission is satisfied that Elemental's post-construction monitoring and its commitment to work with AEP to address any issues arising out of the post-construction monitoring will adequately address the potential environmental impacts of the project.

80. Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* came into force on July 1, 2019, and applies to all solar projects approved after September 1, 2019. Accordingly, Elemental must comply with the requirements of Rule 033. Subsection 3(3) of Rule 033 requires approval holders to submit annual post-construction monitoring survey reports to AEP and to the Commission. Consequently, the Commission also imposes the following as a condition of approval:

- f. Elemental shall submit an annual post-construction monitoring survey report to AEP and the Commission within 13 months of the project becoming operational, and on or before the same date every subsequent year for which AEP requires surveys pursuant to Subsection 3(3) of Rule 033.

81. The Commission notes that, pursuant to the *Conservation and Reclamation Regulation*, the project is subject to the reclamation obligations set out in Section 137 of the *Environmental Protection and Enhancement Act* and that Elemental must obtain a reclamation certificate at the project's end of life. The reclamation process is managed by AEP pursuant to the *Conservation and Reclamation Directive for Renewable Energy Operations*, which provides more detailed information on conservation and reclamation planning and reclamation certificate requirements for renewable energy operators in Alberta. Elemental has acknowledged its statutory obligations under the *Environmental Protection and Enhancement Act* and the *Conservation and Reclamation Regulation*, to properly reclaim the project and obtain a reclamation certificate at the project's end of life. The Commission finds that Elemental's legislative obligations related to decommissioning and reclamation of the project site sufficiently address the concerns raised by the Brooks Residents.

9 Property values

9.1 Views of the applicant

82. Elemental retained Robert Telford from Telford Land and Valuation Inc. to carry out a review of the potential market value impacts of the project and to review the literature relating to similar projects completed since 2018 by various authors. Mr. Telford also inspected the project location, researched sales in the vicinity of the proposed location and reviewed the Brooks Residents' submissions.

83. Mr. Telford explained that the land in the area surrounding the project hosts mixed-use activity. He stated that there are currently residential, commercial, industrial and agricultural activities in the vicinity of the project. Mr. Telford elaborated that there is a commercial personal watercraft retailing site, a home operation of a honey farm and a trucking business in the surrounding quarter sections of the project site.⁸⁵

84. When asked by the Brooks Residents to confirm that he did not provide a study to evaluate whether adjacent landowners would suffer a loss of property values as a result of the project, Mr. Telford responded that he "looked at the market in the area, looked at the properties, the assessments, and concluded, based on the limited number of sales, that you couldn't complete a study at this point in time."⁸⁶

85. In his literature review report, Mr. Telford stated that he found and reviewed seven North American studies related to the impacts of solar facilities on property value. The report summarized the findings of each study with the ultimate conclusion that "there are no conclusive findings that would indicate that the presence of a solar facility has any impact on the value of properties in the nearby vicinity."⁸⁷

9.2 Views of the Brooks Residents

86. The Brooks Residents submitted a paper titled *An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations* prepared by the University of Texas at Austin, May 2018.⁸⁸ The study indicated that property values may be negatively impacted due to solar projects being located in close proximity. With respect to residential homes in the vicinity of solar power plants, the study concluded that "closer proximity to an installation is associated with more negative estimates of property value impacts, as is larger installation size."⁸⁹

87. The study included a survey wherein respondents estimated that property values would be negatively affected by between three and 19 per cent for a residential home within 100 feet of a 20-MW solar power plant.⁹⁰

⁸⁵ Transcript, Volume 1, page 82, line 6, to page 83, line 24.

⁸⁶ Transcript, Volume 1, page 73, lines 1-4.

⁸⁷ Exhibit 24573-X0082, Appendix D - Expert Report and Curriculum Vitae of Rob Telford, PDF page 9.

⁸⁸ Exhibit 24573-X0060, Appendix 2.

⁸⁹ Exhibit 24573-X0060, Appendix 2, PDF page 22.

⁹⁰ Exhibit 24573-X0060, Appendix 2, PDF page 15.

88. The study also concluded that a solar power plant located on land that previously had an unappealing use, or the presence of trees or other visual barriers around the array, may be associated with positive impacts.⁹¹

89. The Brooks Residents submitted that the negative impacts to its members' property values would be on the higher end of the range cited in the study based on the existing property views. The Brooks Residents stated that its members "chose to purchase their properties for its attractive country lifestyle, that a great part of the value they place on their property is the beautiful view they enjoy from their homes and their yard."⁹² Mr. Becker stated that he chose his property because he enjoyed looking out his window at a hayfield and felt his property could depreciate by 20 per cent.⁹³ He testified that "[o]n a \$650,000 acreage, which [he] believe[s] would be a good average, a[t] 19 percent, that's a loss of \$123,500. Very substantial."⁹⁴

9.3 Elemental's reply to the Brooks Residents' concerns

90. Mr. Telford submitted that the study provided by the Brooks Residents was one of the seven studies he considered as part of his literature review. In his report, filed by Elemental as rebuttal evidence, Mr. Telford stated that for the study in question, a total of 400 assessors were contacted, of whom 37 consented to participate, and that only half of the participants had assessed properties near a solar installation. Of those participants, only one had adjusted the value of a property.⁹⁵ Mr. Telford described that in the study, assessors that had experience assessing properties around solar facilities estimated that property values would decline by three per cent, while the assessors that had no experience in assessing properties around solar facilities estimated that property values may drop by 19 per cent. Mr. Telford submitted that the estimated impacts to property values from the study respondents contradicted the conclusion of the study that the majority of respondents believed that proximity to a solar installation would have either no impact or a positive impact on home values.⁹⁶

91. Elemental submitted that a study filed on the record does not constitute an expert report. It added that, unlike a witness such as Mr. Telford, a study cannot be questioned or tested without a party adopting and speaking to it. Elemental added that a study without an available author or representative can only be spoken about, which Mr. Telford did, both in his report and during questioning in the hearing.⁹⁷

92. Elemental stated there is no conclusive evidence from the market or literature reviewed that would suggest a likelihood of property value impacts associated with the project.⁹⁸

9.4 Commission findings

93. The Commission maintains its view that property valuation is a complex and technical matter that is influenced by a wide variety of contextual and circumstantial factors.⁹⁹ For this

⁹¹ Exhibit 24573-X0060, Appendix 2, PDF page 23.

⁹² Transcript, Volume 2, page 394, lines 16-20.

⁹³ Transcript, Volume 2, page 280, lines 20-22.

⁹⁴ Transcript, Volume 2, page 276, lines 3-5.

⁹⁵ Exhibit 24573-X0082, Appendix D - Expert Report and Curriculum Vitae of Rob Telford, PDF pages 9 and 10.

⁹⁶ Exhibit 24573-X0082, Appendix D - Expert Report and Curriculum Vitae of Rob Telford, PDF page 10.

⁹⁷ Transcript, Volume 2, page 359, lines 10-15.

⁹⁸ Transcript, Volume 1, page 27, lines 22-25.

⁹⁹ Decision 2011-436: AltaLink Management Ltd. and EPCOR Distribution & Transmission Inc, Heartland Transmission Project, November 1, 2011, PDF page 24, paragraph 87.

reason, findings about property value impacts must be based on project-specific information that is provided by qualified experts and tested or made available for testing in a hearing. In this case, no party filed evidence of that quality. The Commission accepts Mr. Telford's conclusion that there is not sufficient data to complete a study of the potential impacts of the project on properties in the area.

94. The Commission is prepared to accept that a change to the existing use or nature of a site may influence, positively or negatively, its effect on nearby property values and that property value impacts associated with proximity to a solar facility may increase as distance from the solar facility decreases and as the size of the facility increases. The Commission acknowledges the comments of the Brooks Residents' members that they enjoy the existing views of the hayfield on the project site, and that they purchased properties in the area in part because of their proximity to agricultural lands.

95. The Commission finds that the potential impact of a solar facility on property value has an aspect of subjectivity: factors that may deter one purchaser may attract another. The Commission also notes that there is information on the record of this proceeding, in the form of the studies filed and reviewed by the parties, to suggest that both positive and negative impacts to property values can result from the existence of nearby solar facilities.¹⁰⁰

96. The Commission finds that the evidence on the record of this proceeding is insufficient to allow it to determine whether the project may have a positive or negative effect on the value of adjacent properties. In the absence of such evidence, the Commission is not persuaded that the project would negatively affect the value of the Brooks Residents' properties.

10 Noise impacts

10.1 Views of the applicant

97. Elemental retained Green Cat to conduct a noise impact assessment (NIA)¹⁰¹ in support of its application to the Commission. The NIA identified 32 dwellings within the project study area to be noise-affected receptors and calculated cumulative sound levels at the receptors as the sum of ambient sound levels, predicted noise contribution from baseline energy-related facilities, and predicted noise contribution from the project.¹⁰² The NIA assumed that the project equipment was operating at full load during the daytime and nighttime.

98. Elemental compared predicted cumulative sound levels with permissible sound levels (PSLs) established in accordance with Rule 012: *Noise Control*. Elemental predicted that cumulative sound levels would be less than the applicable PSLs at all receptors, except Receptor R1. Modelling results at Receptor R1 predicted that noise contribution from the project would result in no net increase to cumulative sound levels, as outlined in Rule 012. The NIA then concluded that the project would be compliant with the daytime and nighttime PSLs at all

¹⁰⁰ Exhibit 24573-X0082, Appendix D - Expert Report and Curriculum Vitae of Rob Telford.

¹⁰¹ Exhibit 24573-X0016, Appendix 8 - Noise Impact Assessment.

¹⁰² Exhibit 24573-X0016, Appendix 8 - Noise Impact Assessment, PDF page 4.

the noise receptors.¹⁰³ The project NIA evaluated low frequency noise impacts from the project and concluded that low frequency noise is not expected to be an issue.¹⁰⁴

99. Elemental committed to implementing a process to allow the communication of noise-related complaints during construction and operation of the project and of responses from Elemental to any such complaints.¹⁰⁵ In response to concerns raised by the Brooks Residents related to construction noise and, in particular, to the use of driven piles, Elemental stated that it was unable to commit at this stage to using screw (or helical) piles rather than driven piles for the project foundation. Elemental did indicate that alternatives to driven piles would be considered during construction planning as a potential solution to noise concerns.¹⁰⁶

100. During the hearing, Elemental committed to abiding by the applicable noise bylaws during construction and it committed to providing notification to all landowners within the notification area for the project about the general construction process for the project and expected construction noise.¹⁰⁷ Elemental further emphasized that construction would be performed in accordance with all applicable requirements, including the construction noise management requirements in Rule 012.¹⁰⁸

10.2 Views of the Brooks Residents

101. The Brooks Residents raised concerns about construction noise from the project. Several members mentioned experiencing noise from the construction of the Brooks Solar I Power Plant, which was located further away from their residences than the project. The Brooks Residents submitted that the use of screw piles would assist in mitigating construction noise.

10.3 Commission findings

102. The Commission finds that Elemental appropriately identified 32 dwelling noise receptors within the project study area and reasonably predicted cumulative sound levels at these receptors. The Commission finds that the assumption that the project operates at full load during the nighttime is a conservative measure that provides support for Elemental's predictions. Overall, the Commission finds the project NIA meets the requirements in Rule 012 and accepts that the impacts of the project are expected to comply with the PSLs set out in Rule 012.

103. With respect to construction noise, the Commission notes that Elemental is obligated to comply with local noise bylaws and the mitigating measures for construction noise stipulated in Rule 012. The Commission recognizes that Elemental has indicated it will consider the use of screw piles to mitigate construction noise.

¹⁰³ Exhibit 24573-X0016, Appendix 8 - Noise Impact Assessment, PDF page 23.

¹⁰⁴ Exhibit 24573-X0016, Appendix 8 - Noise Impact Assessment, PDF page 22.

¹⁰⁵ Transcript, Volume 2, page 351, line 23, to page 352, line 1.

¹⁰⁶ Transcript, Volume 1, page 90, lines 6-15.

¹⁰⁷ Transcript, Volume 2, page 141, lines 17-22.

¹⁰⁸ Transcript, Volume 2, page 143, lines 5-12.

104. The Commission's review of the application, and associated findings, are based on Elemental's assessment, which is based on the use of generic equipment. The Commission's findings, particularly those with respect to the effects of the project, may change depending on Elemental's final equipment selection. Accordingly, the Commission imposes the following as a condition of approval:

- g. Once Elemental has made its final selection of equipment for the project and no later than three months before construction of the project is scheduled to commence, Elemental shall file a letter with the Commission that identifies the make, model, and quantity of the equipment and include an updated site plan if the equipment layout has changed. The letter must also confirm that the finalized design of the project will not increase the land, noise, glare and environmental impacts beyond those described in the materials submitted by Elemental in support of the present application and approved by the Commission.

11 Siting

11.1 Views of the applicant

105. Elemental stated that the project site was selected based on the following:

- The location has one of the best solar resources in Canada.
- The project is on private land and the landowners are willing to host the project.
- The land has been previously cultivated, which Elemental submits reduces environmental risk.
- The project is located near two FortisAlberta distribution feeders having available capacity for interconnection.
- The proximity to the existing Brooks Solar I Power Plant results in construction and operation cost and logistical efficiencies.
- The site comprises land parcels with encumbrances amenable to solar construction.¹⁰⁹

106. Elemental stated that it originally designed the project in accordance with the County of Newell's bylaw setback requirements of 15.2 metres between a proposed solar project development and a public road right-of-way that services a subdivision. It submitted that as part of its consultation efforts it committed to doubling the setback to 30 metres between the project fence and the project property line in areas of visual sensitivity.¹¹⁰ Elemental stated that this increased the distance from the project's fence to the Hajash Subdivision property lines to approximately 50 metres, and the distance from the project's fence to the residences within the Hajash Subdivision to 80 metres.¹¹¹

107. Elemental stated that the project lands are currently zoned as fringe, and to accommodate a solar project, the lands would have to be re-zoned as rural industrial.¹¹² Elemental filed a letter of support from the Hajash family, the owners of the parcel of land on which the southeast

¹⁰⁹ Exhibit 24573-X0088, Elemental Energy Opening Statement, PDF page 1.

¹¹⁰ Transcript, Volume 2, page 354, lines 1-11.

¹¹¹ Transcript, Volume 1, page 28, line 23, to page 29, line 1.

¹¹² Transcript, Volume 1, page 50, lines 6-8.

portion of the project is to be located. Sandra Hajash stated that her family had listed the property for sale in June 2013, and had not received any offers until she entered into an agreement with Elemental in 2018.¹¹³ Mr. Johnson, who owns the northwest portion of the project lands, submitted a statement of intent to participate that indicated he was in support of the project. Mr. Johnson stated that his land is a low producing parcel and that he had previously transferred the irrigation rights to more productive farmland.

108. Elemental stated that the project complies with the South Saskatchewan Regional Plan, which endorses opportunities for development of the region's renewable energy industry.¹¹⁴

11.2 Views of the Brooks Residents

109. The Brooks Residents raised concerns with the siting of the project in close proximity to their properties and residences. The Brooks Residents stated that the project should be located farther from residences and should abide by AEP setbacks regarding wetlands and named water bodies. The Brooks Residents stated that nearby Vulcan County has mandated a minimum setback for utility-scale solar farms of 750 metres from any grouped country residential properties.¹¹⁵

110. The Brooks Residents stressed that the project would impose a commercial-industrial development onto a country residential area. They expressed great concern about how close the project would be to their properties. Dennis Boyd testified that his living room window is only 26 feet from the project property line.¹¹⁶

111. Members of the Brooks Residents were alarmed when the Brooks Solar I Power Plant was established but noted that a real and substantial setback existed between that power plant and their properties. They submitted that this project would fill in that buffer area, substantially altering their country residential way of life and impacting their enjoyment of their lands.¹¹⁷

112. The Brooks Residents expressed concerns that the project site is agricultural land that should not be taken out of production. Ms. Strach testified that "[t]here are many reasons that the proposed location is undesirable, one of which is the loss of irrigated arable land."¹¹⁸ Mr. Becker testified that the conversion of prime irrigated farmland to industrial use goes against the intentions of the South Saskatchewan Regional Plan.¹¹⁹

11.3 Commission findings

113. The issues concerning the proposed location for the project relate primarily to the potential effects of the project on adjacent landowners. Based on its findings in previous sections of this decision, the Commission does not anticipate that there will be significant negative impacts to landowners as a result of the project.

114. In relation to the submissions that the project land is agricultural land that it should not be taken out of production, the Commission notes that (i) Mr. Johnson indicated in his statement of

¹¹³ Exhibit 24573-X0079, Appendix A - Hajash Landowner Letter of Support.

¹¹⁴ Transcript, Volume 1, page 29, lines 4-8.

¹¹⁵ Transcript, Volume 2, page 397, lines 2-5.

¹¹⁶ Transcript, Volume 2, page 309, lines 14 and 15.

¹¹⁷ Exhibit 24573-X0059.01, submissions, PDF pages 22 and 23.

¹¹⁸ Transcript, Volume 2, page 303, lines 12-14.

¹¹⁹ Transcript, Volume 2, page 276, lines 6-8.

intent to participate that, historically, his parcel of land was low producing farmland and that the irrigation rights have been transferred to more productive land; (ii) the land is zoned as fringe rather than agricultural, and is in the vicinity of other non-agricultural facilities (e.g., oil and gas, Brooks Solar I Power Plant); and (iii) the project would be located on privately-owned land.

115. Elemental confirmed that it would purchase one portion of the project lands and lease the other portion. The Commission considers that in the absence of legal or government policy restrictions that affect a private landowner's ability to take agricultural land out of production, that choice remains with the landowner and should not be upset by the Commission unless it is clearly demonstrated that the public interest requires the Commission to intervene in the decision. The Commission recognizes that the South Saskatchewan Regional Plan contains goals both to conserve agricultural land and to develop renewable energy. Siting facilities is a balance; in this case, the loss of agricultural land is also offset by the lower environmental impacts of developing a renewable energy facility on pre-disturbed land.

116. From a general land-use perspective, the Commission accepts Elemental's evidence that it selected the project site to limit the environmental impacts of the project, and to reduce the amount of new infrastructure required to connect the project to the Alberta Interconnected Electric System by locating the project close to existing electric distribution lines with the capacity to accommodate a project of this size. The Commission also accepts that the proposed site offers efficiencies related to the construction and operation of the power plant due to its location adjacent to the existing Brooks Solar I Power Plant. The Commission finds the setbacks from nearby residential properties selected by Elemental to be reasonable and notes that the setback distance exceeds the minimum requirements imposed by the County of Newell.

117. The Commission finds that all of the above enumerated considerations favour the site selected by Elemental for the project.

12 Conclusion

118. For the reasons outlined above and subject to all of the conditions outlined in this decision (which are listed in Appendix C), the Commission finds that Elemental has satisfied the requirements of Rule 007 and Rule 012 and that in accordance with Section 17 of the *Alberta Utilities Commission Act*, approval of the project is in the public interest having regard to the social, economic, and other effects of the project, including its effect on the environment.

13 Decision

119. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves the application and grants Elemental Energy Renewables Inc. the approval set out in Appendix 1 – Power Plant Approval 24573-D02-2020 – January 16, 2020, to construct and operate the Brooks Solar II Power Plant (Appendix 1 will be distributed separately).

120. Pursuant to Section 18 of the *Hydro and Electric Energy Act*, the Commission approves the interconnection and grants Elemental Energy Renewables Inc. the connection order set out in Appendix 2 – Connection Order 24573-D03-2020 – January 16, 2020, to connect the Brooks Solar II Power Plant to FortisAlberta Inc.’s distribution system (Appendix 2 will be distributed separately).

Dated on January 16, 2020.

Alberta Utilities Commission

(original signed by)

Kristi Sebalj
Panel Chair

(original signed by)

Neil Jamieson
Commission Member

(original signed by)

Joanne Phillips
Commission Member

Appendix A – Proceeding participants

Name of organization (abbreviation) counsel or representative
Elemental Energy Renewables Inc. (Elemental) T. Oleniuk L. Mosher
Brooks Residents Counsel: C. MacLennan M. Constable Members: A. Becker K. Becker D. (Dennis) Boyd D. (Dina) Boyd K. Brown M. Brown J. (Jay) deJong J. (Joanne) deJong S. Gray W. Gray C. Huber G. Huber C. MacDonald D. MacDonald J. (Jack) Osadczuk J. (Janice) Osadczuk N. Schmidt E. Strach R. Strach E. Webb S. Webb
N. Johnson
D. Steele
M. Twa

Appendix B – Oral hearing – registered appearances

Name of organization (abbreviation) counsel or representative	Witnesses
Elemental Energy Renewables Inc. (Elemental) T. Oleniuk L. Mosher	D. Eaton R. McCallum W. Patterson C. Sutherland R. Telford
Brooks Residents C. MacLennan M. Constable	A. Becker D. Boyd K. Brown M. Brown J. deJong W. Gray C. MacDonald J. Osadczuk N. Schmidt E. Strach S. Webb

<p>Alberta Utilities Commission</p> <p>Commission panel Kristi Sebalj, Panel Chair Joanne Phillips, Commission Member Neil Jamieson, Commission Member</p> <p>Commission staff G. Perkins (Commission counsel) M. Anderson (Commission counsel) C. Dalsin T. Richards</p>

Appendix C – Summary of Commission conditions of approval

This section is intended to provide a summary of all conditions of approval for the convenience of readers. The conditions have been split into those requiring follow-up information to be submitted to the Commission, and those that do not. In the event of any difference between the directions and conditions in this section and those in the main body of the decision, the wording in the main body of the decision shall prevail.

The following are conditions of Decision 24573-D01-2020 that require follow-up with the Commission, and will be tracked as conditions of Power Plant Approval 24573-D02-2020 using the AUC's eFiling System:

- Elemental shall file a report with the Commission detailing any complaints or concerns that it receives, or of which it is made aware, regarding solar glare from the project during its first year of operation, as well as Elemental's response to such complaints. Elemental shall file this report no later than 13 months after the project becomes operational.
- Elemental shall submit an annual post-construction monitoring survey report to Alberta Environment and Parks (AEP) and the Commission within 13 months of the project becoming operational, and on or before the same date every subsequent year for which AEP requires surveys pursuant to Subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*.
- Once Elemental has made its final selection of equipment for the project and no later than three months before construction of the project is scheduled to commence, Elemental shall file a letter with the Commission that identifies the make, model, and quantity of the equipment and include an updated site plan if the equipment layout has changed. The letter must also confirm that the finalized design of the project will not increase the land, noise, glare and environmental impacts beyond those described in the materials submitted by Elemental in support of the present application and approved by the Commission.

The following are conditions of Decision 24573-D01-2020 that do not require follow-up with the Commission:

- Elemental shall plant a vegetation buffer along portions of the project boundaries in visually sensitive areas as indicated in its application.
- Elemental shall ensure that the vegetation buffer is developed in consultation with a registered arborist.
- Elemental shall take reasonable measures to ensure that the vegetation buffer is regularly maintained throughout the lifespan of the project including watering, pruning and replacing dead trees.

- Elemental shall exclusively use solar panels equipped with a standard anti-reflective coating. If Elemental determines that it cannot or will not use such panels, it shall notify the Commission immediately and provide the specifications of the panels Elemental intends to use.