



**Buffalo Plains Wind Farm Inc.**

**Buffalo Plains Wind Farm**

**February 10, 2022**

**Alberta Utilities Commission**

Decision 26214-D01-2022

Buffalo Plains Wind Farm Inc.

Buffalo Plains Wind Farm

Proceeding 26214

Applications 26214-A001 and 26214-A002

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## **1 Decision summary**

1. In this decision, the Alberta Utilities Commission approves applications from Buffalo Plains Wind Farm Inc. to construct and operate a 514.6-megawatt power plant designated as the Buffalo Plains Wind Farm and the Amber 611S Substation.

## **2 Introduction**

2. Buffalo Plains Wind Farm Inc. (Buffalo Plains, or BPWF) filed applications with the AUC for approval to construct and operate the 514.6-megawatt (MW) Buffalo Plains Wind Farm and the Amber 611S Substation (collectively, the project). In this decision, the Commission<sup>1</sup> begins by reviewing the details of the applications, and describing the parties who participated in the proceeding. The Commission then provides an overview of the legislative framework that guides its decision making. From there, the Commission’s findings focus on the following key issues:

- a. The project’s impacts to the Lomond area.<sup>2</sup>
- b. Consultation with Indigenous groups.
- c. The project’s impacts to historic resources.

3. For the reasons described below, and subject to the conditions outlined in this decision (listed in Appendix C), the Commission approves the applications from Buffalo Plains.

### **2.1 Application details**

4. On December 22, 2020, Buffalo Plains filed applications with the AUC for approval to construct and operate the project. The project consists of 83, 6.2-MW Siemens Gamesa SGRE 6.0-170 wind turbines with a hub height of 115 metres, a rotor diameter of 170 metres and an overall blade tip height of 200 metres. The project also includes access roads, control equipment, permanent meteorological towers, an operation and maintenance facility, temporary laydown or staging areas, the Amber 611S Substation and an underground and above-ground collector system that connects to the substation. Buffalo Plains will submit a separate application requesting approval to build a transmission line and associated infrastructure to connect the project to the Alberta Interconnected Electric System.

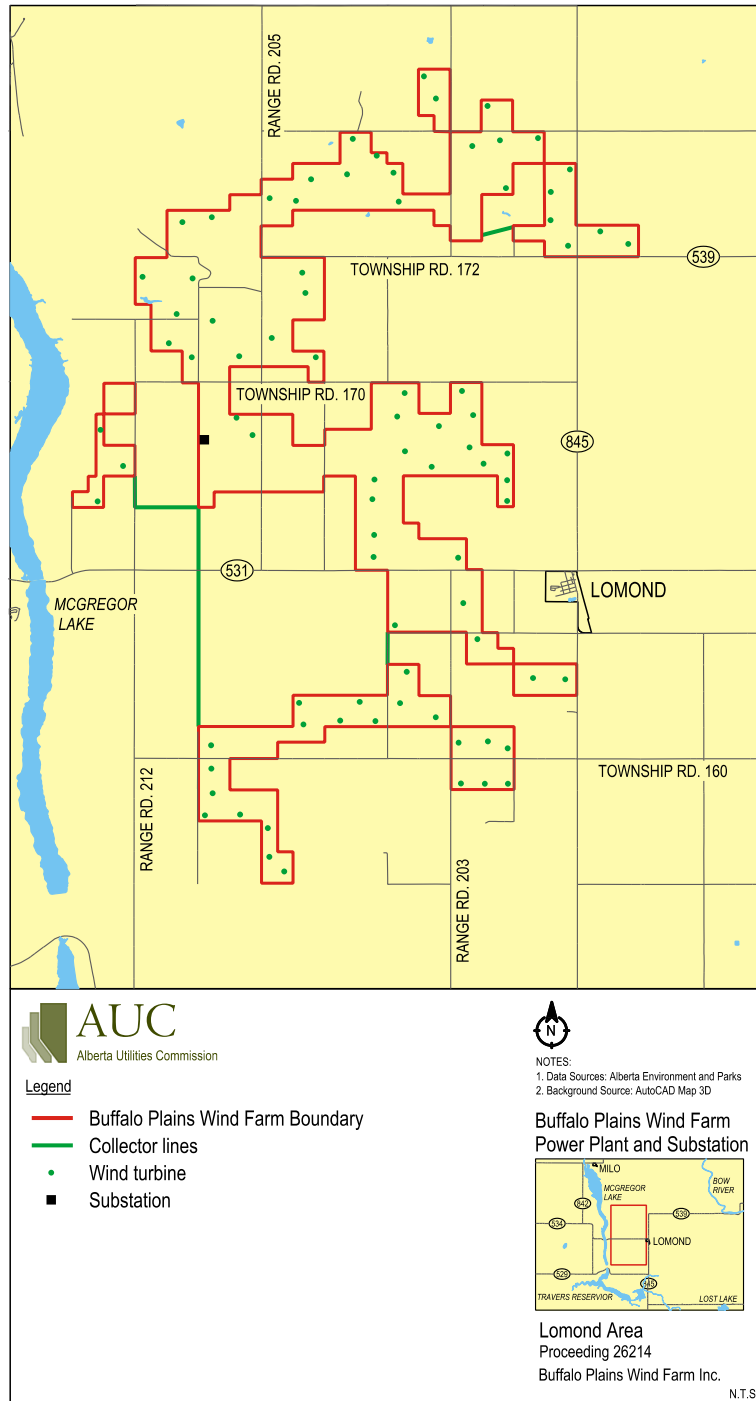
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<sup>1</sup> The Alberta Utilities Commission is referred to as “the Commission” and sometimes “we” throughout this decision.

<sup>2</sup> In this decision, “Lomond” is used when referring to the geographic location of the village of Lomond, while “Village of Lomond” is used when referring to the administration of the municipality.

5. The project is located on approximately 17,500 acres of private land in Vulcan County, approximately two kilometres west of Lomond, as shown in the following figure:

Figure 1. Proposed Buffalo Plains Wind Farm



6. The Amber 611S Substation is located in the southwest quarter of Section 36, Township 16, Range 21, west of the Fourth Meridian and includes: two 240/34.5-kilovolt, 285-megavolt ampere transformers, two 240-kilovolt circuit breakers and other associated substation equipment.

7. Buffalo Plains stated that the project's preliminary layout was determined with consideration to wind speed, proximity to interconnection, environmental features, setbacks to residences and setbacks to industry. Buffalo Plains stated that it modified the project in response to early stakeholder feedback, including by committing to a two-kilometre setback from Lomond and removing or relocating certain turbines due to stakeholder, environmental and noise concerns. Buffalo Plains stated that the project layout went through 14 iterations before the layout in the applications was finalized.
8. Buffalo Plains' applications, application updates and reply evidence included the following:
- A main applications document that outlined Buffalo Plains' responses to the AUC's application requirements.<sup>3</sup>
  - A report by Tetra Tech Canada Inc. (Tetra Tech) on potential project impacts to aerial spraying activities.<sup>4</sup>
  - A report by Serecon Inc. (Serecon) that discussed the use of crop protection products in agricultural operations.<sup>5</sup>
  - A report by Golder Associates Ltd. (Golder) regarding the project's potential impacts on water wells, springs and aquifers.<sup>6</sup>
  - A report by Telford Land & Valuations Inc. (Telford) that addressed the potential market value impacts of the project and contained a literature review of similar projects.<sup>7</sup>
  - Visual simulations of the project from multiple viewpoints, prepared by Green Cat Renewables Canada Corporation (Green Cat).<sup>8</sup>
  - An environmental evaluation<sup>9</sup> and a conservation and reclamation plan,<sup>10</sup> prepared by Maskwa Environmental Consulting (Maskwa).
  - A renewable energy referral report for the project from Alberta Environment and Parks (AEP) dated December 17, 2020,<sup>11</sup> email correspondence from AEP to Buffalo Plains concerning a project update dated November 1, 2021,<sup>12</sup> and a referral report amendment letter dated November 25, 2021.<sup>13</sup>

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<sup>3</sup> Exhibit 26214-X0006, BPWF AUC Application.

<sup>4</sup> Exhibit 26214-X0387, APPENDIX B - Tetra Tech Report.

<sup>5</sup> Exhibit 26214-X0388, APPENDIX C - Serecon Expert Report.

<sup>6</sup> Exhibit 26214-X0389, APPENDIX D - Golder Associates Expert Report\_23AUG2021.

<sup>7</sup> Exhibit 26214-X0390, APPENDIX E - Telford Land & Valuations Inc. Expert Report.

<sup>8</sup> Exhibit 26214-X0004, PIP Report Appendix M&N, PDF pages 28-32, 46-48, and 58-62 for visual simulations of the project in the Lomond area; Exhibit 26214-X0259, Attachment B – Majorville Medicine Wheel Visualization BPWF-LOWP-2021APRIL28-047 for a visual simulation of the project near Majorville Medicine Wheel.

<sup>9</sup> Exhibit 26214-X0022.01, Appendix 11 Environmental Evaluation; Exhibit 26214-X0023, Appendix 11 Environmental Evaluation (REPSR).

<sup>10</sup> Exhibit 26214-X0020, Appendix 16 C&R Plan.

<sup>11</sup> Exhibit 26214-X0009, Appendix 7 AEP Consultation.

<sup>12</sup> Exhibit 26214-X0500, Appendix B - AEP Response dated November 1, 2021.

<sup>13</sup> Exhibit 26214-X0507, AUC letter - Alberta Environment and Parks referral report amendment letter. Note that this document was filed by the Commission on the record of the proceeding.

- A decommissioning plan for the project, prepared by Green Cat.<sup>14</sup>
- A noise impact assessment for the project, prepared by Stantec Consulting Ltd. (Stantec).<sup>15</sup>
- A shadow flicker assessment for the project, prepared by Stantec.<sup>16</sup>
- A report by Ollson Environmental Health Management (Ollson) regarding potential project impacts on human health.<sup>17</sup>
- A draft project-specific emergency response plan, prepared by Green Cat.<sup>18</sup>
- A participant involvement program report, prepared by Green Cat.<sup>19</sup>
- *Historical Resources Act* approval for the project, granted on September 16, 2020.<sup>20</sup>
- A report by Circle CRM Group Inc. (Circle CRM) which responded to the archeological concerns raised by parties in the proceeding, including the project's potential impacts to the Majorville Cairn and Medicine Wheel.<sup>21</sup>
- A list of commitments that Buffalo Plains has agreed to over the course of the proceeding.<sup>22</sup>

9. Buffalo Plains anticipated that construction of the project would be completed in the summer of 2023.

## 2.2 Interveners

10. The Commission issued three notices of applications, in accordance with Section 7 of Rule 001: *Rules of Practice*.<sup>23</sup> In response, the Commission received statements of intent to participate in opposition to the project from numerous members of the Lomond Opposing Wind Projects group (LOWP), First Nations and members of the general public. The Commission also received statements of intent to participate in support of the project from two of the landowners who would be hosting project infrastructure. As a result of the statements of intent to participate filed, the Commission held a virtual hearing to consider the applications.

11. LOWP consisted of 165 people, five companies and the Village of Lomond, with many of its members granted standing. LOWP stated that approval of the project would result in significant adverse economic, social and environmental effects. It did not believe that the project is in the public interest and requested that the Commission deny the project. As an alternative, LOWP proposed that the Commission impose a number of conditions of approval to the project.

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<sup>14</sup> Exhibit 26214-X0015, Appendix 4 Decommissioning Plan.

<sup>15</sup> Exhibit 26214-X0018, Appendix 12 Noise Impact Assessment.

<sup>16</sup> Exhibit 26214-X0017, Appendix 15 Shadow Flicker Assessment.

<sup>17</sup> Exhibit 26214-X0391, APPENDIX F - Ollson Environmental Health Management Expert Report.

<sup>18</sup> Exhibit 26214-X0016, Appendix 3 ERP.

<sup>19</sup> Exhibit 26214-X0001, Appendix 2 PIP Report.

<sup>20</sup> Exhibit 26214-X0014, Appendix 9 HRA Approval.

<sup>21</sup> Exhibit 26214-X0445, Appendix D - Circle CRM Report.

<sup>22</sup> Exhibit 26214-X0497.01, BPWF Letter to AUC re Undertaking - Commitment List.

<sup>23</sup> Rule 001: *Rules of Practice* was amended effective May 17, 2021. The previous version of Rule 001 effective March 5, 2021, applies to this proceeding.



LOWP submitted evidence and arguments, that included concerns related to agricultural operations, property devaluation, viewsapes, the environment, noise, shadow flicker, health, safety, Buffalo Plains' participant involvement program, bankruptcy and reclamation, and bylaw compliance and zoning.

12. The Alberta Wilderness Association filed a statement of intent to participate that indicated that it represented one of its members, who has property rights in the vicinity of the project. It was granted limited participation rights, but did not directly participate any further.

13. Statements of intent to participate were filed by the Blood Tribe/Kainai (Kainai) and Siksika Nation (Siksika). Kainai and Siksika explained that the project would be located within Blackfoot traditional territory, and would be situated approximately 20 kilometres from *Iniskim Umaapi*, also known as the Majorville Cairn and Medicine Wheel, which is a site of significant importance to the Blackfoot. The Commission recognized that Kainai and Siksika are owed a duty to consult in relation to the project, and extended full participation rights in the proceeding to both First Nations so that any potential impacts to Aboriginal or treaty rights stemming from the project could be understood and addressed. Kainai and Siksika submitted written evidence, and Siksika also participated in an oral Indigenous knowledge session with Buffalo Plains and the Commission. Both First Nations subsequently withdrew their objections to the applications.

14. The Commission also received a number of statements of intent to participate concerning the project's impact to archeological and historic resources in the area, including the Majorville Cairn and Medicine Wheel. Submissions were received from:

- nis'koo and Camille Pablo Russell, members of Kainai.
- Brian Reeves and Shawn Bubel, archeologists.
- Wayne Wegner, a member of the public.
- The Chinook Country Historical Society.

### **3 Legislative and evidentiary framework**

15. In this section, the Commission describes the legal landscape in which its decisions are made. First the Commission explains its mandate and powers when considering an application and how it assesses the public interest. Next, the Commission explains what types of conditions it may impose on a project, including a discussion of the limits on the Commission's ability to impose conditions in some circumstances, as well as situations where conditions are not necessary to hold an applicant accountable to the public. Lastly, the Commission describes how it considers and weighs evidence.

#### **3.1 What is the Commission's role and public interest mandate?**

16. The Commission is an independent, quasi-judicial agency of the province of Alberta. As a quasi-judicial agency, the Commission is similar in many ways to a court when it holds hearings and makes decisions. Like a court, the Commission bases its decisions on the evidence before it and allows interested parties to cross-examine each other's witnesses to test the

evidence. However, unlike a court, the Commission has no inherent powers. Its powers are conferred on it by the provincial government and set out in legislation. Unlike a court proceeding, the Commission's proceedings are not matters between two or more competing parties to determine who wins and loses. Instead, the Commission deals with specialized subject matters requiring it to assess and balance a variety of public interest considerations.

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

18. The Commission's proceedings are conducted to determine an outcome that meets the public interest mandate set out in its enabling legislation. As a starting point, the Commission requires an applicant to file a complete and thorough application that contains all of the information required in Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments*<sup>24</sup> and Rule 012: *Noise Control*.

19. Once the Commission receives an application and determines that it meets the application requirements, the Commission issues notice of the application to the general public, often through newspapers and online announcements, and provides a copy of the notice directly to those persons who own land or reside in the vicinity of the project. The purpose of providing notice is to ensure that persons who may be directly and adversely affected by the project are aware of the application and have the opportunity to understand the potential impacts on their rights and voice their concerns.

20. The Commission recognizes that responding to an application requires time and resources. In order to alleviate this burden, the Commission makes funding available to local interveners to enable them to hire legal representation, consultants and experts to assist with their participation.

21. The applicant has the onus to demonstrate that approval of its application is in the public interest. Parties who may be directly and adversely affected by the Commission's approval of the application may show how the applicant has not met its onus. These parties may do so by bringing evidence of the effects of the project on their own private interests and explaining how the public interest may be better served by accommodating their private interests, and they may use the evidence filed by all parties to the proceeding to argue what a better balancing of the public interest might be. It is the Commission's role to test the application to determine whether approval is in the public interest. If it chooses, the Commission may allow parties that may not be directly and adversely affected by the Commission's decision to bring evidence relevant to the factors that the Commission is required to consider in determining the public interest.

22. 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.<sup>25</sup> The Commission must take into account the purposes of the

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<sup>24</sup> Because the applications were submitted prior to September 1, 2021, the version of Rule 007 effective August 1, 2019 applies to this project.

<sup>25</sup> EUB Decision 2001-111: EPCOR Generation Inc. and EPCOR Power Development Corporation - 490-MW Coal-Fired Power Plant, Application 2001173, December 21, 2001, PDF page 12.

*Hydro and Electric Energy Act* and the *Electric Utilities Act*, which include the development of an electric generation sector guided by competitive market forces.<sup>26</sup>

### 3.2 What conditions of approval can the Commission impose, and when should it do so?

23. The Commission must determine whether an application is in the public interest and, if not, whether changes could be ordered by the Commission to effectively balance the various public interest factors it must consider. The Commission can order changes by attaching conditions to the approval of a project. While the concept of the public interest is wide and flexible, the Commission does not have unlimited discretion to impose any conditions it wishes. The Commission must act within the constraints of the legislation that sets out its powers. The Supreme Court of Canada in *ATCO Gas and Pipelines Ltd. v Alberta (Energy and Utilities Board)*<sup>27</sup> has explained this concept as follows:<sup>28</sup>

Administrative tribunals or agencies are statutory creations: they cannot exceed the powers that were granted to them by their enabling statute; they must “adhere to the confines of their statutory authority or ‘jurisdiction’; and t]hey cannot trespass in areas where the legislature has not assigned them authority.” [footnotes omitted]

24. The Commission has the powers that are identified in its enabling legislation, and the powers that exist by necessary implication from the wording of the legislation, its structure and purpose.<sup>29</sup> The scope of the Commission’s public interest mandate must also be derived from the context of its enabling legislation. For example, the public interest mandate of an administrative body charged with overseeing public education in Alberta would be different from one charged with overseeing the delivery of public health care in Alberta and different again from an administrative or quasi-judicial tribunal like the Commission, which is charged with regulating the construction and operation of power plants.

25. In this proceeding, LOWP and its members have submitted that if the Commission were to approve the applications, it should impose a number of conditions on the project and Buffalo Plains. Some of these proposed conditions relate directly to the construction and operation of the project, and clearly fall within the parameters of the Commission’s statutory mandate. Other requested conditions do not.

26. An example of a proposed condition that falls outside of the Commission’s powers is LOWP’s request relating to compensation for property value impacts. In argument, LOWP requested that the Commission require Buffalo Plains to adopt a process that compensates for losses associated with property devaluation. The Commission notes that although it is authorized under the *Hydro and Electric Energy Act* to award financial compensation in certain specific circumstances,<sup>30</sup> the *Hydro and Electric Energy Act* (as well as the Commission’s other enabling legislation) is silent on the issue of compensation for property devaluation. Rather, legislature

<sup>26</sup> *Hydro and Electric Energy Act*, RSA 2000 c H-16, ss 2, 3; *Electric Utilities Act*, SA 2003, c E-5.1, s 5.

<sup>27</sup> *ATCO Gas and Pipelines Ltd. v Alberta (Energy and Utilities Board)* [2006] 1 S.C.R. 140, [2006] S.C.J. No.4, 2006 SCC 4 [Stores Block].

<sup>28</sup> *Stores Block*, paragraph 35.

<sup>29</sup> *Bell Canada v Canada (Canadian Radio-Television and Telecommunications Commission)*, [1989] 1 S.C.R. 1722, at page 1756.

<sup>30</sup> See for example: Section 17(2) (authorizing the Commission to order compensation in respect of transmission line relocations) and Section 29(4) (authorizing the Commission to order compensation in respect of electric distribution system boundary alterations).

has created a separate statutory regime to provide for compensation to landowners in respect of certain types of electrical utility infrastructure development, but it has not included power plants in that regime, and it has also not assigned any role for administering that regime to the Commission.<sup>31</sup> It is for these reasons that the Commission has consistently held that while it can consider evidence respecting property devaluation as part of its overall public interest assessment, compensation is not a matter within its jurisdiction.

27. Similarly, the Commission does not have jurisdiction to grant LOWP's request to direct that 25 per cent of the total property tax revenue arising from the project must be shared by Vulcan County with the Village of Lomond and surrounding area. The Commission has no role in the collection, allocation or distribution of property tax by municipalities.

28. Some of the conditions requested by LOWP relate to requirements or directions made by other regulatory agencies. The Commission is usually not the only regulatory agency that reviews a proposed project, because an applicant must obtain all approvals required by other applicable provincial or federal legislation. This can include development approvals from the local municipal authority, a *Historical Resources Act* approval from Alberta Culture and Status of Women (Alberta Culture),<sup>32</sup> and other approvals, authorizations or permits depending on the characteristics of the project. Like the Commission, each of these agencies has specific powers granted to them by legislation. The Commission considers feedback from other regulatory agencies where it is relevant to assist the Commission in understanding the potential impacts of a project and determining whether a project is in the public interest.

29. In this proceeding, LOWP has requested that the Commission incorporate certain directions or requirements of other regulatory agencies as conditions of any AUC approval. In particular, LOWP has requested that the Commission reinforce conditions of municipal development permits as conditions of any AUC approval. The Commission notes that regulatory requirements of other agencies are generally binding in their own right. Further, the agency that created those requirements has specific expertise in the subject matter and is therefore better suited than the Commission to assess compliance. Lastly, duplicating requirements of other agencies as conditions of an AUC approval may lead to inconsistencies or conflicts if the other agency updates or revisits its requirements. For these reasons, the Commission generally does not consider it necessary or prudent to incorporate all of the requirements or conditions of other regulatory agencies into conditions of its approvals.

30. Finally, the Commission will briefly address the relationship between commitments and conditions. Throughout the proceeding, Buffalo Plains has made various commitments in respect of the project. LOWP has requested that the Commission include each of these commitments as conditions of approval. LOWP explained that it does not trust Buffalo Plains to comply with its commitments, and that converting these commitments into conditions would result in greater enforceability.

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<sup>31</sup> For example, the Land and Property Rights Tribunal (formerly the Surface Rights Board) has express legislative authority to determine the amount of compensation payable upon making a right of entry order for the construction, operation or removal of a transmission line.

<sup>32</sup> Prior to July 2021, the government ministry currently named Alberta Culture and Status of Women was referred to as Alberta Culture, Multiculturalism and Status of Women. In this decision, the Commission refers to both iterations of the ministry as Alberta Culture for readability.

31. When the Commission approves a project, it does so having considered the entirety of the proceeding record including the representations and commitments made by an applicant. The Commission's determination that a project is in the public interest is informed by, and in many cases contingent on, the commitments made by an applicant. In some cases, where the Commission finds it necessary to supplement or clarify the terms of a commitment, the Commission may include a commitment as a condition of approval. However, the Commission considers commitments to be binding on an applicant regardless of whether or not the commitment is turned into a condition.

32. In this proceeding, Buffalo Plains confirmed its understanding that commitments are incorporated into the Commission's public interest determination and that stakeholders who feel that commitments have not been upheld are entitled to bring concerns or complaints forward to the Commission. Although the Commission does not consider it necessary to set out every commitment made by Buffalo Plains as a condition of approval, the Commission's approval of the project is predicated on its understanding that Buffalo Plains will honour its commitments to the Commission and LOWP.

### **3.3 How does the Commission consider and weigh different types of evidence?**

33. In this proceeding, Buffalo Plains identified several subject matter areas for which LOWP had not provided independent expert evidence to support its views. Buffalo Plains urged the Commission to give little weight to evidence from lay witnesses on matters that are of a scientific or technical nature. In response, LOWP argued that direct evidence from interveners is often more accurate and pertinent than evidence provided by experts whose terms of engagement may be limited and favorable to Buffalo Plains. LOWP submitted that the relevant standard is not whether the evidence is of an expert or layman nature; it is whether the evidence is accurate and truthful. LOWP submitted that the implication that landowner evidence is anecdotal, and thus should be given less weight, is demeaning.

34. In this section, the Commission discusses the differences between expert and layperson evidence, and how it considers and weighs different types of evidence.

35. The evidence considered by the Commission in its proceedings can be broadly divided into two categories: ordinary evidence and opinion evidence. Ordinary evidence is evidence given by a witness about facts: for example, what a witness has seen or heard. Opinion evidence refers to inferences made from observed facts. For example, a witness may form an opinion that it is likely to snow by observing facts such as a felt decrease in temperature or the visible formation of clouds. Opinion evidence often involves inferences on a scientific or technical subject matter provided by a person with specialized knowledge, experience or training in that field. A trained meteorologist may form an opinion on the likelihood of snow by analyzing data such as barometric pressure, wind speed and relative humidity.

36. Historically, Canadian courts would only consider opinion evidence on a subject if that evidence was provided by an expert witness. The general rule was that lay witnesses were restricted to providing ordinary evidence. However, the courts have recognized some limited exceptions to this rule. Lay witnesses have been permitted to provide opinions on matters such as the identification of persons and things, apparent age, the physical condition of a person, the emotional state of a person, the condition of things, the value of certain ordinary consumer goods, and estimates of speed and distance.

37. Canadian courts are now more lenient in allowing non-expert witnesses to express some opinion when giving evidence, as long as it supplements the facts they are presenting. In *Graat v The Queen*, Justice Dixon, writing for the unanimous court, concluded as follows: “I can see no reason in principle or in common sense why a lay witness should not be permitted to testify in the form of an opinion if, by doing so, he is able more accurately to express the facts he perceived.”<sup>33</sup>

38. Expert witnesses have been granted greater latitude to provide opinion evidence on issues or matters within their area of expertise. A person may become an expert in a subject matter through education, training, experience or a combination thereof. In *R v Howard*, the Supreme Court of Canada succinctly explained the role of an expert witness as follows: “Experts assist the trier of fact in reaching a conclusion by applying a particular scientific skill not shared by the judge or the jury to a set of facts and then by expressing an opinion as to what conclusions may be drawn as a result.”<sup>34</sup>

39. One of the ways in which the Commission’s process differs from that of the court is that it is not required to strictly apply the rules of evidence that relate to a trial before a judge. In fact, Section 20 of the *Alberta Utilities Commission Act* makes it clear that when the Commission is conducting a hearing it is not bound by the rules of law concerning evidence that apply to judicial proceedings. While this allows the Commission some flexibility to determine what evidence to admit and what weight to give the evidence it admits, it cannot ignore the principles that underlie the formal rules of evidence.

40. During the hearing, the Commission heard testimony from many witnesses who described how the project may affect them, their families, and their businesses. For example, the Commission heard from members of LOWP who farm land in the vicinity of the project and who described how the project may interfere with agricultural operations. Similarly, the Commission heard from landowners who explained how visual impacts may affect their use and enjoyment of their land.

41. While this evidence included opinion evidence, that evidence was relevant and necessary for the Commission to hear to be able to accurately assess how approval of the project may affect stakeholders. Accordingly, the Commission accepted as relevant the opinion evidence of many lay witnesses in coming to its decision on the applications.

42. In some cases, lay witnesses also provided opinion evidence on matters of a scientific or technical nature. For example, some members of LOWP provided testimony about the property value decrease they would expect to experience from the project, or about how the presence of turbines may cause or exacerbate health conditions. This evidence involves opinions; that is, the evidence is not limited to facts within the witness’ direct knowledge, and requires the witness to draw inferences about what has occurred or is likely to occur.

43. The Commission has previously identified certain subject matter areas for which it will generally require opinion evidence to be provided by independent experts with specialized expertise. These include human health, noise impacts, environmental effects, and property valuation, among others. The reason why the Commission must assess a witness’ expertise before giving weight to their opinion evidence in these areas relates to both the complexity of the

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<sup>33</sup> *Graat v The Queen* [1982] SCR 819, at page 837.

<sup>34</sup> *R v Howard*, [1989] 1 SCR 1337.

subject matter and the nature of opinion evidence. The Commission can choose to accept and rely on facts provided to it by a witness. In some cases, the Commission can also draw its own inferences and conclusions from those facts. If, however, the subject matter is complex enough that it requires the Commission to rely on inferences or conclusions drawn by someone else, the Commission must be confident that the person has both the training, knowledge and experience required to make relevant and helpful inferences, and is acting in a manner that is independent and impartial. This will usually require an independent expert witness.

44. The Commission's reliance on expert witnesses to provide opinion evidence on certain subject matter areas does not mean that lay witnesses are not permitted to provide any testimony on these matters, nor that their evidence on these matters will not be considered by the Commission. Lay witnesses are able to provide information within their personal knowledge, and may present their relevant observations in the form of opinions. In some cases, their personal knowledge may be extensive and detailed. For example, although LOWP did not put Ben Loree forward as an expert witness, the Commission recognizes that he has significant firsthand experience and knowledge relating to aerial spraying.

45. The Commission wishes to emphasize that its requirement for expert evidence on some subject matter areas is not a reflection of how it views the relevance, truthfulness or pertinence of LOWP members' testimony. Where, for example, LOWP members express concerns about the impacts of the project on human health, the Commission can take into account the fact that these concerns exist, are being relayed truthfully and are sincerely-held. The Commission cannot, however, give weight to opinions about the medical or scientific correlation between a project and certain health conditions unless a witness is able to establish that they possess the skill, knowledge and experience to establish themselves as an expert. In such a case, the value and weight of that evidence would have to be considered in light of the independence of the witness, the process followed by the witness at arriving at his or her opinion, and the substance of the evidence on which the witness relied.

46. In this proceeding, LOWP has questioned the independence or impartiality of Buffalo Plains' expert witnesses because they are retained to provide evidence on behalf of Buffalo Plains. Expert witnesses in Commission proceedings will generally be retained and paid by a party to the proceeding. This alone does not undermine the expert witness' independence or impartiality. Like lay witnesses, expert witnesses provide testimony under oath. Additionally, expert witnesses are required to acknowledge that they have a duty to provide opinion evidence to the Commission that is fair, objective and non-partisan. When deciding what weight to give to evidence provided by an expert witness, an important factor the Commission will consider is whether the expert witness provided an independent or objective opinion.

47. The Commission also heard testimony in this proceeding from corporate witnesses who are employees of Buffalo Plains but who are not independent experts. In some cases, this evidence addressed factual information, such as the steps taken by Buffalo Plains when preparing the application. In other cases, this evidence touched on specialized or technical subject matters. The Commission evaluates the evidence provided by the applicant's corporate witnesses in the same way it evaluates the evidence provided by other lay and expert witnesses who participated in a hearing. The Commission will first consider the nature of the evidence provided i.e.: does it deal with fact or opinion? If the evidence addresses a specialized or technical subject matter, the Commission will then consider whether the corporate witness has demonstrated that he or she has the necessary skill, knowledge and experience to provide an opinion on the subject matter.

Finally, the Commission will consider whether or to what degree the evidence was influenced by the witness' position as an employee of the applicant. The Commission will assess all of these factors when considering the weight to give to evidence provided by a corporate witness.

48. In reaching the determinations set out in this decision, the Commission considered all relevant materials comprising the record of this proceeding, including the evidence and submissions provided by each party. References in this decision to specific parts of the record are intended to assist the reader in understanding the Commission's reasoning relating to a particular matter and should not be taken as an indication that the Commission did not consider all relevant portions of the record as it relates to that matter.

## **4 Discussion and findings**

49. The remaining sections of this decision provide a discussion of the evidence in this proceeding and the Commission's findings on the central issues, namely the project's impacts to the Lomond area, the adequacy of consultation with Indigenous groups, and the project's impacts to historic resources.

50. Regarding the project's impacts to the Lomond area, the Commission discusses the potential impacts to agriculture (including aerial spraying, ground clearance with overhead collector lines, weeds and crop disease, water wells, and water co-op lines), property values, environment and wildlife, noise, shadow flicker, human health, and safety. The Commission also discusses the project's participant involvement program, bankruptcy and reclamation plan, and bylaw compliance and zoning.

51. Next, the Commission discusses the consultation that took place with Indigenous groups, including findings about the adequacy of the Commission's consultation with Kainai and Siksika.

52. The Commission then discusses the impacts to historic resources in the area, including impacts to the Majorville Cairn and Medicine Wheel, and whether potentially undiscovered archeological resources within the project footprint are a concern.

53. Finally, the Commission provides an overview of its key conclusions and confirms its decision that approval of the project is in the public interest.

### **4.1 Agriculture**

54. LOWP expressed concerns about the project's impacts to existing agricultural operations in the Lomond area. Buffalo Plains submitted that, in its efforts to minimize the project's agricultural impacts, it incorporated stakeholder feedback while adjusting turbine locations and access roads.

55. In the following sections, the Commission addresses concerns raised about aerial spraying, overhead collector lines, weeds and crop disease, water wells and water co-op lines.



#### 4.1.1 Aerial spraying

56. LOWP expressed concerns that the project would impact aerial spraying activities in the area. Some LOWP members explained that they rely on aerial spraying of their crops to mitigate economic risks from insect damage and disease pressure. Curt Schlaht, a LOWP member, submitted evidence that included previous aerial spraying records provided by a number of LOWP members, and testified at the hearing. LOWP member Ben Loree is an aerial spray pilot who sprays in the Lomond area and also testified during the hearing.

57. Buffalo Plains retained Tetra Tech to provide a report on the potential for the project to impact aerial spraying activities. Buffalo Plains also retained Serecon to provide a report on the use of crop protection products in agricultural operations.

58. As explained in Section 3.3, the Commission has considered the evidence of all witnesses who testified on aerial spraying. The Commission found the testimony of Mr. Loree to be particularly helpful given his many years of experience operating aircraft and spraying in the Lomond area, and his explanations of aerial spraying concepts.

59. Both LOWP and Buffalo Plains agreed that the project will impact the ability to aerial spray in the area; however, the parties disagreed about the extent to which aerial spraying currently occurs. LOWP was worried about potential economic losses in situations where its members could no longer aerial spray their crops. In response, Buffalo Plains indicated that there are alternatives to aerial spraying, scenarios where aerial spraying is the only option are rare, and that it is unlikely LOWP will experience economic losses.

60. LOWP also identified concerns about situations where aerial spraying is still possible but may become more expensive or involve greater risk to pilots as a result of the presence of turbines. In response, Buffalo Plains submitted that its proposal to work with local aerial applicators and to shut off turbines when needed should adequately mitigate LOWP's concerns.

61. The Commission now addresses the above points in detail. The Commission first discusses the frequency with which LOWP members aerial spray in the area. The Commission then discusses the availability of alternatives in situations where aerial spraying is no longer possible, and adequacy of Buffalo Plains' proposed turbine shut-off protocol in situations where aerial spraying will continue to occur in the project area. Then, the Commission discusses the potential for economic losses. Lastly, the Commission considers the potential for spray drift impacts from the project.

##### 4.1.1.1 How frequently do LOWP members aerial spray in the area?

62. LOWP claimed that its members regularly aerial spray in the project area. LOWP provided aerial spraying invoices from its members over the last 10 years.<sup>35</sup> Mr. Loree confirmed that in the last two years, he made approximately 10 to 15 trips to spray in the project area.<sup>36</sup>

63. Both Mr. Loree and Serecon expanded on possible limitations to aerial spraying caused by the project. They agreed that it may not be possible to aerial spray quarter sections of land

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<sup>35</sup> Exhibit 26214-X0292, Attachment #27 - Schlaht Farms evidence and aerial spraying implications, PDF pages 20 to 55, and Exhibits 26214-X0367 to 26214-X0379, various LOWP member spray records.

<sup>36</sup> Transcript, Volume 4, page 768, line 23.

with two sides bordering project lands hosting a turbine: “the main issue at hand is whether there’s a wind turbine within a close distance<sup>37</sup> along two sides of that property.”<sup>38</sup>

64. Buffalo Plains stated that most of the spray records provided by LOWP related to fields outside of two kilometres from the project boundary, which would not experience impacts related to the ability to aerial spray due to the project. Based on the records provided by LOWP, Buffalo Plains estimated that the rate of occurrence for aerial spraying on land owned by LOWP members near the project was 0.0397 per cent over a 10-year period.<sup>39</sup> Buffalo Plains testified that “of the 51 aerial spraying invoices submitted by LOWP, only 18 were in the two-kilometre direct project area over a 10-year period; and of those 18 records, an even smaller proportion related to quarter section lands that could potentially be impacted by aerial spraying restrictions.”<sup>40</sup>

65. The Commission understands that aerial spraying has historically been used in the Lomond area by both participating and non-participating landowners. Although Mr. Loree made multiple trips to the project area in the past two years, he also noted that he works for many people, including the Armada Hutterite Colony, a participating landowner in the project. The Commission accepts Buffalo Plains’ position that landowners who are voluntarily participating in the project by hosting turbines have accepted the associated impacts on their own agricultural operations, and the Commission has therefore focused its attention on the potential impacts to aerial spraying on non-participating landowners.

66. The Commission recognizes that it is difficult for landowners to predict a specific occurrence rate for aerial spraying, as conditions that affect aerial spraying can vary greatly depending on factors such as crop type, weather, and disease prevalence. The historical rate of occurrence, such as the one calculated by Buffalo Plains, is one method to help predict future usage of aerial spraying. However, the Commission is not prepared to accept the occurrence rate calculated by Buffalo Plains as a definitive indication of the frequency of aerial spraying in the project area. Even in the absence of an occurrence rate agreed upon by all parties, based on the records and testimony provided, the Commission concludes that LOWP members have a variable history of aerial application in the project area – aerial spraying exists but reliance on aerial spraying is not widespread and the need for aerial spraying changes from year to year. There is also no evidence to conclusively suggest that the need for aerial spraying of non-participating lands adjacent to the project will increase in the future. Overall, the Commission finds that aerial spraying does not occur frequently on non-participating lands in the project area.

#### **4.1.1.2 Are there viable alternatives in situations where aerial spraying is no longer possible?**

67. LOWP members raised concerns about the availability of viable alternatives to aerial spraying in situations where turbines would prevent the ability to aerial spray adjacent fields. In response, Serecon mentioned the possibility of high-clearance ground sprayers as an alternative crop protection measure. Serecon explained that high-clearance ground sprayers are commonly used at all times of the growing season.

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<sup>37</sup> Regarding the definition for “close distance”, both Serecon and Mr. Loree testified that spray planes could require up to two miles to turn around at the end of their passes.

<sup>38</sup> Transcript, Volume 1, page 56, lines 4-6.

<sup>39</sup> Transcript, Volume 2, page 208, line 5.

<sup>40</sup> Transcript, Volume 6, page 980, lines 20-25.

68. Although Serecon’s report concluded that “the absence of the ability to aerial spray does not eliminate a producer’s ability to apply crop protection products or continue to viably farm the property,”<sup>41</sup> it acknowledged that in very specific situations, there could be some adverse effects to crops if aerial spraying is unavailable. Serecon explained that in circumstances where conditions are too wet to use ground sprayers, and insect or disease pressures are urgent enough that a producer cannot wait for the ground to dry, aerial spraying would be a producer’s only option. However, Serecon explained that periods of excessive moisture that limit ground spraying access typically do not last very long. Serecon also explained that it is only when there are immediate insect or disease pressures that aerial spraying needs to be done right away. Similarly, Mr. Schlaht agreed that “in the event that a pest or disease moves into the crop and it is too wet to use a ground sprayer, a spray plane may be the only option.”<sup>42</sup>

69. The Commission is satisfied that LOWP members may have access to other product application options such as ground spraying, which includes high-clearance sprayers. The Commission understands that in normal conditions, producers may choose to use aerial application or ground application depending on a variety of factors. In rare circumstances, a combination of significant precipitation and urgent pest or disease pressure could necessitate immediate aerial spraying and ground spraying would not provide a viable alternative.

#### **4.1.1.3 Does Buffalo Plains’ proposed turbine shut-off protocol adequately mitigate potential adverse impacts in situations where aerial spraying is still possible?**

70. In some cases, the presence of turbines precludes the ability to aerial spray a field. In other cases, aerial spraying is still possible but may be complicated by the presence of turbines.

71. In response to concerns about turbines interfering with aerial spraying in the project vicinity, Buffalo Plains proposed a turbine shut-off protocol to mitigate the risks associated with the motion and direction of turbine blades. Buffalo Plains initially committed to establishing a turbine shut-off protocol where aerial spray applicators would be required to provide 24 to 48 hours of notice prior to any spraying activities.<sup>43</sup> Tetra Tech stated that Buffalo Plains’ commitment to working with landowners and aerial application companies to minimize the potential impact of turbines on aerial spraying would include open communication between landowners using aerial spraying, as well as Buffalo Plains curtailing or halting turbines in the vicinity of planned aerial spraying to minimize risk to pilot safety, and yawing (rotating) turbines to align them with a planned flight path (if considered to be operationally safe) to minimize risk to pilot safety.

72. Mr. Loree submitted that if he has to fly so close to a turbine that it needs to be shut down, he will likely not take on the job. However, Mr. Loree later clarified that risks around flying near wind turbines are difficult to predict without first completing a dry run or test flight, and that flying near wind turbines might be possible, but his company would only take those jobs on a case-by-case basis.

73. Mr. Schlaht stated that the requirement to provide advance notice would not provide a practical solution as there are times when spraying needs to be completed immediately to avoid

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<sup>41</sup> Exhibit 26214-X0388, APPENDIX C - Serecon Expert Report, PDF page 2.

<sup>42</sup> Exhibit 26214-X0292, Attachment #27 - Schlaht Farms evidence and aerial spraying implications, PDF page 13.

<sup>43</sup> Exhibit 26214-X0048, BPWF IR Responses #1, PDF page 5.

crop loss due to insects or disease. LOWP maintained that “spraying often needs to be conducted on short notice; as little as an hour would be required.”<sup>44</sup> When asked whether he had encountered situations in which spraying had to be completed immediately because of insects, crop disease, or wet weather, Mr. Loree replied:

Daily. We're a 911 business. We can spray within the hour of getting the request to spray, depending on other bookings and our availability and if we have the products on hand.<sup>45</sup>

74. Serecon explained that “the timing of fungicide applications is critical for the effective treatment and prevention of disease.”<sup>46</sup> However, Serecon did not believe it was likely that less than two days notice would be required to aerial spray a field, even in a worst-case scenario with high disease or high insect pressures. Serecon suggested that:

The two-day window is a general understanding of a time frame in which it would limit any major impact. It's not to say that you couldn't spray it on Day 3 or 4 and still have some effectiveness towards a particular problem... if you're looking for some general guidelines in a worst-case scenario infestation... you would want to be in that field with a sprayer of some sort within two days to limit any potential damages.<sup>47</sup>

75. Although Buffalo Plains originally required 24 to 48 hours’ notice for the protocol, it later confirmed that “a 24-hour period would be sufficient to work with stakeholders as part of that turbine protocol.”<sup>48</sup> Buffalo Plains stated that the protocol would apply when ground spraying and other alternatives are not feasible.<sup>49</sup>

76. The Commission is satisfied that 24 hours is a sufficient response time to shut off turbines prior to aerial spraying and that it is reasonable to expect that most aerial spraying applications can be scheduled at least 24 hours in advance. The Commission notes that although Buffalo Plains has required 24 hours notice for its turbine shut-off protocol, it stated that it may also consider shorter notice requests. The Commission expects Buffalo Plains to endeavor to meet a shorter notice period if circumstances require it.

77. LOWP requested that the Commission impose a turbine shut-off protocol as part of the project’s conditions of approval. The Commission agrees to the request and finds that the turbine shut-off protocol is an important piece in the mitigation of LOWP’s aerial spraying concerns. In the interest of ensuring that the protocol can be engaged in a timely manner, and given Buffalo Plains’ acknowledgment that aerial spraying occurs infrequently in the project area, the Commission considers it reasonable for the protocol to be followed on the request of a landowner, who reasonably determines that ground spraying is not feasible. The Commission includes the following condition of approval for the Buffalo Plains Wind Farm:

- a. Buffalo Plains shall implement a turbine shut-off protocol to be followed when it receives a request at least 24 hours in advance of impacted aerial spraying operations. The protocol will include the direct phone number for the site supervisor and the remote operations control centre, a step-by-step process to identify which turbines should be

<sup>44</sup> Exhibit 26214-X0292, Attachment #27 - Schlaht Farms evidence and aerial spraying implications, PDF page 3.

<sup>45</sup> Transcript, Volume 3, page 550, line 25 to page 551, line 3.

<sup>46</sup> Exhibit 26214-X0388, APPENDIX C - Serecon Expert Report, PDF page 3.

<sup>47</sup> Transcript, Volume 1, page 77, lines 7-17.

<sup>48</sup> Transcript, Volume 2, page 209, lines 19-21.

<sup>49</sup> Exhibit 26214-X0497.01, BPWF Letter to AUC re Undertaking - Commitment List, PDF page 1.

curtailed, halted and/or yawed, a confirmation of dates and times for planned aerial spraying activities, a process to ensure the site is safe and secure for spraying to occur, and a process to ensure that Buffalo Plains is notified when spraying is completed.

#### **4.1.1.4 Will LOWP members suffer unreasonable economic losses as a result of project impacts on aerial spraying?**

78. In this section, the Commission discusses the economic implications of relying on ground spraying rather than aerial spraying, and the consequences of situations where ground spraying is not possible. We also address the economic implications of conducting aerial spraying in the vicinity of turbines.

79. Mr. Schlaht explained that since 2010, he had 4,965 acres of crops sprayed by an aerial applicator, at a total cost of \$48,131.<sup>50</sup> He was worried that those costs would increase if the project were approved as aerial applicators may charge more to spray near turbines. Mr. Schlaht further explained that if impacts to aerial spraying necessitated the use of a ground sprayer, trampling could result in losses of \$2,255.30 in a 105-acre field of canola crop in one year, which did not include up to eight per cent losses in potential pod shatter.<sup>51</sup>

80. However, Mr. Schlaht also stated that in the last few years, he had not suffered much crop loss from ground sprayers. Serecon concurred and stated that “although use of a high-clearance sprayer may create additional issues (crop trampling, etc.), it is also typically cheaper than aerial application.”<sup>52</sup>

81. The Commission recognizes that in some cases, aerial spraying will not be possible due to the presence of turbines. The Commission also accepts Mr. Loree’s testimony that where aerial spraying remains possible, it may require additional precautions such as the use of training flights in the area which could contribute to greater expense. However, as described above, the Commission has found that aerial spray activities do not occur frequently on non-participating lands in the project area.

82. In situations where ground spraying must be used because aerial spraying is not possible, the Commission believes that the lower application costs associated with ground spraying may offset the potential damages to crop yield. As Serecon testified, one of the reasons why producers might choose ground spraying over aerial spraying is cost: aerial spraying is more costly than ground-based spraying, even in the absence of turbines. The Commission is aware that in some circumstances, excessive moisture can prevent ground spraying from occurring until fields have dried. However, the Commission accepts that this is only likely to result in economic losses when coupled with an immediate pest or disease pressure, and that such situations are not common in the project area.

83. Regarding irrigation, Serecon explained that in general, producers who rely more on aerial spraying are irrigating or growing speciality, higher value crops. Serecon understood that “there are no irrigated lands within close proximity to the project that would be impacted.”<sup>53</sup>

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<sup>50</sup> Exhibit 26214-X0292, Attachment #27 - Schlaht Farms evidence and aerial spraying implications, PDF page 3.

<sup>51</sup> Exhibit 26214-X0292, Attachment #27 - Schlaht Farms evidence and aerial spraying implications, PDF page 13.

<sup>52</sup> Exhibit 26214-X0388, APPENDIX C - Serecon Expert Report, PDF page 3.

<sup>53</sup> Transcript, Volume 1, page 52, lines 8-11.

Mr. Loree countered that “the Lomond area is increasing acres in irrigation”<sup>54</sup> and that the proposed turbines would limit future irrigation development. Luke Liebreich, a member of LOWP, commented that there is existing irrigation on land owned by project participants. Mr. Liebreich also noted the potential for more irrigation development in the area for non-participating landowners.

84. The Commission acknowledges the presence of irrigation in the project area, but notes that the only example provided was on participating owners’ lands. We have not been presented any evidence that there are irrigated LOWP lands within 2,000 metres of the project boundary. Buffalo Plains stated that potential aerial spraying impacts could be more severe for producers with irrigated land, but none of the LOWP members indicated they own irrigated land in close proximity to the project. LOWP also suggested that the project could hinder future irrigation attempts in the area. The Commission is of the view that the potential for irrigation to be developed does not necessarily mean that it will be developed.

85. We acknowledge that some landowners will have fewer options when it comes to spraying their land, which may translate to economic losses in specific scenarios. However, we believe that the potential for economic losses due to adverse impacts on aerial spraying are minimal, as LOWP members do not have a history of frequent aerial spraying in the area, they will likely have access to alternative or more economic spraying methods when aerial spraying is not available, and there is no evidence that they currently irrigate crops in the area.

#### **4.1.1.5 Is the potential for spray drift a concern?**

86. In addition to the project’s effects on aerial spraying in the area, LOWP was concerned that the project may increase the risk of spray drift, which occurs when airborne chemicals or substances drift from one location to another. Mr. Schlaht stated that he had encountered issues in the past from the chemical dicamba from a neighbouring landowner. Mr. Schlaht quoted an article describing research linking dicamba to temperature inversions. Although he wasn’t sure how wind turbines would affect spray drift, Mr. Schlaht was worried that large wind turbines might increase the risk of drift as there is significant turbulence downwind from a turbine, even at low wind speeds. Mr. Loree explained how moving turbine blades create vortices that contribute to downwind turbulence.

87. Buffalo Plains believed that the risk of spray drift would be minimal, and maintained that no additional mitigation would be required. Tetra Tech explained that to spray crops safely, effectively and efficiently, aerial spraying normally occurs during low wind speeds. Tetra Tech further noted that under low wind speeds, wind turbines produce the least amount of downwind turbulence possible or even stop operating completely. Tetra Tech concluded that “the risk of spray drift resulting from wind turbine-created turbulence is far less than the risk of spray drift from prevailing wind conditions.”<sup>55</sup>

88. LOWP did not provide any factual evidence linking the operation of wind turbines with increased spray drift.<sup>56</sup> In the absence of such evidence, the Commission agrees with Buffalo Plains that spray drift impacts from the project, if they occur, will likely be minimal.

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<sup>54</sup> Transcript, Volume 3, page 546, line 8.

<sup>55</sup> Exhibit 26214-X0387, APPENDIX B - Tetra Tech Report, PDF page 8.

<sup>56</sup> Exhibit 26214-X0292, Attachment #27 - Schlaht Farms evidence and aerial spraying implications, PDF page 16.

#### 4.1.2 Ground clearance concerns with overhead collector lines

89. Buffalo Plains initially intended that all collector lines in the project area be buried underground on private land; however, four landowners were opposed to the burial of collector lines on their property, so Buffalo Plains decided to place these segments within Vulcan County's public road allowances. The county directed Buffalo Plains to construct these lines above ground, as the underground portion of the road allowances was reserved for other utilities. LOWP was primarily concerned with collector line Segment B, which is a 5.7-kilometre segment from Amber 611S Substation to Turbine T-01 consisting of parallel lines along both sides of Range Road 211 within the public road allowance.<sup>57</sup> LOWP believed the overhead lines would create hazards while maneuvering large farm equipment.

90. LOWP argued that there were no other buried utilities in the right-of-way currently and unlikely to be any for 25 years. LOWP also requested that the Commission, if it approved the wind farm, override Vulcan County's requirements and direct Buffalo Plains to place the segments of overhead collector line underground within county road allowances.

91. Lynette Liebreich and her nephew Luke Liebreich, for example, own lands that are east of Segment B. They use Range Road 211 as an approach to these lands for large equipment up to 5.5 metres high because the north, east, and south borders of their property are bound by other landowners. The only way they can move equipment onto their land is the west side, via a number of access points from Range Road 211. A particular concern they raised is the potential hazard posed to the movement of grain augers 95 feet long under overhead collector lines. Mr. Liebreich explained that an auger of this size requires a large turning radius and depending on pole placement it may be impossible to bring such equipment into their yard on any of the existing approaches.<sup>58</sup>

92. Buffalo Plains stated that the access points identified by the Liebreichs cross an existing FortisAlberta Inc. distribution line, and that the proposed collector lines would follow the same standards as the existing FortisAlberta line. Buffalo Plains explained that all new 35-kilovolt overhead power lines, including the ones proposed for the project's collector lines, are required by the *Alberta Electrical Utility Code* to meet a minimum ground clearance of 6.4 metres.<sup>59</sup> Buffalo Plains further stated that the current *Alberta Electrical Utility Code* minimum ground clearances for new overhead power lines likely to be travelled by agricultural equipment are based on equipment not exceeding 5.3 metres.<sup>60</sup> Buffalo Plains understood that because it would be maintaining the 6.4-metre ground clearance requirement, the Liebreichs should not be impacted by the overhead collector lines.

93. When questioned by the Commission panel, Mr. Liebreich confirmed that he currently accesses some of his fields by crossing an existing FortisAlberta distribution line, and that FortisAlberta has not made any special engineering changes to the poles or line clearance to accommodate his equipment. He also confirmed that he does not take any special precautions when entering his fields containing existing overhead FortisAlberta lines.<sup>61</sup>

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<sup>57</sup> Exhibit 26214-X0246, BPWF Response to LOWP Information Request, PDF page 8.

<sup>58</sup> Transcript, Volume 3, page 625, lines 7-14.

<sup>59</sup> Exhibit 26214-X0246, BPWF Response to LOWP Information Request, PDF page 8.

<sup>60</sup> Exhibit 26214-X0246, BPWF Response to LOWP Information Request, PDF pages 8- 9.

<sup>61</sup> Transcript, Volume 4, page 795, line 10.

94. Regarding the movement or operation of grain augers and other large equipment which may require special maneuvering around the collector lines, Buffalo Plains committed to further consultation with stakeholders, and stated that it would consider increasing the ground clearance of specific spans to accommodate larger equipment where reasonable and possible to do so.<sup>62</sup>

95. Taking into consideration the fact that Buffalo Plains must comply with the *Alberta Electrical Utility Code* regarding ground clearance requirements, that the Liebreichs currently access some of their lands by crossing an existing FortisAlberta distribution line without any special engineering changes, and that Buffalo Plains will consider increasing ground clearance on specific spans to accommodate the safe maneuvering of equipment such as grain augers, the Commission finds that any adverse impact to the Liebreichs' farming operations will be minimal.

96. Further, the Commission declines to order the burial of these lines in the county's road allowance. Vulcan County was not a participant in this proceeding and there is no evidence from it as to whether there are existing technical, legal or planning limitations that prevent the undergrounding. If members of the public have concerns about Vulcan County's requirement to place collector lines within public road allowances above ground, the Commission notes that parties have the opportunity to bring up their concerns directly with Vulcan County.

97. Two other LOWP members, Stan Liebreich and Garry Sokvitne, currently farm the undeveloped road allowance on Segment B along Range Road 211. LOWP stated that construction of the overhead lines would make farming along the undeveloped road allowance more difficult, and requested compensation for the losses occurred. LOWP was also concerned that, if these landowners are unable to farm the undeveloped road allowance, weeds and overgrown vegetation would spread to other lands.

98. Buffalo Plains argued that the lands in question are public road allowances and not private property, and that the construction of structures on those road allowances does not necessarily mean that farming would no longer be possible.

99. The Commission finds that the loss of farmable land within undeveloped public road allowances that the project may cause is minimal and acceptable. Although the public road allowance along Range Road 211 is currently farmed, the county owns the road allowance and a person's ability to farm it is a time-honoured rural practice of convenience and practical forbearance by the county. In any event, as discussed in Section 3.2, the Commission has no authority to order compensation.

100. LOWP's concerns about weed and vegetation maintenance is discussed in Section 4.1.3 of this decision.

#### **4.1.3 Weeds and crop disease**

101. Weed control, particularly the prevention of clubroot spread and the enforcement of Buffalo Plains' cleaning standards, was a concern raised by many LOWP members. LOWP requested that the Commission require Buffalo Plains to follow a clubroot protocol that requires construction equipment to be cleaned prior to entering the Lomond area, identification of where construction equipment is coming from, and giving notice that equipment is arriving, all prior to

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<sup>62</sup> Exhibit 26214-X0497.01, BPWF Letter to AUC re Undertaking - Commitment List, PDF page 2.



the start of construction. LOWP also requested that the Commission condition its approval to require Buffalo Plains to implement a weed management program along the road allowance that is currently being farmed by Mr. Liebreich and Mr. Sokvitne.

102. Buffalo Plains stated that clubroot mitigation and other protocols would be included in its project-specific environmental protection plan. Maskwa noted that it had reviewed the *Alberta Clubroot Management Plan* and the *Cumulative clubroot infestations in Alberta*, and the county of Vulcan is not listed as a clubroot area. As outlined in the *Conservation and Reclamation Directive for Renewable Energy Operations*, a detailed site assessment would be completed prior to construction. A weed management plan would also be included as part of the project's conservation and reclamation plan and would include three years of post-construction weed monitoring.

103. Buffalo Plains committed to implementing the mitigation measures recommended by Maskwa. It explained that all vehicles, equipment, and materials would be inspected for and cleaned of any invasive plant material prior to entering the project area and only certified weed-free seed mixes would be applied to the project area after ground disturbance activities. It also committed to having mitigation measures and cleaning standards enforced by an independent environmental monitor.

104. LOWP highlighted Maskwa's recommendation that an independent environmental monitor be on site to ensure that a clubroot protocol is followed and that construction equipment arrives free of weeds and soil and is properly cleaned. LOWP agreed with the stipulations requiring Buffalo Plains to prepare an environmental protection plan and a conservation and reclamation plan which would include a weed management plan and clubroot protocol, but LOWP also stated that the use of an independent environmental monitor should be required as a condition of approval.

105. The Commission notes that no clubroot-contaminated fields have been detected or listed in the county of Vulcan in the *Cumulative clubroot infestations in Alberta* map on the government of Alberta website. The Commission finds that Buffalo Plains' commitment to the development of a clubroot protocol and weed management plan is appropriate to mitigate the risk of clubroot and limit the spread of weeds. This commitment and other commitments around weed management were detailed in the project's environmental evaluation report, which Buffalo Plains stated would be incorporated into a project-specific environmental protection plan prior to construction. The Commission finds Buffalo Plains' commitment to use an independent environmental monitor for enforcement purposes to be sufficiently protective and consequently will not require it as a condition of approval.

106. Buffalo Plains has committed to providing an updated environmental protection plan, which incorporates any additional mitigations resulting from the hearing and from pre-construction surveys prior to the start of construction and because of that, the Commission imposes the following as a condition of approval for the Buffalo Plains Wind Farm:

- b. Buffalo Plains shall submit an updated version of its project-specific environmental protection plan, which includes weed control measures, to the Commission at least 60 days prior to the start of construction.

#### 4.1.4 Water wells

107. LOWP identified concerns regarding the potential impacts from the construction and operation of the project on some of its members' private water wells used for personal and agricultural purposes. Concerns were raised around wind turbine tower vibrations mobilizing sediments as well as damage to wells and aquifers through construction. LOWP acknowledged that there is a lack of evidence to demonstrate that turbine vibrations would negatively impact water wells but remained concerned that vehicular traffic vibrations from construction would cause adverse effects.

108. LOWP submitted that water well testing is a common practice with oil or gas well sites and is considered relatively inexpensive whereas the potential impacts to water wells would be expensive and difficult to rectify. If water well issues arise, LOWP argued that they would be easier to address if pre-construction baseline water well testing had been conducted to measure turbidity, quality, and flow rates. LOWP requested that Buffalo Plains be required to conduct pre-construction baseline water well and spring testing at eight locations and to provide those results to LOWP members.

109. Buffalo Plains retained Golder who prepared a report citing scientific studies and literature reviews that have shown that vibrations related to the construction or operation of wind projects would have a negligible ability to mobilize sediments or cause sediment travel of any significant distance. In addition, based on drilling that took place from late May to early June 2021, seven of 16 measurements found no groundwater to a depth of 24.8 metres below ground surface. The measurements that did encounter groundwater ranged in depth from 7.10 to 23.7 metres below ground surface, which is deeper than the planned five-metre-deep turbine foundations.

110. Golder maintained that any vibration related to project activities including construction traffic would not be expected to increase turbidity in local water wells or affect water quality because the vibrations are not significant and the wells are far enough away from roads and turbines. Golder also stated that the most significant source of vibrations to water wells comes from the equipment within the wells themselves, and that any vibration from construction traffic as it passes nearby wells would be of short duration, similar to farm equipment traffic, and therefore not expected to cause any significant impacts to wells. Because of this, post-construction monitoring of water quality would be unnecessary. Buffalo Plains committed to tracking and reporting any complaints it receives regarding water wells within the first two years of operations and its responses to those complaints. It also confirmed it would review any relevant groundwater issues identified and brought forward on a case-by-case basis.

111. The Commission finds that it is unlikely that the project will be detrimental to groundwater in the area given the low level of vibrations that are expected to occur based on available scientific literature. The Commission also finds that Buffalo Plains' review of water well concerns on a case-by-case basis is a reasonable approach and imposes the following condition of approval for the Buffalo Plains Wind Farm:

- c. Buffalo Plains shall review any relevant groundwater issues identified and brought forward, including by Lomond Opposing Wind Project group members, on a case-by-case basis. Buffalo Plains shall track any complaints it receives regarding groundwater during construction, including impacts to groundwater caused by vehicular traffic, within the first 24 months of operations, and its responses to those complaints.

Buffalo Plains shall submit a report to the Commission outlining any groundwater complaints received and its responses within 25 months of the project becoming operational.

#### **4.1.5 Water co-op lines**

112. LOWP raised concerns regarding the potential impacts of project construction on water lines owned and operated by the McGregor Water Users Co-op and North Water Users Co-op. While LOWP acknowledged Buffalo Plains' commitment to pay the costs of relocating water lines and providing any necessary access to potable water in the event of a service disruption, LOWP was concerned that Buffalo Plains may deny fault for damages and place an impossible onus of proof upon the water co-ops.<sup>63</sup> LOWP requested a condition requiring Buffalo Plains to cover all costs related to damage to water service and supply lines, water hauling services, inconvenience and nuisance, as well as a requirement to provide GPS coordinates of any repairs to or realignment of a water co-op line to the Village of Lomond.

113. Buffalo Plains submitted that an interaction with any underground utility during construction would be serious but preventable with appropriate planning and adherence to applicable regulations. In the event that relocation of a water line is required, Buffalo Plains confirmed that it would be responsible for covering all associated costs. Further, Buffalo Plains committed to acquiring all permits necessary for any repairs or realignment made to water co-op lines or service lines as a result of project construction, and to co-ordinating all necessary repairs with the water co-op and providing a supply of potable water should a service interruption arise.

114. The Commission finds that the mitigation proposed by Buffalo Plains, which includes proper project planning, diligent adherence to applicable regulations and best practices, is satisfactory in the event the project's construction results in damage to the co-ops' water lines.

## **4.2 Property values**

115. In the following sections, the Commission determines whether property values will be negatively affected by the project. We also discuss whether we can rely on studies and papers from other jurisdictions to determine property value impacts and how public perception affects property values.

### **4.2.1 Can and should the Commission direct compensation to affected landowners?**

116. As a preliminary matter, the Commission wishes to address the limits on its authority to direct financial compensation to landowners and residents living in the vicinity of the project. LOWP requested that the Commission recognize that the project would likely cause property devaluation, and requested that Buffalo Plains propose reasonable compensation. Additionally, LOWP requested that the Commission institute a process to quantify any property devaluation that may occur and oversee a compensation process for impacted landowners. It explained that the process should include a third party property appraisal prior to construction of the project, and the establishment and distribution of a fund to protect all non-participating property owners from property sale losses.

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<sup>63</sup> Exhibit 26214-X0319, LOWP Master Evidence Submission, PDF page 26.

117. Even if evidence was provided that conclusively demonstrated a loss in property value, the Commission cannot direct Buffalo Plains to provide compensation to affected landowners. As explained in Section 3.2, the Commission is created by legislation, and can only do what its enabling legislation empowers it to do. It has no independent authority other than the power derived from its legislation. The Commission's enabling legislation, which requires it to consider whether the construction or operation of a proposed power plant is in the public interest, does not empower the Commission to direct compensation to parties affected by a proposed power plant such as neighbouring landowners.

118. When faced with concerns about property value impacts, the Commission may consider whether the impacts can be mitigated by imposing conditions on the design or the operation of the project. However, there may be impacts that cannot be completely mitigated. In this case, the Commission must carefully assess the applications to determine whether the project is in the public interest notwithstanding its remaining negative impacts, which may include visual intrusions or potential effects on property values.

#### **4.2.2 Will property values in the Lomond area be negatively affected by the proposed project?**

119. The project would be located approximately two kilometres west of Lomond. Many LOWP members are property owners or residents living near Lomond and the project's wind turbines would be visible from their residences. LOWP was concerned that landowners near the project who are not hosting project infrastructure on their land would experience negative property value impacts from the project, largely due to the visibility of the project's turbines from their residences. Buffalo Plains maintained that the evidence was inconclusive and the data insufficient to come to a meaningful conclusion regarding the potential effect the project may have on property value.

120. Larry Dietrich, a local realtor and member of LOWP, believed that the project would deter potential buyers of rural residential and residential acreage properties. He provided email correspondence and news articles suggesting that wind projects in Ontario have resulted in significantly reduced home prices. Ron Magnuson, a local businessman and LOWP member, questioned the studies provided by Buffalo Plains, referenced contrasting studies, and discussed the issue of wealth transfer in relation to the project. They both provided oral testimony on property value impacts at the hearing.

121. Buffalo Plains submitted that LOWP had not provided any project-specific expert evidence regarding potential property value impacts. Buffalo Plains retained Telford to address the potential property value impacts of the project and conduct a literature review of similar projects. Telford provided a report that concluded, due to a lack of transactions near neighbouring wind projects, there is insufficient sales data to demonstrate that there would be any impacts, positive or negative, associated with the project. It testified that more data would be needed before a meaningful analysis could be made, and the time frame to obtain that data could look like 10 to 20 years, depending on the market.<sup>64</sup>

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<sup>64</sup> Transcript, Volume 2, page 305, lines 22-23.

122. Mr. Dietrich argued that it would be difficult, if not impossible, for LOWP to provide pertinent data on property value impacts given his belief that there would be a lack of rural residential sales for years to come.<sup>65</sup> In light of this, LOWP argued that the Commission should accept the testimony of Mr. Dietrich, who testified that his experience as a realtor and conversations with prospective buyers had demonstrated that the project would negatively impact property values due to a reduced buyer pool which would lower demand and therefore sale prices.

#### **4.2.2.1 Can studies from other jurisdictions be relied upon to determine property value impacts?**

123. Both Buffalo Plains<sup>66</sup> and LOWP<sup>67</sup> provided a number of published studies from other jurisdictions supporting their respective positions. LOWP maintained that Buffalo Plains had selectively chosen studies to support its view and criticized the studies provided by Buffalo Plains for having a flawed methodology, and for being biased, dated, and irrelevant. LOWP stated that its studies are peer reviewed and independent, unlike the studies relied on by Buffalo Plains.

124. Telford explained that there has never been a property devaluation study regarding wind turbine impacts conducted in Alberta. LOWP suggested that, because there is insufficient data in Alberta, the Commission should rely upon the studies LOWP provided from other jurisdictions, which contain more data. In response, Telford stated that it is difficult to compare Lomond with other jurisdictions, particularly those in Europe, as they have an entirely different dynamic when it comes to planning and development, types of housing, population, and culture. Telford added that comparing Lomond with more populated jurisdictions is “like doing an appraisal of a property of a house in Calgary and trying to compare it to ... the value of a house in Lomond. It’s totally different.”<sup>68</sup> Telford also suggested that the only study it reviewed which primarily focused on rural properties was published in 2014 by Richard J. Vyn and Ryan M. McCullough, and focused on the effects of wind turbines on property values in Ontario. That study concluded that wind turbines from the Melancthon Wind Farm had not impacted the value of surrounding properties.

125. LOWP disputed the relevance of the Vyn-McCullough study, noting that the underlying character of the Ontario community in the vicinity of the Melancthon Wind Farm was not comparable to a rural residential and residential acreage environment like Lomond.

126. The Commission understands LOWP’s concern that a party is able to pick and choose from any number of studies completed in other jurisdictions that support their specific viewpoint, while disregarding others that conclude the opposite. It is for this reason that the Commission has previously stated that findings about property value impacts must be directly applicable to a project or based on project-specific information that is provided by qualified experts and tested or made available for testing in a hearing.

127. The Commission accepts that, in the absence of Alberta-specific data, it may be instructive to consider research conducted on the effects on property values in other jurisdictions. However, as the conflicting views of the parties on the Vyn-McCullough study demonstrate, it

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<sup>65</sup> Exhibit 26214-X0464, Opening Statement for Larry Dietrich.

<sup>66</sup> Exhibit 26214-X0246, BPWF Response to LOWP Information Request, PDF pages 91- 220.

<sup>67</sup> Exhibits 26214-X0282 to 26214-X0284, various papers.

<sup>68</sup> Transcript, Volume 2, page 303, lines 7-9.

can be challenging to determine which research studies provide reliable comparisons given the variety of project-related, regional and cultural factors that may influence property sales.

128. Accordingly, the Commission finds that, prior to placing reliance on a study from another jurisdiction, it must be confident that the study's conclusions are applicable to the circumstances of the application before the Commission. The Commission considers that this will likely require testimony by the author of the study, or someone sufficiently well-versed in its methodology and the characteristics of the region it addresses, who can substantiate its value as a comparator. Given that such testimony was not available in the current proceeding, it is not clear to the Commission that any of the studies cited by Buffalo Plains or LOWP are representative of rural southern Alberta and the Lomond area. As a result, the Commission has given little weight to the conclusions of the studies provided by either party in making our overall decision.

#### **4.2.2.2 How does public perception affect property values?**

129. LOWP argued that regardless of the specific characteristics of different geographical locations, the studies from other jurisdictions and news articles filed in this proceeding demonstrate a general and widespread attitude that people do not want to live by large wind turbines. LOWP members argued that negative public perceptions associated with the visual impact of turbines would be exacerbated in the current circumstances given the size of the proposed project, which would consist of 83 wind turbines, each with a blade tip height of 200 metres.

130. Buffalo Plains did not dispute that the project would change the viewscape from residences in the area. Buffalo Plains stated that it had tried to minimize the visual impacts to the greatest extent possible, and to provide accurate visual simulations to stakeholders who requested them. Buffalo Plains retained Green Cat who prepared visual simulations of the project from multiple viewpoints in the Lomond area.

131. The Commission acknowledges that large projects such as the Buffalo Plains Wind Farm will undoubtedly alter the landscape of the Lomond area. The Commission also agrees that the effect on viewsapes is one factor that will influence an individual's perception of the area as a place to reside. Despite evidence from Buffalo Plains and Telford that potential property value impacts are inconclusive, the evidence from LOWP members suggests, and the Commission accepts, that the project may result in negative effects to property value resulting from the general presence of the wind farm, and may potentially have more of an effect on some properties in the Lomond area, depending on the specific circumstances. In addition to the oral testimony of Mr. Magnuson and Mr. Dietrich, many members of LOWP brought up concerns that their property value would be affected by the project. The Commission heard numerous submissions about the general negative perception of the project in the Lomond area, specific concerns about the negative visual impacts of the project, testimony from LOWP members who would not have purchased property in the area had they known about the project, and the testimony of Greg Chitrenky, another LOWP member, who explained that he has stopped subdividing his land at the Landing Resort because no one is buying properties there anymore, which he attributed to the proposed project.

132. Based on the evidence in this proceeding, there is a widely held negative perception of wind projects among members of LOWP, who represent a significant portion of the general public in the Lomond area. Buffalo Plains acknowledged this negative view held by LOWP members when it stated "there is certainly a subjective perception from LOWP landowners that

their land will not be as desirable, at least to them, if the project is approved.”<sup>69</sup> Although the opinions expressed by LOWP members are subjective, the Commission recognizes that an individual’s decisions about where to reside are also subjective in nature. The Commission accepts that there is a negative public perception of the project’s effects on viewsapes, and this may translate into a negative effect on property value for some properties in the Lomond area. The Commission recognizes that this is a consequence of the project that needs to be balanced against the project’s public benefits, and the Commission discusses this balancing exercise in further detail in Section 5.

### **4.3 Environment and wildlife**

133. Maskwa was retained by Buffalo Plains to complete an environmental evaluation for the project. In its environmental evaluation report, Maskwa outlined project components and activities, described baseline environmental conditions, identified potential environmental effects of the project and mitigation measures, and assessed predicted residual effects. The environmental evaluation report concluded that the project’s predicted residual effects for each valued ecosystem component assessed are not significant and there are no residual effects anticipated post-implementation of the recommended environmental mitigation.

134. In a renewable energy referral report issued on December 17, 2020, Alberta Environment and Parks (AEP) assessed the project as having an overall moderate risk to wildlife and wildlife habitat based on project siting, wildlife use in the area, impacts to some sensitive wildlife features, and commitments made by Buffalo Plains to mitigate and monitor wildlife impacts. This was followed up with a referral report amendment letter submitted to the Commission by AEP on November 25, 2021, which provided updates regarding newly identified wetland impacts for the project but maintained the overall conclusion that the project would pose a moderate risk to wildlife and wildlife habitat.

135. LOWP raised environmental concerns with the project, including issues related to the stick nest, bird migration and wetland surveys and the cumulative mortality losses of birds, bats and insects.

136. In this section of the decision, the Commission first describes how the AEP renewable energy referral report process fits into the Commission’s decision-making process. Next, the Commission discusses the adequacy of the stick nest surveys and bird migration surveys completed by Maskwa. Then, the Commission analyzes the wetland impacts of the project. Next, the Commission discusses AEP’s mortality studies and the cumulative mortality losses of birds, bats and insects as a result of the project. Finally, the Commission provides its overall conclusion on the environmental and wildlife impacts of the project.

#### **4.3.1 How is Alberta Environment and Parks renewable energy referral report used?**

137. AEP and the Commission have regulatory authority over various aspects of approving, constructing and operating wind power plants in Alberta. AEP is a government department responsible for the overall management and regulation of wildlife in Alberta. It establishes regulatory standards and guidelines that apply to wind farm projects. The existence of regulatory standards and guidelines, and a proponent’s adherence to these standards, are important elements

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<sup>69</sup> Transcript, Volume 6, page 1021, lines 18-21.

for the Commission to consider in deciding whether potential adverse effects of a project are acceptable.

138. The relationship between the Commission and AEP is set out in Rule 001, Rule 007 and a document entitled *Roles and Responsibilities of Alberta Environment and Parks and the Alberta Utilities Commission*. Rule 007 requires applicants for wind energy projects to file with the Commission the renewable energy referral report issued by AEP. This is one of several application requirements relating to the environmental effects of a project, including the requirement to provide an environmental evaluation conducted or overseen by someone with appropriate experience and expertise. Given its overall authority for managing and regulating wildlife, the methodology used in conducting an environmental evaluation is generally informed by applicable AEP standards and guidelines.

139. In argument, LOWP asserted that the referral report process is flawed because, in producing a referral report, AEP does not conduct its own surveys and instead relies on data provided by the applicant. LOWP also criticized the fact that other stakeholders are not able to intervene or provide local knowledge to assist in the development of a referral report. LOWP suggested that the Commission's reliance on AEP's conclusions in a referral report amounts to an abdication of its responsibility and does a disservice to wildlife.

140. The Commission wishes to emphasize that, contrary to LOWP's characterization, when determining the environmental effects of a proposed project, and deciding if those effects can be mitigated, the Commission does not rely on a referral report to the exclusion of other relevant evidence. Rather, the Commission considers all relevant materials on the record, including evidence filed by interveners and any evidence provided in the oral hearing. The Commission recognizes LOWP's concern that interveners are not generally involved in the process that culminates in the issuance of a referral report. However, the Commission notes that referral reports are based on evidence provided by consultant witnesses who are available to be cross-examined at a hearing. Where, as in the current proceeding, evidence arises at a hearing that was not known to AEP or accounted for in a referral report, this evidence is both considered by the Commission and made available to AEP for the purpose of revising the referral report, if necessary.

141. The Commission considers referral reports to be valuable because they come from independent wildlife professionals with experience assessing the environmental impacts of wind energy projects in Alberta. However, referral reports are not the only evidence considered by the Commission, and the conclusions in a referral report are not determinative of the Commission's decisions. Rather, the issuance of a referral report by AEP represents a single step in a process that involves both applicant witnesses and interveners at various stages.

#### **4.3.2 Are the project's stick nest surveys and bird migration surveys adequate?**

142. LOWP identified several concerns with the adequacy of both the stick nest surveys and bird migration surveys completed by Maskwa. LOWP took issue with the survey methodology and argued that Maskwa did not consult with local residents, chose survey locations out of range and sight of wetland areas and conducted surveys outside of peak activity times. Further, the environmental evaluation identified 27 stick nests within the project area while a review of the area completed by LOWP members identified 262 stick nests. LOWP submitted photos of stick nests as evidence in the proceeding.



143. As part of its environmental evaluation, Maskwa completed pre-construction environmental surveys which included stick nest and migratory bird surveys. Maskwa explained that the surveys followed the protocols in the *Sensitive Species Inventory Guidelines* and were conducted in accordance with the requirements set out by the *Wildlife Directive for Alberta Wind Energy Projects* (Directive).

144. Maskwa stated that many of the nests identified by LOWP members were located outside of the 1,000-metre project infrastructure survey area required by the *Sensitive Species Inventory Guidelines*. In addition, where land access was not granted for lands within 1,000 metres of project infrastructure, Maskwa's surveys were done using binoculars or a spotting scope, which is common practice, but could lead to some nests being missed. Maskwa reviewed the evidence submitted by LOWP, including all 262 stick nest photos, and determined that 12 additional stick nests may be impacted by the project. Buffalo Plains stated that if nests are identified during pre-construction surveys and/or occupied during construction by a species with a required setback, mitigation would be implemented as outlined in its December 17, 2020 referral report and in consultation with AEP.

145. LOWP submitted that the migration surveys did not depict the amount of migratory birds using the local area and filed pictures and videos documenting nearby birds. LOWP added that two of the survey locations were adjacent to an existing transmission line, which may have impacted waterfowl use of the local area and skewed the bird count numbers. Maskwa confirmed that the migration surveys were conducted based on the requirements in the Directive and that the survey locations were selected to monitor topographical landscape features such as wetlands or coulees that may host higher numbers of species and/or birds during migration. Maskwa also stated that the presence of the existing transmission line would not impact the survey results as it is considered an existing feature on the landscape.

146. The Commission finds that the stick nest and bird migration surveys completed for the project were conducted in accordance with AEP standards and protocols, including the *Sensitive Species Inventory Guidelines* and the Directive. Although the Commission understands that LOWP has challenged the sufficiency of AEP's regulatory standards and guidelines, LOWP did not propose an alternative methodology for surveys that is as comprehensive or species-specific as the *Sensitive Species Inventory Guidelines* and the Directive. Given AEP's specific expertise in managing wildlife, the Commission places considerable weight on an applicant's compliance with applicable AEP standards and protocols. Further, the Commission observes that it is not surprising nor inconsistent to discover new information or environmental features as subsequent surveys and monitoring are completed. The Commission acknowledges that Buffalo Plains has committed to completing pre-construction stick nest surveys within a 1,000-metre buffer of project infrastructure, verifying the 12 stick nests identified by the LOWP group, and the implementation of further mitigation as required, in consultation with AEP. The Commission is also satisfied that the existing transmission line will not skew the bird migration survey results because it was considered as an existing feature in the project area.

#### **4.3.3 Are the project's impacts to wetlands acceptable?**

147. LOWP submitted that the wetland studies conducted for the project were inadequate and questioned Maskwa on an apparent omission of wetland delineation within 100 metres of overhead collector lines. LOWP argued that as a result of this omission, AEP could not have accurately assessed the potential wetland impacts of the project in its referral report. Maskwa indicated that it had completed a further review of the materials and agreed that some wetland

delineations had been inadvertently missed but anticipated that they would likely be classified as Class I and Class II wetlands and not considered higher quality wetlands (Class III and higher). Buffalo Plains confirmed that it would send a letter to AEP explaining the apparent and inadvertent omission of wetlands, requesting feedback with respect to this omission, and confirming the “moderate risk ranking to wildlife” stated in the December 17, 2020 referral report.

148. As a result of the omission, Maskwa completed additional wetland delineation in the area of the proposed overhead collector lines within the road allowances of Range Road 204 and Range Road 211, which identified six Class III wetlands located within 100 metres of the proposed overhead collector line on Range Road 211 as well as an additional 19 Class III and higher wetlands that would fall within 100 metres of proposed project infrastructure. Of the six wetlands identified along Range Road 211, four intersect with the road allowance and are heavily cultivated or disturbed. No additional Class III or higher wetlands were identified within 100 metres of the proposed collector lines on Range Road 204.

149. AEP reviewed the new information and determined that the number of Class III and higher wetlands that would have their setbacks impacted or be directly impacted by project infrastructure had increased from 139 to 158 and because of this, the risk to wetland habitat had increased from moderate to high. AEP recommended that bird collision markers be added to overhead collector lines in those areas that would intersect the 100 metres setback of Class III and higher wetlands. AEP concluded that the overall project risk to wildlife and wildlife habitat would remain a moderate risk.

150. AEP’s views, including that Buffalo Plains’ overall mitigation strategies aligned with the Directive for protecting wildlife and wildlife habitat, were reflected in a referral report amendment letter dated November 25, 2021. The referral report amendment letter was placed on the public record for parties to review and provide submissions.

151. LOWP argued that the new evidence showed that contrary to Maskwa’s view, there was a significant impact on wetlands given the risk ranking went from moderate risk to high risk and that the increased risk and setback infringements supported burial of the overhead collector lines. It also stated that additional wildlife features would likely be identified near project infrastructure during the pre-construction surveys.

152. Buffalo Plains pointed out that any potential infringement to wetland habitat would not be in violation of any AEP directive, policy or applicable regulatory requirement and that AEP did not refer to the burial of the overhead collector lines as a recommended mitigation measure. Buffalo Plains stated that it remains committed to minimizing potential impacts to wetlands through the implementation of mitigative measures outlined in the referral report, renewable energy project submission report, and as recommended in AEP’s correspondence. Buffalo Plains also stated that there is no evidence on the record to challenge the adequacy or methodology of its pre-construction surveys, and noted that AEP did not change its overall risk ranking for wildlife or wildlife habitat.

153. The Commission acknowledges that a number of wetlands in the project area and within 100 metres of overhead collector lines were omitted from the environmental evaluation and the original project submission reviewed by AEP. Further, as a result of the omission, AEP increased the risk ranking to wetland habitat from a moderate to high risk. However, the Commission has

considered AEP's conclusion that with the additional potential impact to wetlands, the overall project risk ranking would remain a moderate risk.

154. The Commission agrees with LOWP that it is crucial to implement mitigation measures and impose conditions to minimize direct impacts to wildlife and wildlife habitat. The Commission also agrees with AEP's conclusion that the mitigation measures proposed by Buffalo Plains are aligned with the Directive for protecting wildlife and wildlife habitat. On the whole, and relying in particular on AEP's overall project risk assessment, the Commission is satisfied that with the implementation of Buffalo Plains' mitigation measures, the project's potential impacts to wetlands can be adequately mitigated.

155. In view of the foregoing, the Commission imposes the following as a condition of approval for the Buffalo Plains Wind Farm:

- d. Buffalo Plains must install bird collision markers to overhead collector lines in areas where the collector lines intersect the 100-metre setback of Class III and higher wetlands.

#### **4.3.4 Should the project account for cumulative environmental impacts?**

156. LOWP submitted that the AUC and AEP were not accounting for the increasing cumulative mortality losses of birds, bats and insects occurring at a growing number of wind farms in Alberta. Due to the high number of bird and bat fatalities reported at the Blackspring Ridge Wind Farm located approximately 10 kilometres from the project area, LOWP suggested that Buffalo Plains should have been more pro-active in conducting its wildlife surveys. LOWP pointed out that the Blackspring Ridge Wind Farm had to curtail operations due to high mortality levels determined through post-construction monitoring. Further, the Buffalo Plains Wind Farm and Blackspring Ridge Wind Farm are similarly situated in close proximity to a major water reservoir.

157. LOWP was concerned that the AEP post-construction monitoring requirements do not adequately protect wildlife. LOWP stated that post-construction mortality surveys are a reactive process and create a regulatory environment that allows a threshold of mortalities to occur prior to the implementation of mitigation. As the turbines proposed by Buffalo Plains are significantly larger than the existing turbines at the Blackspring Ridge Wind Farm, LOWP stated that similar mortality issues would likely occur for the project.

158. Maskwa noted that mortality risk would be project specific and also based on turbine siting and that there would be a number of site-specific factors to consider which may influence wildlife mortalities or cumulative impacts such as presence of native prairie and key wildlife biodiversity zones.

159. Buffalo Plains submitted that the existing requirements in Rule 007 and AEP's Directive establish a thorough regulatory review process to assess potential environmental impacts, and where appropriate, monitoring and mitigation can be developed to address any identified environmental effects. It indicated that additional mitigation could be implemented to address any cumulative impacts associated with the project, should they be identified during post-construction monitoring. Buffalo Plains noted that the assessment of cumulative impacts is not currently required in Rule 007 or specified in the Directive.

160. Maskwa noted that the environmental assessment branch of AEP did not determine that a formal environmental impact assessment or cumulative impact assessment would be required for the project. Maskwa added that consideration of cumulative impacts is a policy issue and AEP, being the regulator overseeing post-construction monitoring in Alberta, should be making the determination on requirements.

161. In this instance, the Commission finds it appropriate to include a condition associated with the cumulative effects to birds and migratory bats because of the project's proximity to McGregor Lake and the Blackspring Ridge Wind Farm. The Commission imposes the following as a condition of approval for the Buffalo Plains Wind Farm:

- e. If the cumulative effects on birds or migratory bats were to occur such that mortality rates exceeded a cumulative threshold for a local area or regional area as determined by Alberta Environment and Parks (AEP), Buffalo Plains shall implement any recommended adaptive mitigation measures issued by AEP, as applicable, in order to reduce the average estimated corrected mortality rate under a cumulative threshold that could be established by AEP in the future.

162. The Commission notes that in Section 4.1.3, it required Buffalo Plains to submit an updated version of its project-specific environmental protection plan at least 60 days prior to the start of construction as a condition of approval. Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* requires approval holders to submit to AEP and the AUC annual post-construction monitoring survey reports. Consequently, the Commission imposes the following as a condition of approval for the Buffalo Plains Wind Farm:

- f. Buffalo Plains shall submit a 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*.

163. The Commission is satisfied that the environmental effects of the project can be mitigated to a reasonable degree if Buffalo Plains adheres to the commitments made, including abiding by all pertinent provincial and federal environmental legislation and guidelines, diligent implementation of the mitigation measures proposed in the environmental evaluation report and project-specific environmental protection plan, and adherence to the environmental conditions of approval imposed by the Commission.

#### 4.4 Noise

164. Buffalo Plains retained Stantec to model a noise impact assessment (NIA) for the project,<sup>70</sup> which identified 38 dwellings located within 1.5 kilometres of the project turbines and substation as receptors. The NIA predicted that cumulative sound levels at all receptors will be compliant with the permissible sound levels (PSLs) set out in Rule 012. The NIA analyzed low frequency noise and concluded that project-related low frequency noise issues are not expected at any receptors.

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<sup>70</sup> Exhibit 26214-X0018, Appendix 12 Noise Impact Assessment.

165. LOWP expressed concerns about the NIA's noise modelling, the potential noise emissions from atmospheric turbulence, the potential noise effects from wind shear, and the lack of pre-construction baseline sound measurements, and requested that if the project were to be approved, a noise detection system be installed to monitor noise from the project.

166. The Commission now addresses these issues in detail and determines whether the NIA and its noise model meet the requirements of Rule 012 and whether the project would be in compliance with Rule 012. The Commission discusses the health impacts of noise in Section 4.6 of this decision.

#### **4.4.1 Should the project noise modelling incorporate an uncertainty factor?**

167. LOWP submitted that Buffalo Plains should include uncertainties in its noise models to account for fluctuations in measured sound levels at the post-construction stage.<sup>71</sup> LOWP requested Buffalo Plains incorporate the following uncertainty factors into the NIA:

- existing noise measurement uncertainty factor (0.5 to three decibels (dB))
- supplier supplied uncertainty factor (one to 1.5 dB)
- simulation uncertainty factor (two to five dB)<sup>72</sup>

168. LOWP stated that it is likely that predicted cumulative sound levels will exceed the nighttime PSL if uncertainty factors are applied to the NIA predictions. LOWP suggested that Buffalo Plains relocate wind turbines so as to increase the distance from receptors where predicted noise levels are close to the nighttime PSL.

169. Buffalo Plains explained that although the NIA did not consider uncertainty factors in the noise modelling, the overall approach taken in the NIA was conservative and overpredicted sound levels. The NIA considered non-operational baseline facilities when predicting cumulative noise levels, modelled wind turbines operating at 100 per cent capacity at all times, and modelled each receptor as downwind from every turbine. Buffalo Plains asserted that introducing additional conservatism into the NIA (i.e., incorporating uncertainty factors) would result in inaccurate noise level predictions.<sup>73</sup>

170. In support of its request to incorporate uncertainty factors, LOWP referred to a Master's thesis from the Royal Institute of Technology in Stockholm, Sweden, but did not provide an expert witness who could attest to the dB range of the uncertainty factors proposed by LOWP or comment on the applicability of the thesis to the current project. Rule 012 does not explicitly require an NIA to include uncertainty factors in noise modelling. Instead, noise practitioners generally make conservative assumptions about propagation conditions and project operations to account for the level of uncertainty inherent in predictive noise modelling. Buffalo Plains' NIA has incorporated several conservative assumptions, which are typical of wind power NIAs submitted to the Commission. The Commission agrees that conservative assumptions used in the NIA likely account for the level of uncertainty inherent in the noise model developed for the

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<sup>71</sup> Exhibit 26214-X0316, Appendix #4 - Wind Farm Noise Impact in France.

<sup>72</sup> Exhibit 26214-X0346, Master Evidence Submission of LOWP, PDF page 18.

<sup>73</sup> Exhibit 26214-X0385, BPWF Reply Evidence to LOWP, PDF page 11.

project. The Commission does not require Buffalo Plains to incorporate the uncertainty factors suggested by LOWP into the project NIA.

171. With respect to LOWP's concern that actual operational sound level from the project might exceed the nighttime PSL, the Commission emphasizes that if actual operational sound level from the project are determined to be non-compliant with Rule 012 at one or more receptors, then Buffalo Plains will be required to address the exceedance through mitigation.

#### **4.4.2 Should the project noise modelling be adjusted to account for noise effects from atmospheric turbulence and wind shear?**

172. LOWP noted that modelling for the NIA was based on the International Organization for Standardization (ISO) 9613-2 technical standard,<sup>74</sup> which does not capture noise effects from atmospheric turbulence or wind shear.<sup>75</sup> LOWP asserted that atmospheric turbulence would be an issue in situations where separation between adjacent turbines is less than seven times the rotor diameter (i.e., 1,190 metres for the project turbine). LOWP requested that Buffalo Plains relocate or remove turbine pairs separated by less than 1,190 metres to reduce noise from turbulence.<sup>76</sup>

173. Buffalo Plains replied that use of ISO 9613-2 for noise modelling is accepted by Rule 012. ISO 9613-2 is intended to represent long-term or average noise propagation under conservative downwind conditions. Quantifying the noise level due to turbulence or wind shear is difficult because there are no commonly accepted protocols or international standards. In addition, Buffalo Plains noted there is no requirement in Rule 012 to assess noise under turbulence conditions or wind shear conditions.<sup>77</sup>

174. Stantec testified that atmospheric turbulence is an ever-changing phenomenon and not exactly the same as the average level that Stantec's model predicted.<sup>78</sup> Stantec further explained that it was not aware of any technical studies or research suggesting that atmospheric turbulence could increase sound levels in cases where turbines were separated by less than seven rotor diameters, and it was not aware of any guidelines or regulations requiring that turbines be separated by more than seven rotor diameters.

175. Buffalo Plains stated that redesigning the project to achieve a minimum turbine spacing of 1,190 metres would require substantially more underground cabling than the current design, which would result in high electrical losses and jeopardize the economic viability of the project. Buffalo Plains stated that the proposed project layout is fully compliant with Rule 012. For these reasons, Buffalo Plains did not commit to a minimum turbine spacing of 1,190 metres.<sup>79</sup>

176. With respect to noise effects from wind shear, Stantec stated that noise emissions from the turbines are predicted be compliant with Rule 012 for all wind speeds, including circumstances when there is a high degree of wind shear between hub height and receptor height.

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<sup>74</sup> International Organization for Standardization (ISO), ISO 9613-2, Acoustics – Attenuation of sound during propagation outdoors - Part 2: General method of calculation, Geneva, 1996.

<sup>75</sup> In the context of wind power projects, atmospheric turbulence is a set of seemingly random and continuously changing air motions that are superimposed on the wind's average motion; wind shear refers to a vertical wind speed gradient or difference between the wind speed at hub height and the wind speed on the ground.

<sup>76</sup> Exhibit 26214-X0319, Master Evidence Submission of LOWP - Redacted for Health reasons, PDF pages 18 and 55.

<sup>77</sup> Exhibit 26214-X0246, BPWF Response to LOWP Information Request, PDF pages 38 and 39.

<sup>78</sup> Transcript, Volume 1, page 183, lines 3-6.

<sup>79</sup> Exhibit 26214-X0386, APPENDIX A - Proposed Conditions and Applicant's Responses, PDF page 12.

Stantec acknowledged that if the wind speed at hub height is greater than the wind speed at ground level, a receptor on the ground may perceive differences in the wind turbine sound levels because the ambient sound is low while the project turbines may be operating at their maximum level (i.e., with maximum sound emissions); in these circumstances, a person may potentially experience an increase in terms of sound perceptibility or noticeability. However, Stantec stated that Rule 012 does not rely on the receptor's perceptibility.<sup>80</sup>

177. LOWP's submissions raise two major noise issues: noise emissions from wind turbines (specifically, noise resulting from turbulence between turbines) and noise propagation from the turbines to receptors. Rule 012 has requirements to address these two issues:

- Rule 012 requires the project NIA to model the wind turbines at their unique location and elevation and with "the maximum noise emitted when the wind turbine operates under the planned maximum operating conditions."<sup>81</sup>
- Rule 012 requires that any future measurements to verify project compliance be collected under representative propagation conditions, which are not necessarily "absolute worst-case conditions"<sup>82</sup> and can "exclude any non-frequent occurrence that takes place less than 10 per cent of the time."<sup>83</sup>

178. The Commission is satisfied that the NIA modelled planned maximum operating conditions and accounted for the relative locations of the project turbines in accordance with Rule 012. The Commission has not been presented with any persuasive evidence to demonstrate that a departure from Rule 012 is warranted. In particular, the Commission has not been provided with any persuasive evidence to substantiate LOWP's suggestion that in situations where the distance between turbines is less than seven times the rotor diameter atmospheric turbulence could result in increase of noise emissions beyond what was modelled in the NIA. Rather, the only expert witness available to provide evidence on noise disagreed with this suggestion and testified that he was not aware of any standards or guidelines to support the turbine distance formula proposed by LOWP. In the absence of any expert evidence providing a basis for LOWP's assertions, the Commission does not accept that project turbines separated by less than 1,190 metres will exacerbate the noise effects of atmospheric turbulence.

179. The Commission notes that ISO 9613-2, the technical standard used in the noise modelling, is referenced explicitly in Rule 012 and is commonly used in wind project NIAs submitted to the Commission. This ISO standard models noise propagation under downwind conditions (i.e., conditions that are favourable to propagation from source to receptor). The Commission finds the NIA reasonably implemented the ISO 9613-2 standard to model representative propagation conditions between sound sources and receptors, which meets the requirements of Rule 012.

180. The Commission accepts that residents may perceive more noise from the project turbines during periods of high wind shear than during periods when wind speed at turbine hub height and ground level are more consistent even though the turbines are operating within PSLs.

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<sup>80</sup> Transcript, Volume 2, page 421, lines 4-5.

<sup>81</sup> Rule 012, Section 3.3 (1), PDF pages 22 and 23.

<sup>82</sup> Rule 012, Section 4.8.1 (3), PDF page 34.

<sup>83</sup> Rule 012, Glossary, PDF page 46.

181. The perception of a noise from a given source depends on both the noise level emitted by the source and the background noise level resulting from other sources, which can provide masking. When wind shear is high, turbines may emit near-maximum noise (since wind speed at hub height is elevated) while background noise levels at ground level receptors are low (since ground level wind speed is low). In this circumstance, project noise may be more prominent because there is less masking from wind-induced background noise than in circumstances with less wind shear. However, the noise contribution from the project will not be increased by the presence of wind shear.

182. Rule 012 requires that cumulative sound levels at receptors are compliant with applicable PSLs, and Rule 012 does not consider issues of perception when evaluating compliance. The rule considers the actual, physical contribution that the turbines make to sound levels at a residence or other structure. The NIA predicted that cumulative sound levels from the project under maximum operating conditions are compliant with the daytime and nighttime PSLs at receptors. The Commission accepts the NIA's conclusion that the project will be compliant with Rule 012, regardless of the magnitude of wind shear between hub height and receptor height.

#### **4.4.3 Is pre-construction noise monitoring necessary?**

183. LOWP noted that Buffalo Plains did not conduct pre-construction baseline sound measurements at receptors and requested that the Commission require Buffalo Plains to undertake or pay for a pre-construction baseline sound survey.<sup>84</sup>

184. The Commission declines to do so because Rule 012 does not require an applicant to conduct baseline sound measurements or utilize measured baseline sound levels in a noise impact assessment. Rather, Rule 012 recommends using a nighttime ambient sound level of 35 dBA (A-weighted decibels) for rural Alberta. The Buffalo Plains Wind Farm will be located in a rural area with existing energy industry activities and the NIA applied the assumed nighttime ambient sound level of 35 dBA. The use of an assumed nighttime ambient sound level is consistent with NIAs conducted for other regulated developments (e.g., oil and gas, conventional power generation, solar, and wind energy) in the region and other noise guidelines.<sup>85,86</sup>

185. Rule 012 specifies that the ambient sound levels may be measured (as opposed to using the assumed value of 35 dBA) in areas considered to be pristine or areas that have non-energy industrial activity that would impact the ambient sound levels.<sup>87</sup> The Buffalo Plains project does not meet either of these conditions and the Commission finds that a measured baseline sound survey is not required. Overall, the Commission finds that the NIA meets the requirements of Rule 012 and accepts that the project will likely be compliant with the applicable PSLs set out in Rule 012.

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<sup>84</sup> Exhibit 26214-X0319, Master Evidence Submission of LOWP - Redacted for Health reasons, PDF page 55.

<sup>85</sup> Alberta Energy Regulator, Directive 038: *Noise Control*, February 16, 2007.

<sup>86</sup> Health Canada, Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise, January 2017.

<sup>87</sup> Rule 012, Section 2.1 (10), PDF page 8.



#### 4.4.4 Is post-construction noise monitoring necessary?

186. LOWP requested Buffalo Plains install a public, internet-accessible noise detection system to monitor sound levels at five different locations within the project area after the project is constructed.<sup>88</sup>

187. Buffalo Plains did not commit to installing a noise detection system for the project because its noise impact assessment predicted that the project will be compliant with Rule 012. It did commit to a post-construction comprehensive sound level survey in accordance with Rule 012 requirements. If the survey identifies a non-compliance with PSLs, Buffalo Plains would implement appropriate mitigation measures for the turbine or turbines responsible for the exceedance.<sup>89</sup> This may include placing one or more turbines in noise-reduced operating mode, or turning off these turbines as necessary.

188. During the hearing, Stantec confirmed that a post-construction comprehensive sound level survey would be conducted to test compliance with Rule 012 at four recommended monitoring locations: receptors R8, R42, R108 and R111. The receptors were chosen because they were each predicted to have a margin of compliance<sup>90</sup> less than 0.5 dBA. LOWP requested further receptors, in particular, in Lomond.

189. Stantec further testified that installation of a permanent noise detection system may be unnecessary or not useful because:

- Noise emissions from turbines are typically steady while noise detection systems are useful for monitoring transient noise sources like airplanes taking off and landing.
- Measured sound levels must be screened and analyzed following stringent procedures required in Rule 012 before being used to assess the project compliance and a noise detection system would measure noise from all sound sources. For example, during windy times, wind noise frequently exceeds the nighttime PSL of 40 dBA; a real-time noise detection system would be unable to demonstrate if the exceedance resulted from nearby turbines or elevated wind noise.

190. LOWP also sought a condition that directed Buffalo Plains to turn off the turbines when nighttime ambient sound levels, caused by wind for example, exceeded 40 dBA.<sup>91</sup>

191. The Commission does not require Buffalo Plains to install a permanent noise detection system for the reasons outlined by Buffalo Plains: specifically, the Commission finds that a permanent noise detection system would be unlikely to produce useful information because of the indiscriminate collection of sound data, and is unnecessary given that the noise emissions produced by turbines are generally steady. However, compliance with the PSLs is of utmost importance to the Commission. Given Buffalo Plains' stated intention to conduct post-construction monitoring at select receptor sites, the fact that some predicted sound levels are close to the nighttime PSL at a number of receptors, and LOWP's concerns, we will require Buffalo Plains to complete a post-construction comprehensive sound level survey to verify compliance with Rule 012 once the project commences operation. The results of the

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<sup>88</sup> Exhibit 26214-X0290, Attachment #25 - Brian and Vonnie Reed evidence, PDF page 1.

<sup>89</sup> Exhibit 26214-X0386, APPENDIX A - Proposed Conditions and Applicant's Responses, PDF page 12.

<sup>90</sup> Margin of compliance is permissible sound level minus cumulative sound level.

<sup>91</sup> Transcript, Volume 6, page 1064, lines 21-25.

comprehensive sound level survey would be available to the public through AUC's eFiling System.

192. The Commission confirms that the comprehensive sound level monitoring will be conducted at receptors R8, R42, R108 and R111, which are all sites where the predicted comprehensive sound level is within 0.5 dBA of the 40 dBA nighttime PSL.

193. The Commission also requires Buffalo Plains to monitor the comprehensive sound level on a receptor in Lomond because noise is a major concern expressed by LOWP. The Commission notes that Buffalo Plains re-ran its noise model and predicted cumulative sound levels for 98 receptors within Lomond. The maximum cumulative sound level at Lomond receptors is 38.9 dBA, which is 4.1 dB less than the nighttime PSL of 43 dBA, and the maximum predicted noise contribution from the project at Lomond receptors is 31.3 dBA, which is less than the nighttime ambient sound level of 38 dBA. The Commission finds that none of the Lomond receptors are an ideal location for a post-construction comprehensive sound level survey, because these receptors have a relatively large margin of compliance and the project will not be a major noise contributor at any of these receptors. While none of the Lomond receptors are an ideal location for a post-construction comprehensive sound level survey, R131 appears to be nearest residence within Lomond to the project turbines, and it is also predicted to have the largest noise contribution from the project (31.3 dBA). Buffalo Plains shall monitor this site as well.

194. Based on the foregoing, the Commission imposes the following condition of approval for the Buffalo Plains Wind Farm:

- g. Buffalo Plains shall conduct a post-construction comprehensive sound level survey, including an evaluation of low frequency noise, at receptors R8, R42, R108, R111 and R131. The post-construction comprehensive sound level survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. Within one year after the project commences operations, Buffalo Plains shall file a report with the Commission presenting measurements and summarizing results of the post-construction comprehensive sound level survey.

195. The Commission will not direct Buffalo Plains to curtail turbine operations on nights when wind noise may exceed the PSL, as requested by LOWP, because the PSL applies to AUC-regulated facilities, not to natural sound sources (e.g., wind). If the post-construction comprehensive sound level survey were to demonstrate measured comprehensive sound levels exceeding the PSL and that the exceedance is caused by the project, the Commission will require Buffalo Plains to implement appropriate mitigation measures for the turbine(s) responsible for the exceedance. However, the Commission would not consider the project non-compliant solely because wind noise exceeds the PSL.

196. In summary, the Commission finds that the project's NIA and associated noise model meet the requirements of Rule 012, and accepts that the project is expected to be compliant with the nighttime and daytime PSLs at all receptors. The Commission requires Buffalo Plains to conduct a post-construction comprehensive sound level survey at receptors R8, R42, R108, R111 and R131 under representative operating conditions and in accordance with Rule 012.

## 4.5 Shadow flicker

197. Rotating wind turbine blades can periodically cast moving shadows over nearby land and buildings as they turn. When these shadows pass over a constrained opening such as a window, the light levels within the room may increase and decrease as the blades rotate, resulting in a flickering effect. In the context of this decision, this flickering effect is referred to as shadow flicker. Shadow flicker may be a cause of annoyance at residences near wind power developments.

198. Buffalo Plains retained Stantec to complete a shadow flicker assessment for the project.<sup>92</sup> During the hearing, Stantec testified about the shadow flicker assessment and predicted shadow flicker impacts from the project.

199. LOWP expressed concerns about the shadow flicker assessment, the adequacy of consultation with landowners regarding potential shadow flicker from the project, and Buffalo Plains' potential shadow flicker mitigations. The Commission discusses these issues in this section of the decision. LOWP also raised health concerns with respect to shadow flicker, which the Commission addresses in Section 4.6.

### 4.5.1 Is the project's shadow flicker assessment reasonable?

200. The shadow flicker assessment identified 38 dwellings located within 1.5 kilometres of the project turbines as receptors and modelled two scenarios: "worst case" and "expected case." Stantec described the scenarios as follows:

- The worst-case scenario conservatively assumed the sun is always shining during daytime, project turbines are always active and oriented with their rotors perpendicular to the line joining the sun and all receptors, receptors are sensitive to shadow flicker in any direction, and there is no screening from trees, outbuildings or other structures.
- The expected case scenario incorporated statistical weather data to account for the probability of sunshine for each month of the year, turbine orientation based on wind direction data, and the probability that the turbine is in motion.

201. Buffalo Plains stated that the expected case in the shadow flicker assessment was highly conservative, for example, not taking into account any vegetation or structures that might limit the impact from shadow flicker.<sup>93</sup> Stantec testified that the Commission should rely on the expected case to evaluate potential shadow flicker impacts because the worst case is an unrealistic model assuming that all conditions that contribute to shadow flicker (i.e., sun shining, turbines are always active and perpendicular to the sun) happen simultaneously and continuously, which does not happen in real life. The expected case, however, allows for more realistic conditions, including monthly sunshine statistics, turbine shutdowns, and changes in turbine orientation due to wind direction.

202. In the absence of provincial or federal shadow flicker regulations, Stantec applied a commonly used assessment criteria for shadow flicker: a limit of 30 hours per year and 30 minutes per day. The shadow flicker assessment predicted that in the worst case, receptors would experience shadow flicker from the project for up to 120 hours per year and up to

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<sup>92</sup> Exhibit 26214-X0017, Appendix 15 Shadow Flicker Assessment.

<sup>93</sup> Transcript, Volume 2, page 409, lines 12-15.

70 minutes per day. In the expected case, receptors would experience shadow flicker from the project for up to 45.7 hours per year.<sup>94</sup> Stantec explained that although the expected case predicts that receptors R34 and R52 will receive shadow flicker in excess of 30 hours per year, actual shadow flicker experienced by R34 and R52 would likely be mitigated by the presence of vegetation and outbuildings which may provide partial screening.<sup>95</sup>

203. LOWP criticized the assessment because it did not consider potential effects on outdoor locations and activities such as aerial spraying, livestock, driving and outdoor workers. The Village of Lomond expressed concern with the impact of shadow flicker on Lomond's school and cemetery which had also not been considered in the assessment.<sup>96</sup>

204. Buffalo Plains maintained that shadow flicker is considered an indoor phenomenon, and explained that shadow flicker is usually noticeable when an observer experiences repeated changes in the brightness of a darkened room as shadows cast from rotating wind turbine blades briefly pass by windows. If ambient light levels are high, for example outdoors or in a bright room, then shadow flicker would not be noticeable.<sup>97</sup>

205. Buffalo Plains submitted that the shadow flicker assessment did not include Lomond because Rule 007 requires shadow flicker to be assessed at dwellings within 1.5 kilometres of the project turbines and Lomond is located beyond that distance. However, Buffalo Plains did update the shadow flicker model to include the cemetery and the school as receptors. The updated model predicted that in the worst case, the cemetery would experience up to 8.3 hours of shadow flicker per year and the school would experience up to 4.8 hours of shadow flicker per year; in the expected case, the cemetery would experience up to 2.7 hours of shadow flicker per year and the school would experience up to 1.5 hours of shadow flicker per year. Buffalo Plains explained that the actual shadow flicker would be negligible at these two locations due to the diffusion by the atmosphere when shadows are cast over long distances.<sup>98</sup>

206. In considering the impact of shadow flicker, the Commission must decide whether to accept the worst-case model or the expected case model. The Commission must also decide whether its Rule 007 requirements limiting modelling to 1.5 kilometres from project is reasonable and whether shadow flicker should be assessed both indoors and outdoors.

207. The Commission finds that use of the expected case is reasonable because it takes account of more realistic conditions such as monthly sunshine statistics, turbine shutdowns, and changes in turbine orientation due to wind direction. The expected case also has an element of conservatism in its predictions as it does not take account of vegetation or structures that would screen the effect of shadow flicker. The worst-case scenario does not represent realistic conditions as it assumes continuous and simultaneous sunshine throughout the day, turbines continuously operating and oriented in the direction that causes the most shadow flicker as well as no screening from trees or structures.

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<sup>94</sup> Daily results are not available for the expected case because the modelling algorithm is based on monthly weather statistics.

<sup>95</sup> Exhibit 26214-X0017, Appendix 15 Shadow Flicker Assessment, PDF page 21.

<sup>96</sup> Exhibit 26214-X0418, Village of Lomond's reasons for change in Position, PDF page 2.

<sup>97</sup> Exhibit 26214-X0246, BPWF Response to LOWP Information Request, PDF pages 54 and 55.

<sup>98</sup> Exhibit 26214-X0427, BPWF Letter to AUC re Response to LOWP Additional Evidence, PDF page 5.

208. The role of Rule 007 is an essential part of the Commission's consideration of wind farm applications. The rule sets out the requirements that project proponents must comply with in order to reasonably mitigate impacts created by industrial facilities. The requirements including those for shadow flicker are based on a reasonable application of science, technology and policy. Application of the rule provides a consistent and predictable set of requirements that developers and the public may rely on in most circumstances, although the Commission has the discretion to require more if there is convincing evidence that more is required.

209. Rule 007 explicitly defines a receptor for shadow flicker assessments as permanently or seasonally occupied dwellings within 1.5 kilometres of the project. The Commission finds that the restriction to occupied dwellings, that is indoors, is reasonable because shadow flicker requires repeated changes to light levels, which can occur when the shadow of a turbine blade falls across the window of a dark room but not in cases when ambient light levels are very high (e.g., outdoors). Shadow flicker impacts depend on differences in the brightness of ambient light surrounding the receptor and light intermittently obstructed by turbine blades. While there may be some experience of shadow flicker from the project outdoors in certain circumstances, it is unlikely the intensity of the impact is significant.

210. Rule 007 also restricts shadow flicker modelling to dwellings with 1.5 kilometres of a wind farm project. The Commission finds this limitation reasonable because at this distance the disk of the sun would be only partially obscured by a turbine rotor (i.e., the apparent size of a turbine rotor decreases with increasing distance), which leads to a reduction in the intensity of shadow flicker. Moreover, the shadow produced by a turbine rotor will become more diffuse with increasing distance and the potential for shielding by obstacles (e.g., buildings, terrain, vegetation) will increase with distance. Taken together, these factors mean that shadow flicker is unlikely to be an issue at receptors located more than 1.5 kilometres from a wind project.

211. Notwithstanding Rule 007, Buffalo Plains did conduct modelling at the Lomond Cemetery (outdoors) and school (in excess of 1.5 kilometres). The Commission finds that the updated modelling will have a negligible impact at these locations because under the expected case there would be 2.7 hours of shadow flicker per year at the cemetery and 1.5 hours at the school. This is explained by the diffusion of shadows by the atmosphere when shadows are cast over long distances.

212. Overall, the Commission finds that Buffalo Plains has assessed the project's shadow flicker impacts in accordance with Rule 007. There are no existing provincial or federal regulations imposing a criteria for shadow flicker impacts. The Commission notes that the project's shadow flicker assessment applied criteria of 30 hours per year and 30 minutes a day. The Commission has not adopted this criteria, or any other formal criteria as a benchmark against which acceptable versus unacceptable impacts will be determined. Rather, at the application stage, we require project proponents to consult nearby landowners about potential shadow flicker impacts and to address any shadow flicker concerns they may have; while at the post-construction stage, we require project proponents to address complaints or concerns from residents regarding shadow flicker from the project and to take prompt actions, including mitigation measures, to address these complaints or concerns. These requirements are discussed further in the following sections.

#### 4.5.2 Should new landowners in the area be consulted regarding shadow flicker?

213. Although Buffalo Plains consulted with homeowners about shadow flicker impacts prior to filing its application, some properties were sold and new owners occupied the residences at the time of the hearing. For example, new owners acquired the property at Receptor R52 where the shadow flicker was predicted to exceed Stantec's chosen threshold of 30 hours per year; however, they had not been contacted and consulted. Buffalo Plains committed to contacting the new owners to inform them of the shadow flicker impact and discuss any questions or concerns they may have with a view to mitigating the impact.

214. The Commission acknowledges Buffalo Plains' commitment and finds it is reasonable to extend this commitment to include all new landowners that are within the consultation radius but were not consulted by Buffalo Plains. The Commission imposes the following condition of approval for the Buffalo Plains Wind Farm:

- h. As soon as reasonably possible, Buffalo Plains shall consult any new landowners within 1.5 kilometres of the project turbines who have not previously been consulted by Buffalo Plains, including the owner of Receptor R52, about predicted shadow flicker from the project turbines at their residences. Buffalo Plains shall then file a report with the Commission detailing the outcomes of its consultation at least 90 days prior to the start of construction.

#### 4.5.3 Is the project's shadow flicker mitigation plan reasonable?

215. Buffalo Plains committed to working with local stakeholders throughout the life cycle of the project to address any concerns as they arise. Should shadow flicker become an issue for some stakeholders, Buffalo Plains would analyze and implement mitigation strategies on a case-by-case basis. It stated that mitigation may include blinds, window shutters, implementing operational strategies, or other mitigation as determined by Buffalo Plains in consultation with its shadow flicker expert. When questioned during the hearing, Buffalo Plains clarified that it has never had to implement mitigation measures to reduce shadow flicker for its other wind power projects. Buffalo Plains further clarified that potential mitigation measures would depend on the landowner/stakeholder in question and how best to address their concerns about shadow flicker.

216. LOWP doubted that Buffalo Plains had a mitigation plan to reduce shadow flicker impacts from the project.<sup>99</sup> LOWP pointed out that Buffalo Plains committed to implementing mitigation measures to reduce shadow flicker on a case-by-case basis, but that the criteria for putting mitigation in place was uncertain.<sup>100</sup>

217. The Commission accepts Buffalo Plains' commitment and expects Buffalo Plains to follow through with participating and non-participating landowners, and work directly with landowners to understand the concerns and implement appropriate mitigation when necessary. The criteria for triggering mitigation will become apparent through the following condition of approval for the Buffalo Plains Wind Farm:

- i. Buffalo Plains shall file a report with the Commission detailing any complaints or concerns it receives from local landowners regarding shadow flicker from the project during its first year of operation, as well as Buffalo Plains' response to the complaints or

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<sup>99</sup> Exhibit 26214-X0319, Master Evidence Submission of LOWP - Redacted for Health reasons, PDF page 20.

<sup>100</sup> Transcript, Volume 6, page 1066, lines 17-18.

concerns. If Buffalo Plains implements mitigation to reduce shadow flicker impacts, the report shall detail the mitigation measures and associated landowners' feedback regarding the mitigation. Buffalo Plains shall file this report no later than 13 months after the project becomes operational.

218. The Commission finds that potential shadow flicker impacts from the project have been properly predicted, and potential mitigation measures have been discussed. The Commission has also imposed a number of conditions to ensure that new landowners in the area are properly consulted about shadow flicker and that any complaints are addressed by Buffalo Plains.

#### 4.6 Human health

219. LOWP raised concerns about potential noise and shadow flicker impacts on human health, particularly in relation to its members with photosensitive epilepsy, attention deficit hyperactivity disorder, or autism and sensory processing disorder. Two members of LOWP, the Mensinger family and the Kam family, described their experience with family members reacting to wind turbines and the effect on their behaviour. Specifically, the Mensingers were concerned about the movement and sound of turbines and the effect on their son. Some of the Kams have medical conditions rendering them particularly sensitive to noise and lights. LOWP stated that Lomond is well-known as a community that provides support for families coping with disabilities and that some of these families having moved to Lomond specifically to get away from negative stimuli might have to move if the project is constructed.

220. Buffalo Plains argued that while health concerns were raised, LOWP did not provide any technical or expert evidence suggesting that wind turbines have adverse impacts on human health or safety.

221. Buffalo Plains submitted expert evidence prepared by Ollson to assess noise and shadow flicker impacts from the project on human health. The evidence concluded that:

- The 40 dBA nighttime PSL applicable at receptors is adequate to protect human health and residents should not experience an impact on their health. Rule 012 limits are based on a cumulative noise level, not that of the turbines themselves and there are few, if any, jurisdictions in the world that have such restrictive, nighttime cumulative noise restrictions for siting wind farms.<sup>101</sup>
- No scientific literature suggests that shadow flicker should be limited, in terms of either hours per year or minutes per day, to protect health or avoid annoyance.
- There has been no reporting in peer-reviewed literature or on the internet that wind turbine shadows pose a threat to livestock or outdoor workers.<sup>102</sup>

222. Ollson testified that photosensitive epileptic seizures caused by wind turbine shadow flicker was a concern in the past, for example in the 1980s and 1990s, when wind power projects used smaller turbines that typically rotate at a speed much greater than the modern wind turbines.

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<sup>101</sup> Exhibit 26214-X0391, APPENDIX F - Ollson Environmental Health Management Expert Report, PDF page 7.

<sup>102</sup> Exhibit 26214-X0391, APPENDIX F - Ollson Environmental Health Management Expert Report, PDF pages 24- 26.

Ollson referenced recent epilepsy seizure experts who found that photosensitive epilepsy is not an issue for modern turbines.<sup>103</sup>

223. Ollson's report also explored the scientific evidence around the general impact of wind turbines on health. Ollson did not believe that the project would adversely impact the health of residents living in proximity to the project. After reviewing LOWP's concerns and conducting a related literature search, Ollson concluded that "there is nothing in the scientific literature to suggest that children with [autism and sensory processing disorder] and [attention deficit hyperactivity disorder] are impacted by the operation of wind turbines."<sup>104</sup>

224. Desiree Mensinger testified that anyone can find research or literature to support their opinion, but nothing can substitute her personal experience as a mother who has raised a child with autism. Ms. Mensinger provided testimony on her son's experiences, and the efforts she and her family had undertaken to acquire skills and resources to support him. Ms. Mensinger also described her son's negative reaction when first encountering a wind turbine on a family outing.

225. Sandra Kam explained that members of her family suffer from many health conditions which could be further aggravated by the construction of wind turbines in the area. Specifically, flashing lights which could trigger seizures, sensitivities to noise, lights and pressure differences which could trigger migraines, and the effects of wind turbines on children with autism or attention deficit hyperactivity disorder.

226. The Commission understands that Ms. Mensinger's and Ms. Kam's testimonies are a sincere reflection of their families' lived experiences and that LOWP members are worried about how their lives will change after the project is constructed.

227. However, as described in Section 3.3, the Commission is guided in its decision-making by longstanding principles that underlie the formal rules of evidence. Where an issue is of scientific or technical nature, the Commission cannot give weight to opinion evidence from witnesses who are not experts in that field. The potential human health impacts of turbines is such an issue. The Commission, and the public, require assurance that findings about causation between health impacts and proposed projects are based on expert scientific evidence.

228. The Commission finds LOWP has not provided technical or expert evidence showing that noise or shadow flicker may cause adverse health effects. There is, however, expert evidence from Ollson to the effect that noise and shadow flicker created by the operation of modern wind farms do not produce adverse health effects. The Commission accepts this evidence, which is the only expert evidence before it on the issue of human health effects. Although the Commission does not find that the project will cause or exacerbate adverse health effects, the Commission emphasizes that Buffalo Plains is required to comply with conditions to address noise and shadow flicker, including adherence to Rule 012 and upholding its commitment to address shadow flicker concerns as they arise.

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<sup>103</sup> Transcript, Volume 2, page 376, lines 6-11.

<sup>104</sup> Exhibit 26214-X0391, APPENDIX F - Ollson Environmental Health Management Expert Report, PDF page 33.



## 4.7 Safety

229. LOWP took issue with Buffalo Plains' emergency response plan and the project's potential risks to public safety, such as fire hazards, impacts to air ambulance operations, road use, turbines collapsing and ice throw. LOWP's concerns and Buffalo Plains' responses are discussed further below.

### 4.7.1 Emergency response plan

230. LOWP questioned the project's emergency response plan and the potential risks to public safety resulting from the operation of the wind farm, including a possible increase in fire hazards.

231. Buffalo Plains submitted a draft project-specific emergency response plan prepared by Green Cat<sup>105</sup> which outlined the processes and responsibilities for project personnel in the event of an emergency during the construction and operation of the project. The plan was reviewed by Vulcan County and the Village of Lomond and their feedback was incorporated where feasible. Procedures with respect to general emergency response and evacuation, medical emergencies, fires, pollution and hazardous materials, vehicle incidents and severe weather were included in the emergency plan and Buffalo Plains intended to update it and review it with stakeholders upon finalization of the project design.

232. LOWP submitted that if a fire started at the project and spread to surrounding property, responsibility for dealing with the potential damage to the community and harm to its firefighters would rest with a small local volunteer fire department which was inadequately resourced to respond.

233. LOWP requested that the Commission impose a condition requiring Buffalo Plains to indemnify neighbouring landowners against fire damages resulting from the operation of the Buffalo Plains Wind Farm, maintain adequate fire breaks around the substation, install fire suppression equipment on project buildings, have adequate firefighting equipment on site, maintain a water reservoir for firefighting purposes, and provide copies of fire control arrangements that it has with local firefighting authorities.

234. Buffalo Plains submitted that project-related fire hazards would be minimized through the use of smoke detectors and optional fire suppression technology installed on project turbines and other facilities. It further stated that equipment would be monitored by on-site and remote operation centre personnel, who would be able to detect any precursors for potential fire hazards through temperature sensors and other system alerts. Ollson added that turbine fires are extremely rare and burn themselves out over a matter of a couple of hours. Ollson explained that there is no specialized equipment required to extinguish a turbine nacelle<sup>106</sup> fire and a fire department would typically set up a boundary around the turbine to prevent the fire from spreading.

235. Buffalo Plains confirmed that in the highly unlikely event of a fire caused by project infrastructure, it expected that any resulting damages that are attributable to the project would be handled by Buffalo Plains' insurance policy, which it is required to hold to secure financing for the project. Buffalo Plains committed to measures to address potential fire hazards and fire

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<sup>105</sup> Exhibit 26214-X0016, Appendix 3 ERP.

<sup>106</sup> A nacelle is the housing on top of the turbine tower that contains the turbine's generating components.

response, including commitments for personnel and stakeholder training and continued engagement with Vulcan County representatives.

236. With respect to firefighting resources, Buffalo Plains stated that the project would pay over \$3 million annually to Vulcan County for a total of approximately \$75 million over the lifetime of the project and that the county could allocate tax revenue for emergency services, if it desired.

237. The Commission recognizes that the project's draft emergency response plan was initiated with stakeholder feedback and the final version will incorporate further feedback from Vulcan County and the Village of Lomond. Certainly, these parties are aware that the local volunteer fire department may be the first municipal responder if a project-related fire occurs and that adequate resources are required to respond, which could be funded by the property taxes paid by Buffalo Plains to the county. The Commission finds that reasonable measures have been planned and will be implemented by Buffalo Plains to minimize the risk of fire at the project. Detection (smoke and temperature) and monitoring equipment will be installed and checked by on-site as well as remote staff and technology. Training of its own personnel and stakeholders is also part of the safety measures as well as continuing engagement with the county's emergency services. The Commission also notes Ollson's testimony that wind farms generally present a low fire risk and that turbine fires are rare and burn themselves out in a matter of hours. The Commission does not find it necessary to condition the project with respect to fire risks as proposed by LOWP.

238. LOWP raised security for the project as a concern. Buffalo Plains said that its security plan is generally expected to have provisions for closed-circuit television, potentially roving patrols, and other logistics that would typically be used to ensure the safety and security of a site of this nature. Buffalo Plains also committed to ensuring that the project has an overnight security detail throughout the construction of the project. The Commission finds this to be a reasonable approach to the project's security.

#### **4.7.2 Air ambulance access**

239. Another issue raised by LOWP members was the ability for helicopter air ambulance services, such as STARS and HALO, to access the area after project construction.

240. LOWP submitted that the wind turbines could prevent an air ambulance from landing nearby during emergencies. LOWP provided email correspondence with a senior communications officer with STARS,<sup>107</sup> who stated that its helicopters cannot land near turbines and that a ground ambulance would need to transport a patient away from the turbines to a suitable location. LOWP requested that the Commission direct Buffalo Plains to develop a protocol for air ambulance access for the wind project area in co-operation with STARS and HALO, and that it file these protocols with the Commission.

241. Buffalo Plains addressed this concern by submitting a report prepared by Tetra Tech<sup>108</sup> that evaluated the ability for air ambulance services, such as STARS and HALO, to safely access areas in proximity to turbines. Tetra Tech stated that during an emergency, the protocol followed by STARS and HALO to ensure the safe transport of patients in proximity to turbines would be

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<sup>107</sup> Exhibit 26214-X0314, Appendix #2 - STARS ambulance email.

<sup>108</sup> Exhibit 26214-X0387, APPENDIX B - Tetra Tech Report.

similar to those used when operating around other vertical obstructions such as grain silos, grain elevators, transmission structures and communication towers.

242. Buffalo Plains committed to working with STARS and HALO to ensure that patient evacuation is made as safe as possible to allow for timely patient transportation.<sup>109</sup> In particular, the issue of night vision goggles and their usefulness or compatibility with the Transport Canada-regulated lighting installed on turbines will be discussed with STARS and HALO. Prior to construction, Buffalo Plains will also update its emergency response plan to address specific concerns such as air ambulance access during emergencies.

243. The Commission finds Buffalo Plains' commitment to continue consultation with HALO and STARS reasonable and notes that the Tetra Tech report concluded that there is unlikely to be any significant project impacts to air ambulance response in the area. The Commission does not find it necessary to impose any conditions on the project with respect to mitigation of air ambulance impacts.

#### **4.7.3 Road use**

244. This section considers LOWP's concerns with respect to road use and road safety in the project area. This includes Buffalo Plains' intended road use, LOWP's road use concerns in Lomond, and road use in other areas near the project, such as portions of Range Road 202 near the Lomond Cemetery and roads used as school bus routes. It also considers the potential for shadows and shadow flicker from the project to distract drivers.

245. Buffalo Plains committed to working with Vulcan County to implement a road use agreement prior to selecting delivery routes for project infrastructure. Buffalo Plains confirmed that it would work with the turbine manufacturer and project contractor to complete transportation surveys and any required upgrades to roads or turning radii.

246. LOWP was worried about the project's potential to increase road use and transport accidents in the project area. LOWP stated that increased traffic volumes in the project area would result in more accidents, which would burden local resources. LOWP was also concerned about the dust from construction traffic and Buffalo Plains' willingness or ability to adhere to its proposed protocols. LOWP requested that Buffalo Plains use dust control methods for roads within 500 metres of residences during construction.

247. LOWP member Sandra Kam filed evidence and testified about the transportation of a large wind turbine blade that temporarily stopped traffic within Lomond along Highway 845. She said that Highway 845 is the main highway that connects Lomond to Vulcan, Brooks and Lethbridge and that the highway also serves as Lomond's main street (Railway Avenue) around which the downtown core is centred. The Village of Lomond also expressed its concern that traffic obstructions would impede its fire department's response to emergencies because the department is located on Railway Avenue and that ambulance service could also be delayed. LOWP asked Buffalo Plains to commit to avoiding the transportation of turbine components through Lomond.

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<sup>109</sup> Exhibit 26214-X0387, APPENDIX B - Tetra Tech Report, PDF page 9.

248. Buffalo Plains stated that it could not commit to avoiding Lomond because detailed consultation would be necessary with Vulcan County to confirm delivery routes. It argued that Ms. Kam's evidence did not provide details about the type of turbine blade, its intended destination, or any provisions that may or may not have been in place to avoid such road incidents and that the comprehensive road use agreement with Vulcan County would address potential problems.

249. Buffalo Plains also explained that its main contractor would develop a protocol to ensure that all contractors are aware of the applicable hazards in the project area, and ensure safe operation around them. It committed to ensuring that its employees and contractors abide by applicable road rules and adherence to Vulcan County's dust abatement program.

250. The Commission acknowledges that construction of the project may cause temporary disruptions within the project area; however, it finds that Buffalo Plains' commitment to enter into a comprehensive road use agreement with Vulcan County is a reasonable mitigation against traffic disruptions. Vulcan County, being the local municipal authority, is well-positioned to manage road access in a manner that mitigates effects on traffic.

251. The Commission recognizes that Highway 845 is one of the main highways that connects Lomond to the rest of the province, but does not consider it reasonable to preclude Buffalo Plains from using this public highway. Municipalities are often required to accommodate infrastructure development initiatives, for example, oil and gas construction and maintenance activity, that make use of local roadways and require temporary contingency plans for other traffic, including emergency response vehicles. The Commission finds that the terms of a comprehensive road use agreement with the county, and adherence to the agreement by Buffalo Plains and its contractors, will likely mitigate serious traffic flow problems. The Village of Lomond should be consulted on the road use agreement as it pertains to Railway Avenue because its perspective and local knowledge are important considerations for such an agreement.

252. The Commission also confirms that Buffalo Plains must ensure, as it has committed, to regular communications with community stakeholders to address concerns related to construction, including traffic issues and dust abatement. The Commission expects Buffalo Plains to work with its contractors, Vulcan County, the Village of Lomond and local residents to address any traffic or construction issues as they arise.

253. LOWP and the Village of Lomond argued that the project would unduly disturb the tranquility and quiet that visitors to the Lomond Cemetery would experience for two reasons: there was a proposed turbine located to the north just over one kilometre away and Buffalo Plains had planned a major access route starting at the cemetery gate on Range Road 202.<sup>110</sup> LOWP requested that the Commission deny the three turbines nearest to the Lomond Cemetery, enforce a minimum two-kilometre turbine setback from the cemetery, and prohibit Buffalo Plains from using Range Road 202 outside the cemetery to construct or maintain the project.

254. Buffalo Plains responded that it would avoid any project-related use of the section of Range Road 202 along the west side of the Lomond Cemetery and would work with families planning services to ensure minimal disturbances to ceremonial activities at the Lomond Cemetery.

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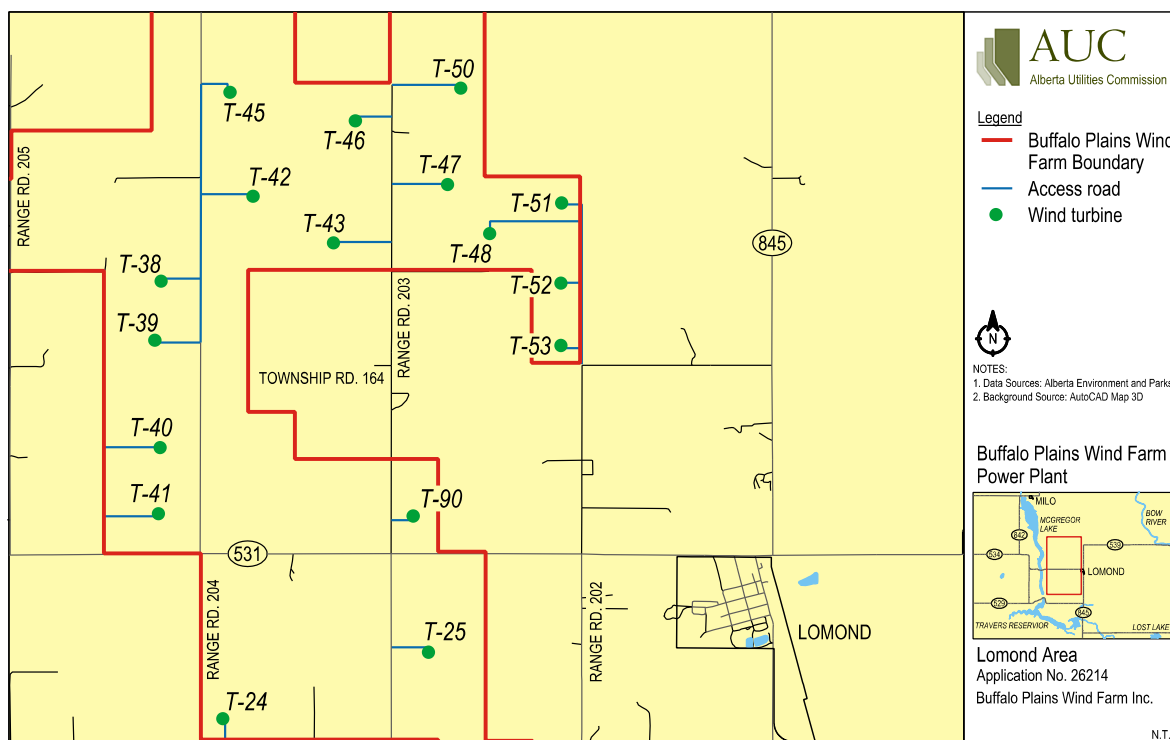
<sup>110</sup> LOWP's concerns with regard to shadow flicker at the Lomond Cemetery are discussed further in Section 4.5.

255. The Commission finds that Buffalo Plains' approach to project construction and operation near the Lomond Cemetery is reasonable. We have given significant weight to Buffalo Plains' undertakings related to minimizing disturbances at the Lomond Cemetery and do not find that it is necessary to relocate the three closest turbines or impose a two-kilometre turbine setback from the cemetery. Buffalo Plains will not be using the stretch of Range Road 202 along the west side of the cemetery for project-related activities and will co-ordinate the cessation of its disruptive activities to the extent possible, when funerals or commemorative services are being held. We impose the following conditions of approval for the Buffalo Plains Wind Farm:

- j. Buffalo Plains shall avoid any project-related use of the section of Range Road 202 passing along the west side of the Lomond Cemetery.
- k. Buffalo Plains shall work with families planning services at the Lomond Cemetery on a case-by-case basis to ensure minimal disturbances to their ceremonial activities.

256. The next road to the west of Range Road 202 is Range Road 203. LOWP also questioned Buffalo Plains' potential use of the portion of Range Road 203, north of Highway 531, because it is a school bus route. This area of the project is shown in the following figure:

**Figure 2. The project near Range Road 203, north of Highway 531**



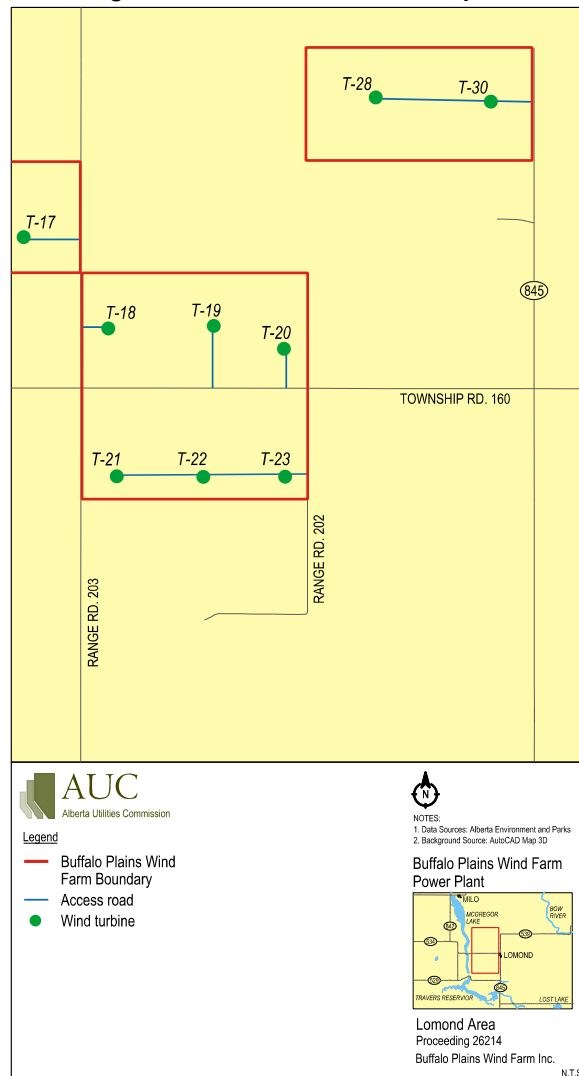
257. LOWP member Luke Liebreich lives beside Range Road 203, north of Highway 531, and can only access his property using that road. He testified that there are hills which create visibility hazards along Range Road 203, north of Highway 531, and he feared for the safety of the 12 children on the bus route. He added that these risks would be heightened by an increase in heavy truck traffic associated with the construction of the wind farm.

258. Mr. Liebreich stated that if Range Road 203, north of Highway 531, was used for the project, Buffalo Plains should develop the road in a manner to improve sightlines and safety for school busses. He speculated that this would require levelling out the hills on the road and widening the road and would also include paving the stretch of Range Road 203 between Highway 531 and Township Road 164.

259. LOWP proposed that Buffalo Plains avoid the use of Range Road 203, north of Highway 531, and instead develop the next road to the west, Range Road 204, into a suitable road for accessing the turbines. It stated that landowners along both sides of this road allowance are participating in the project.<sup>111</sup>

260. LOWP member Lavinia Henderson also raised concerns about another school bus route adjacent to her family’s farm. She stated that Range Road 202, south of Township Road 160, in the area south of Lomond, is the only year-round access route to the Wogsberg farm and it is a narrow road with rolling hills and steep ditches. This area of the project is shown in the following figure:

**Figure 3. The project near Range Road 202, south of Township Road 160**



<sup>111</sup> Exhibit 26214-X0303, Attachment #38 - Village of Lomond evidence, PDF page 2.

261. Ms. Henderson said that the proposed access road for turbines T-23, T-22 and T-21 located on Range Road 202, south of Township Road 160, would be far more risky than using Township Road 160. Other members of the Wogsberg family concurred and added that Township Road 160 should be used for project-related transport instead because it is a wide, flat stretch of road.

262. While Buffalo Plains committed to the safety protocols mentioned above, including developing a traffic protocol with the project contractor and ensuring that its employees and contractors abide by applicable road rules, the Commission views the safety of the school bus routes described by LOWP as an important issue. The Commission strongly encourages Buffalo Plains to avoid construction-related use of school bus routes when designing its road use agreement, but recognizes that avoidance may not be possible for all school bus routes, such as on the main highways in the project area, including Highway 531. The Commission also recognizes that it may not be possible for Buffalo Plains to avoid using the entirety of the school bus routes in the project area due to the planned turbine layout. However, the Commission believes that the segment of Range Road 203 between Township Road 164 and Turbine T-90's planned access road can be avoided. With respect to the access road for turbines T-23, T-22 and T-21 currently planned along Range Road 202, the Commission encourages Buffalo Plains to investigate using an alternate access road from Township Road 160. The Commission therefore imposes the following condition of approval for the Buffalo Plains Wind Farm:

1. Buffalo Plains shall avoid, to the extent possible, school bus routes on roads that are under the authority of Vulcan County when designing its road use agreement with Vulcan County. Buffalo Plains shall also avoid the use of Range Road 203 between Township Road 164 and Turbine T-90's planned access road.

263. LOWP also expressed concerns about the potential for shadows and shadow flicker from the project to distract drivers and suggested that Buffalo Plains not place project turbines too close to county roads in order to avoid this.<sup>112</sup> Ollson explained that drivers experience shadow flicker from many existing obstructions (utility poles, trees, other structures) and that the flicker rate can be much higher and for longer durations than flicker caused by wind turbines. It added that there have been no reported traffic accidents resulting from driver distraction caused by wind turbine shadows being cast across a roadway and Ollson was not aware of any jurisdiction in North America which has set shadow flicker guidelines or limits for roadways.

264. The Commission will not require turbines to be moved to avoid shadows on roads because it considers shadows and shadow flicker to be a low risk to drivers near the project, especially when considering that drivers can experience shadows from numerous other objects on roads.

265. Having regard to the commitments made by Buffalo Plains, along with the above conditions, the Commission is of the view that the project's road-use impacts can be mitigated to an acceptable degree.

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<sup>112</sup> Exhibit 26214-X0319, Master Evidence Submission of LOWP - Redacted for Health reasons, PDF pages 18-20.

#### 4.7.4 Turbine collapse and ice throw

266. LOWP expressed concerns related to the project's turbines collapsing or throwing ice in the project area, including areas near public roads.

267. Buffalo Plains, through Ollson, confirmed that although it is possible to find examples of turbine collapse, such occurrences are highly unlikely. Ollson testified that blade failure is the most common turbine accident, with one blade failure in about 10,000 turbines in any given year, and it has not seen a reported fatality or injury to the general public as a result of blade failure or tower collapse.

268. Buffalo Plains also stated that the proposed turbines would be located over 300 metres from paved highways and over 150 metres from all municipal road allowances and the roads located closer to project infrastructure tend to be less heavily travelled. Ollson stated that given the infrequently used nature of the road allowances in the project area, and the very small risk of turbine collapse, no further setback from road allowances would be warranted.

269. The Commission finds that no additional setbacks are required to mitigate the risk to the public associated with turbine failure because of the predominantly rural nature of the nearby road allowances, the existing setbacks and low risk of turbine failure.

270. LOWP requested all turbines be located at least 500 metres from the property lines of non-participating land owners, and at least 400 metres away from all public roadways to mitigate ice-throw concerns. It noted that Buffalo Plains stated that ice chunks can be thrown a distance of 427 metres.

271. Buffalo Plains submitted that ice throw would be a negligible risk to individuals, property and their livestock because the turbine model selected for the project has a default ice detection system with sensors that automatically shut off the turbines when ice is detected. If a turbine is shut down due to potential ice build up, Buffalo Plains would visually inspect it for the presence of ice before restarting. Buffalo Plains stated that the ice detection technology and Buffalo Plains' restart protocol ensures that turbines would not be operational with ice build up, thereby minimizing any risk of ice throw as a potential safety hazard.

272. Ollson testified that the probability of ice throw occurring in circumstances where it would impact a human or vehicle is very low and such an impact has yet to be seen from the 330,000 wind turbines operating throughout the world.<sup>113</sup> Buffalo Plains added that its parent company, ABO Wind AG, has never had an ice-throw incident resulting in injury or death.<sup>114</sup>

273. The Commission finds that due to the safety measures planned to be in place with the project turbines, including the ice detection system with sensors that automatically shut off turbines when ice is detected and Buffalo Plains' protocol of halting turbine operation until it obtains visual confirmation that the ice is clear, it is not necessary to relocate turbines to be at least 500 metres from the property lines of non-participating land owners, and at least 400 metres away from all public roadways. The Commission finds that the project does not pose a significant safety risk from turbine collapse or ice throw.

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<sup>113</sup> Transcript, Volume 1, page 169, lines 12-19 and page 170, lines 12-19.

<sup>114</sup> Transcript, Volume 1, page 171, lines 9-11.



#### 4.8 Participant involvement program

274. Buffalo Plains stated that it completed a participant involvement program in accordance with Appendix 1 of Rule 007. Buffalo Plains explained that the program's purpose was to ensure effective communication with potentially affected stakeholders while providing pertinent project information. This section outlines the details of Buffalo Plains' participant involvement program in the Lomond area and concerns raised by LOWP with the program. Buffalo Plains' consultation with Indigenous groups is discussed in Section 4.11 of this decision.

275. Buffalo Plains explained that it developed its participant involvement program to discuss the project and its impacts with people who might be affected by it, with the goal of understanding stakeholders' positions and, where possible, mitigating project impacts.

276. The participant involvement program was centered around the Lomond area and consisted of notification mailed to stakeholders within 2,000 metres of the project boundary and consultation within 800 metres of the project boundary. Three open houses were held and multiple information packages were mailed out. Buffalo Plains also stated that its participant involvement program included engagement with Vulcan County and the Village of Lomond, and consultation with government agencies, industry and local businesses.

277. Buffalo Plains indicated that updates to the project were communicated through the project's website, postal code notification drops, open houses and newsletters. In September 2020, Buffalo Plains reduced the project boundary from 24,000 acres to 17,500 acres to include only the lands required for project infrastructure. Buffalo Plains explained that stakeholders were notified of project boundary changes and corresponding changes to consultation and notification requirements, as required.

278. Some LOWP members maintained that they were left out of the notification process, or that Buffalo Plains did not consult with them or misled them. LOWP considered the consultation efforts as superficial given the serious impacts on people's lives and livelihoods.<sup>115</sup> LOWP highlighted a number of areas where it believed that inadequate or no consultation took place, including overhead collector lines, health concerns, traffic routes, emergency response, water wells, noise, shadow flicker, aerial spraying, property devaluation, and insufficient discussion with the Village of Lomond. Some of these specific concerns are further discussed in other sections of this decision.

279. The Commission ruled on the adequacy of Buffalo Plains' participation involvement program notification areas on March 31, 2021,<sup>116</sup> and June 9, 2021.<sup>117</sup> In its rulings, the Commission determined that because notice of the project was widely communicated to members of the public and to potentially affected parties, the Commission would not require Buffalo Plains to conduct any remedial notification or consultation. However, the Commission was aware of LOWP's concerns about the project boundary reduction and expanded its own notification radius and presumptive standing to include persons located within 2,000 metres of the original project boundaries.

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<sup>115</sup> Exhibit 26214-X0346, Master Evidence Submission of LOWP, PDF page 40, paragraph 167.

<sup>116</sup> Exhibit 26214-X0181, AUC ruling on standing and other issues.

<sup>117</sup> Exhibit 26214-X0260, AUC ruling on project roads and notification.

280. In Decision 2011-436, the Commission made the following comments about effective public consultation under Rule 007, which prescribes the requirements that must be included in the design of a participant involvement program:

... In the Commission's view, effective consultation achieves three purposes. First, it allows parties to understand the nature of a proposed project. Second, it allows the applicant and the intervener to identify areas of concern. Third, it provides a reasonable opportunity for the parties to engage in meaningful dialogue and discussion with the goal of eliminating or mitigating to an acceptable degree the affected parties concerns about the project. If done well, a consultation program will improve the application and help to resolve disputes between the applicant and affected parties outside of the context of the hearing room.<sup>118</sup>

281. The Commission is satisfied that Buffalo Plains' participant involvement program for the project met the applicable Rule 007 requirements. It observes that Buffalo Plains mailed multiple project information packages to stakeholders, conducted direct consultation meetings with stakeholders and held three public open houses for the project and maintained a project website as part of its participant involvement program.

282. While Buffalo Plains was unable to resolve all outstanding concerns, the Commission is satisfied, on the basis of the consultation records and the evidence in this proceeding, that Buffalo Plains' participant involvement program generally achieved the purpose of consultation. That is, through Buffalo Plains' participant involvement program, LOWP members were given sufficient information to understand the nature of the project, identify areas of concern and engage in dialogue with Buffalo Plains with the goal of eliminating or minimizing those concerns.

#### **4.9 Project bankruptcy and reclamation**

283. LOWP members expressed concerns regarding Buffalo Plains' reclamation plan when the project reaches end of life, and in the event that Buffalo Plains goes bankrupt. These issues are discussed below.

284. Buffalo Plains prepared a project-specific conservation and reclamation plan as part of its environmental evaluation of the project and stated that at end of life it would complete a reclamation certificate site assessment and apply for a reclamation certificate for all areas used to construct, operate and reclaim the project as required by the AEP directive titled *Conservation and Reclamation Directive for Renewable Energy Operations*. Further, Buffalo Plains stated that it would be required to decommission and reclaim the project area at the end of project life pursuant to its municipal development permits and in accordance with the obligations made in its agreements with landowners.

285. LOWP questioned Buffalo Plains' assumption that recycling and disposal options will develop over the project's life because there is no certainty over how turbine blades and other components would be dealt with at the end of the project. Further, if Buffalo Plains went bankrupt there may be no entity left to assure proper maintenance and reclamation of the project. It pointed out that Alberta does not have an orphan fund for renewable energy projects and past experience within the oil and gas sector has shown that industry typically off-loads reclamation

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<sup>118</sup> Decision 2011-436: AltaLink Management Ltd. and EPCOR Distribution & Transmission Inc. – Heartland Transmission Project, Proceeding 457, Application 1606609, November 1, 2011, page 57, paragraph 283.

responsibilities onto the taxpayer. LOWP proposed that if the project is approved, the Commission should condition the approval by requiring a bond or security that can fund the project's reclamation and that is protected from creditors.

286. Buffalo Plains pointed out that it is a wholly-owned subsidiary of ABO Wind AG, a power producer that acquires, develops, builds, owns, and operates wind, solar, and biogas facilities across North America and the world. It stated that, because it has developed over 650 renewable energy projects equalling 3,600 MW since 1996, ABO Wind AG would provide Buffalo Plains with the experience and expertise to responsibly construct, operate, and eventually decommission the project. Further, Buffalo Plains submitted that based on 2021 costs, the project's salvage value is approximately equivalent to the reclamation cost. Buffalo Plains committed to completing a salvage value study prior to decommissioning the project, but it did not agree to LOWP's request for a commitment to set up a reclamation and decommissioning fund for the project.

287. The *Environmental Protection and Enhancement Act* requires applicants to conserve and reclaim specified land. Once a site is considered adequately reclaimed, reclamation certificates are issued. The *Conservation and Reclamation Directive for Renewable Energy Operations* requires renewable energy operators to create and maintain a project-specific conservation and reclamation plan. The Commission notes that Buffalo Plains has submitted its conservation and reclamation plan as part of its applications and recognizes that this plan is a living document that will be updated throughout the project's life cycle. The Commission is satisfied that existing project reclamation requirements have been addressed through Buffalo Plains' commitment to adhere to the requirements outlined in the *Conservation and Reclamation Directive for Renewable Energy Operations*.

288. For the reasons above, the Commission will not require Buffalo Plains to create a reclamation or decommissioning fund as requested by LOWP. The Commission is satisfied that existing reclamation requirements adequately address the responsibilities project owners have at the project's end of life.

#### **4.10 Bylaw compliance and zoning**

289. Members of LOWP raised concerns about the project's impacts to the Lomond area including the proximity of turbines to adjacent roadways, and the proposal to construct two turbines within an area where turbines are not a permitted land use under the applicable municipal bylaw.

290. Vulcan County's land use bylaw ordinarily imposes a mandatory minimum setback distance between a turbine and a municipal roadway that is not less than the total height of the turbine plus 10 per cent.<sup>119</sup> With respect to the Buffalo Plains wind project, the setback distance ordinarily applicable to the project turbines under the bylaw would be 220 metres. Buffalo Plains explained that it had obtained a setback waiver from Vulcan County for 28 project turbines, allowing these turbines to be constructed closer than 220 metres from adjacent roadways. LOWP asked the Commission to impose the ordinary Vulcan County setback distances on the turbines which were granted a waiver by the county.

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<sup>119</sup> Vulcan County, bylaw No. 2020-028, *Land Use Bylaw* (January 28, 2021), Section 33.18.

291. Buffalo Plains stated that the project layout was designed to balance a variety of stakeholder concerns, and that a relaxation of the roadway setbacks was necessary to accommodate setbacks from other features. Buffalo Plains explained that the setback waivers were necessary to increase the distance between turbines and residences, wetlands, pipelines and other project turbines.

292. Buffalo Plains also stated that Vulcan County had approved the municipal development permit for 81 of the 83 proposed turbines. The remaining two turbines (turbines T-28 and T-30) are proposed to be located on land zoned as Urban Fringe.<sup>120</sup> LOWP requested that the Commission deny approval of the two turbines within the Urban Fringe zone, noting that this area has the potential for residential growth. Buffalo Plains stated that the two turbines would be located over two kilometres from Lomond and should not restrict the expansion of the village. Buffalo Plains indicated that it was working with Vulcan County to determine if turbines are compatible with this zoning and stated it would apply for development permits for these two turbines in the future.

293. With respect to the turbines located less than 220 metres from roadways, the Commission does not find it necessary to impose additional setbacks on the project. The Commission accepts Buffalo Plains' explanation that the project layout balances a variety of concerns, and that closer proximity to roadways is sometimes necessary to accommodate setbacks from other features. The Commission also analyzes additional specific LOWP setback requests in Section 4.7.4 of this decision.

294. The Commission can take the current absence of a municipal development permit into account when deciding if turbines T-28 and T-30 are in the public interest. However, the Commission must also consider the explanation provided by Buffalo Plains that turbine siting decisions involve a balancing of factors, including practical considerations as well as specific stakeholder and environmental concerns. The Commission understands that the purpose of the Urban Fringe zone is to protect the agricultural land base of the municipality and ensure the fringe areas of urban municipalities are protected for future expansion and development, while allowing non-agricultural uses that complement the area's economy and do not conflict with an urban environment. The Commission notes that the two turbines are proposed to be located on private land approximately two kilometres from Lomond. There is no evidence before the Commission to suggest that there are planned expansions or developments to Lomond that would be compromised by the presence of turbines. In light of this, the Commission does not see a compelling public interest reason to deny approval of these two turbines.

#### **4.11 Consultation with Indigenous groups**

295. The Commission has the authority to consider and address potential adverse impacts to Aboriginal and treaty rights as set out in Section 35 of the *Constitution Act, 1982*, when deciding whether approval of an electric facility or gas project is in the public interest. The Commission is committed to ensuring that Indigenous groups whose constitutionally protected rights may be

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<sup>120</sup> In Exhibit 26214-X0478, Village of Lomond Opening Statement, PDF page 2, the Village of Lomond explained that "the urban fringe is a direct control zone and historically these areas don't typically get built up with industrial activities because of the potential for residential growth."

directly and adversely affected by development have the opportunity to have their concerns heard, considered, understood and accommodated where necessary.<sup>121</sup>

296. The duty to consult is triggered where the Crown has real or constructive knowledge of a potential Aboriginal claim or right, and contemplates conduct that might adversely affect it.<sup>122</sup> Duty to consult activities occur on a spectrum that depends on the strength of the claim of proven or asserted Section 35 rights and the potential for adverse impact on those rights. The consultation activities required to fulfill the duty range from notification only to deep consultation, and in some instances may require accommodation.

297. The following section provides an overview of the consultation undertaken with Indigenous groups for the proceeding and includes the Commission's finding on the adequacy of consultation.

#### 4.11.1 Consultation with Kainai and Siksika

298. Blood Tribe/Kainai (Kainai) and the Siksika Nation (Siksika) hold rights under Treaty 7, are members of the Blackfoot Confederacy, and are Aboriginal peoples of Canada within the meaning of subsection 35(1) of the *Constitution Act, 1982*.<sup>123</sup> Kainai and Siksika stated that their Blackfoot spiritual, ceremonial and cultural rights are potentially impacted by the project. They assert that these rights are being exercised in the Majorville Cairn and Medicine Wheel area and are protected as Aboriginal and treaty rights under Section 35 of the *Constitution Act, 1982*.

299. The Majorville Cairn and Medicine Wheel is located approximately 22 kilometres northeast of the closest project turbine.<sup>124</sup> A map of the Majorville Cairn and Medicine Wheel and project area is included in Appendix D.

300. Kainai and Siksika also raised concerns that there is a high probability that unidentified Blackfoot archaeological sites exist in the project area and could potentially be impacted or destroyed during project construction. Kainai and Siksika eventually filed letters of non-objection to the project. This section of the decision addresses the adequacy of consultation with Kainai and Siksika.

301. Buffalo Plains mailed an introductory letter with project information to Kainai and Siksika on August 28, 2019.

302. The Commission provided a notice of applications to Kainai and Siksika on January 13, 2021, a revised notice of applications on March 3, 2021, an update letter on April 14, 2021, and a follow-up letter on April 29, 2021.

303. Kainai and Siksika filed statements of intent to participate. The Commission determined that both Kainai and Siksika are owed a duty to consult in relation to the project and granted Kainai and Siksika full participation rights and access to participant funding so that any potential

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<sup>121</sup> The Commission's guidance to applicants on consultation with Indigenous groups is contained in Appendix A1-B – Participant involvement program guidelines for Indigenous groups of Rule 007.

<sup>122</sup> *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73, paragraph 35; *Rio Tinto Alcan Inc v Carrier Sekani Tribal Council*, 2010 SCC 43, paragraph 31.

<sup>123</sup> Exhibit 26214-X0238, Statement of Intent to Participate - Siksika Nation; Exhibit 26214-X0242, Statement of Intent to Participate - Blood Tribe/Kainai.

<sup>124</sup> Exhibit 26214-X0445, Appendix D - Circle CRM Report, PDF page 9.

impacts to Aboriginal or treaty rights stemming from the project could be understood and addressed.<sup>125</sup> Kainai and Siksika each submitted written evidence, including affidavits from their consultation coordinators, and responded to the Commission's information requests. Siksika consultation staff facilitated an Indigenous knowledge session with three Siksika Elders that was attended remotely by Buffalo Plains, the Commission panel, and Commission staff assisting the panel. A similar session was planned with Kainai; however, it was cancelled by Kainai due to concerns about COVID-19 and the health and safety of the Elders. As an alternative, Kainai indicated that they intended to file written evidence from the Elders and to participate fully in the hearing.

304. Buffalo Plains indicated that it has consulted with and provided project information to Kainai and Siksika and has met with their representatives to discuss concerns about the project and potential impacts remotely, in-person and at the Majorville site.<sup>126</sup> It recognized that its relationship with the First Nations was a long-term one and committed to ongoing communication and discussion.<sup>127</sup>

305. Buffalo Plains committed to having Blackfoot Traditional Land Use monitors present during construction, and communicating and working with the Kainai and Siksika if historic resources are discovered.<sup>128</sup>

306. In advance of their scheduled appearances in the hearing, Kainai and Siksika filed letters of non-objection to the project. The letters stated that on the basis of continued engagement with Buffalo Plains,<sup>129</sup> the concerns identified in the First Nations' respective submissions have been addressed and that they each withdraw their objection to the applications. Siksika also identified that the project would benefit their community, although no further details about agreed upon benefits were provided to the Commission.

307. The Commission is satisfied that since the filing of Kainai and Siksika's statements of intent to participate, Buffalo Plains has sought to identify and understand the First Nations' concerns both within and outside of the AUC's process. This is reflected by engagement records<sup>130</sup> and in the eventual letters of non-objection and withdrawal of concerns that were filed by the First Nations.

308. The Commission acknowledges that Buffalo Plains has committed to having Blackfoot Traditional Land Use monitor(s) present during construction and to communicating and working with Kainai and Siksika if historic resources are discovered in the project area. As stated above, Buffalo Plains has also committed to continued engagement with Kainai and Siksika. The Commission considers these commitments to be reasonable in light of the First Nations' concerns, and expects Buffalo Plains to uphold their respective commitments to Kainai and Siksika in this regard, or otherwise to follow the directions given by Alberta Culture in relation to historic resource matters.

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<sup>125</sup> Exhibit 26214-X0263, AUC ruling on process for the Blood Tribe-Kainai and Siksika Nation.

<sup>126</sup> Exhibit 26214-X0441, BWPF Reply Evidence to Kainai, Siksika and Reeves, PDF page 7.

<sup>127</sup> Exhibit 26214-X0441, BWPF Reply Evidence to Kainai, Siksika and Reeves, PDF page 15.

<sup>128</sup> Exhibit 26214-X0441, BWPF Reply Evidence to Kainai, Siksika and Reeves, PDF pages 10 and 11, and Exhibit 26214-X0443, Appendix B - Proposed Conditions and Applicant Response.

<sup>129</sup> Exhibit 26214-X0457, Chief Crowfoot (Siksika) to AUC - Letter of Non-Objection and Exhibit 26214-X0492, First Rider (Kainai) to AUC - Letter of Non-Objection.

<sup>130</sup> Exhibit 26214-X0441, BWPF Reply Evidence to Kainai, Siksika and Reeves, PDF page 7.

309. The Commission acknowledges that Kainai and Siksika have indicated that their project-specific concerns have been addressed. We respect the First Nations' ability to determine for themselves the degree to which the project could impact their ability to practise their asserted Aboriginal or treaty rights and whether any such impacts are acceptable to them. We also respect their right to determine for themselves that their concerns have been adequately addressed by an applicant.

310. The Commission considers that consultation with Kainai and Siksika is adequate for the project. In so deciding, the Commission relies heavily on the fact that Kainai and Siksika have each stated that the concerns they originally raised, including those regarding the Majorville area viewscape and the potential for the project to impact their asserted Aboriginal and treaty rights, as well as the potential for the project to impact unknown Blackfoot historic sites, have been addressed to their satisfaction. The Commission understands the First Nations' withdrawal of their submissions to mean that they are not requesting or relying on the Commission to address those concerns.

#### 4.11.2 Consultation with other Indigenous groups

311. Dr. Bubel, an archeology professor, questioned the adequacy of consultation with the Blackfoot Confederacy, especially with the Piikani Nation and the Blackfeet Nation in Montana. She explained that the Blackfeet, who are part of the Blackfoot Confederacy, have a relationship with the Majorville Cairn and Medicine Wheel which predates the present geographical border between the United States and Canada. Dr. Bubel referred to the *United Nations Declaration on the Rights of Indigenous People*, which she argued is clear that borders should not be part of the process when considering Aboriginal rights. Regarding the Piikani Nation, she was aware that the Piikani had received notice of the project but nevertheless suggested that the Commission should further engage with the First Nation.<sup>131</sup>

312. The Commission provided direct notice to and followed up multiple times with the Indigenous groups identified using the Alberta government's Landscape Analysis Indigenous Relations Tool (LAIRT). This included the Kainai, Siksika, Piikani Nation and Tsuut'ina Nation. Communication with the First Nations was to the official consultation contact and method identified by the First Nations and published on the Alberta government website. The Commission is of the view that it has provided adequate notice to the Kainai, Siksika, Piikani Nation and Tsuut'ina Nation.

313. The Commission understands that Indigenous groups outside of Canada can have rights within Canada that could attract the duty to consult. The Commission also understands that there is no freestanding duty on the Crown to seek out Indigenous groups, including those outside Canada, where the Crown has no actual or constructive knowledge of a potential impact on their rights. In such cases the potentially affected Indigenous groups must put the Crown, or in this proceeding, the Commission, on notice that they claim rights in Canadian territory that may be affected.<sup>132</sup>

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<sup>131</sup> Transcript, Volume 5, page 954, lines 22-25.

<sup>132</sup> See *R v Desautel*, 2021 SCC 17 at paragraphs 73 to 76.

314. The threshold to trigger the duty to consult is low. The purpose of consultation is to preserve Aboriginal rights or interests pending the resolution of a claim, and for this reason, the duty to consult is engaged even where an Aboriginal claim or right is asserted but not yet proven.<sup>133</sup> In all cases, however, the duty to consult must still be connected to an Aboriginal right or claim.<sup>134</sup>

315. In the current circumstances, the Commission has no information indicating that the Blackfeet Nation has put the Crown on notice that it claims Section 35 rights in the project area. The Alberta government's LAIRT does not identify the Blackfeet Nation as an Indigenous group that the government normally consults with in the project area. The Alberta government also did not include the Blackfeet Nation when developing the *Majorville Guidelines for Land and Resource Management*.<sup>135</sup> No party in this proceeding has suggested that the Blackfeet Nation asserts rights under Section 35 of the *Constitution Act*. The only evidence before the Commission regarding the use of the Majorville area by members of the Blackfeet Nation for ceremonial, cultural or spiritual purposes is testimony from individuals who did not assert that they were authorized to speak on behalf of the Blackfeet Nation. The Commission notes that evidence suggesting that individual members of an Indigenous group may take part in certain practices or activities does not necessarily mean that the Indigenous group itself has or claims a collective right to that activity or practice under Section 35 of the *Constitution Act*, 1982.

316. For the reasons above, the Commission is of the view that direct notice to the Blackfeet Nation of the applications in this proceeding was not required and a duty to consult with the Blackfeet Nation about the project did not arise.

#### 4.12 Historic resources

317. Buffalo Plains submitted that Alberta Culture granted the project *Historical Resources Act* approval on September 16, 2020,<sup>136</sup> and that the only condition of its *Historical Resources Act* approval was to report if historic resources are found during construction. Alberta Culture did not require a historic resources impact assessment for the project<sup>137</sup> and declined to revisit this decision after being further notified of the visual impacts to Majorville.<sup>138</sup>

318. Members of the public, including some Indigenous individuals, were concerned about the impact of the project to historic resources in the area, particularly to the Majorville Cairn and Medicine Wheel,<sup>139</sup> and potential undiscovered archeological sites within the project footprint. The Commission received statements of intent to participate in this proceeding from the following members of the public, referred to in this decision as public interveners, whose

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<sup>133</sup> *Haida Nation v British Columbia (Minister of Forests)*, 2004 SCC 73 at paragraphs 27, 38. See also: *Rio Tinto Alcan Inc v Carrier Sekani Tribal Council*, 2010 SCC 43, at paragraph 50.

<sup>134</sup> *Conseil des Innus de Ekuanitshit c Canada (Ministre des Pêches et des Océans)*, 2015 FC 1298, paragraph 150.

<sup>135</sup> The Majorville Guidelines are discussed in further detail in the next section.

<sup>136</sup> Exhibit 26214-X0014, Appendix 9 HRA Approval.

<sup>137</sup> If a project is likely to result in alteration, damage or destruction of a historic resource, the proponent may be required by Alberta Culture to conduct a historic resources impact assessment.

<sup>138</sup> Exhibit 26214-X0495, BPWF Letter to AUC re Response to Undertaking.

<sup>139</sup> Throughout the proceeding, this historic site is variously referred to by the names *Iniskim Umaapi*, the Majorville Cairn and Medicine Wheel and the Majorville Medicine Wheel. The Commission has used the term Majorville Cairn and Medicine Wheel throughout its correspondence to refer to the monument and 160 acres of surrounding land that are designated as a provincial historic resource under the *Historical Resources Act*.



interest in the proceeding relates primarily to the project's potential impacts on the Majorville area:

- nis'koo, a long time Beaver Bundle owner, Elder and ceremonialist of Kainai<sup>140</sup>
- Camille Pablo Russell, a member of Kainai and a piercing Sundance leader
- Dr. Reeves, a former professor of archeology at the University of Calgary and a senior consultant at Lifeways of Canada Limited.
- Dr. Bubel, a professor of archeology at the University of Lethbridge and president of the Archaeological Society of Alberta at the time of her initial submission.
- Wayne Wegner, a member of the public who visited the Majorville Cairn and Medicine Wheel.
- The Chinook Country Historical Society.

319. The Commission extended nis'koo and Camille Pablo Russell participation rights in the proceeding as they had described the cultural, historical and ceremonial importance of the Majorville Cairn and Medicine Wheel. However, neither party chose to participate further in the proceeding.

320. The Commission extended full participation rights to Dr. Reeves and Dr. Bubel, and both provided evidence and testimony during the hearing. Their evidence will be discussed later in this decision.

321. Mr. Wegner and the Chinook Country Historical Society were concerned that visibility of the project would negatively impact visitors and users of the Majorville site. They submitted that the Majorville site is a part of Alberta's cultural heritage and must be preserved. The Commission extended limited participation rights to these parties, and each of them filed additional written submissions in advance of the hearing.

322. As mentioned in Section 4.11.1 of this decision, although Kainai and Siksika eventually filed letters of non-objection to the project, the two First Nations initially asserted that their Blackfoot spiritual, ceremonial, and cultural rights exercised at the Majorville Cairn and Medicine Wheel are potentially impacted by the project because their viewscape towards the project would be obstructed by large towers and that unidentified Blackfoot archaeological sites exist in the project area and could be impacted.

323. In response to the concerns raised about the impacts to the Majorville Cairn and Medicine Wheel, Buffalo Plains retained Green Cat which prepared a visual simulation of the project turbines as viewed from the Majorville Cairn and Medicine Wheel. Buffalo Plains also retained Circle CRM, which prepared an archeological report responding to the concerns raised by Dr. Reeves, Kainai and Siksika.

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<sup>140</sup> The statement of intent to participate submitted by nis'koo was supported by Harley Bastien, who was identified as a member of the Peigan (Piikani) Nation and an ally of nis'koo.

324. The remainder of this section discusses the impacts to the Majorville Cairn and Medicine Wheel and to undiscovered archeological resources within the project area.

#### 4.12.1 Majorville Cairn and Medicine Wheel

325. The Majorville Cairn and Medicine Wheel<sup>141</sup> is designated and protected under the *Historical Resources Act*. The Majorville Cairn and Medicine Wheel includes a central stone cairn, which is linked to a surrounding stone circle by 28 spokes, and the cultural landscape that contains this monument. The Majorville area is a place of cultural, spiritual and historic significance to the Blackfoot.

326. In 2015, AEP, Alberta Culture and Tourism, Alberta Indigenous Relations, and Alberta Energy, in consultation with the Blackfoot and stakeholders, developed the *Majorville Guidelines for Land and Resource Management (Majorville Guidelines)*.<sup>142</sup> The document includes the province's operational policy for the management of the public land and public assets (i.e., natural resources and historic resources that fall under the jurisdiction of the province) within a defined area known as the Majorville planning area. The wind farm project is not located within the Majorville planning area nor on public lands. The distance between the closest project turbine and the planning area boundary is 14 kilometres and the distance between the closest project turbine and the central cairn is 22.3 kilometres.

327. The public interveners argued that the Majorville Cairn and Medicine Wheel has enormous archeological importance not only for Indigenous peoples, but also for provincial, national and international society at large. The public interveners maintained that obstruction of the natural viewscape by an industrial project, even one over 20 kilometres away, would fundamentally undermine the integrity and function of the site. They believed that Alberta Culture was not responsibly managing the site and argued that the site's importance (as one of two known medicine wheels in the world of its size, and configuration)<sup>143</sup> merited designation as a UNESCO World Heritage Site, like the Head-Smashed-In Buffalo Jump near Fort Macleod.

328. The public interveners wanted the Commission to deny approval of the project as applied for. Dr. Reeves also recommended that Alberta Culture expand the Majorville planning area, direct Buffalo Plains to prepare an archeological visual impact assessment, and establish guidelines for carrying out visual impact assessments of wind farms and other renewable projects.

329. Buffalo Plains acknowledged that its turbines would be visible from the Majorville site but submitted that the 22.3-kilometre distance between the project and the central cairn and medicine wheel location would limit the project's visibility so that its turbines would not dominate the landscape. Additionally, Buffalo Plains explained that there is existing industrial development visible from the Majorville site, such as transmission lines, a communications tower, and occasionally, turbines from the Blackspring Ridge Wind Farm.<sup>144</sup> It also argued that

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<sup>141</sup> See Appendix D for a map of the project in relation to the Majorville Cairn and Medicine Wheel.

<sup>142</sup> Exhibit 26214-X0446, Appendix E - Majorville Guidelines.

<sup>143</sup> The other being the Big Horn Medicine Wheel in Wyoming, which has been designated a National Historic Landmark.

<sup>144</sup> Transcript, Volume 5, page 841, lines 10-17.

its project would have no physical impact on the Majorville site and would not impede access to it by First Nations or others.

330. Buffalo Plains noted that neither the Medicine Wheel nor the larger site captured by the Majorville planning area have been nominated for designation as a National Historic Site or a UNESCO World Heritage Site, and further, the Majorville site has not undergone any of the steps required leading up to a UNESCO designation. Circle CRM did not anticipate the designation of the Majorville Cairn and Medicine Wheel as a UNESCO World Heritage Site in the foreseeable future.

331. In making its decision on the project's potential impacts to the Majorville Cairn and Medicine Wheel, the Commission gave consideration to the letters of non-objection filed by Kainai and Siksika. The Blackfoot have used the Majorville area stretching back over several millennia and the landscape itself, and the many sacred sites that are found in the Majorville area, continue to have enduring spiritual and cultural significance to the Blackfoot.<sup>145</sup> The Commission respects the First Nations' ability to determine for themselves the degree to which the project would impact their ability to practise their asserted Aboriginal or treaty rights and to determine when their concerns have been adequately addressed by an applicant.

332. Neither Dr. Reeves' nor Dr. Bubel's concerns were alleviated by the withdrawal of Siksika's and Kainai's objections to the applications; they emphasized the continued importance of the Majorville area to the Blackfoot for cultural, historical and spiritual purposes. The Commission wishes to emphasize that we have heard, considered and appreciate the archeological insight that Dr. Reeves and Dr. Bubel provided to us during the course of this proceeding. However, we note that Kainai and Siksika are the only First Nations who chose to participate in this proceeding. Kainai and Siksika have indicated that their project-specific concerns, including potential impacts to the Majorville viewscape, have been addressed.

333. In addition to its significance to the Blackfoot, the Majorville Cairn and Medicine Wheel also holds historical and archeological value for society more broadly, and benefits from protection under the *Historical Resources Act*. After filing its applications with the AUC, Buffalo Plains followed up with Alberta Culture to inquire whether impacts to the viewscape at Majorville would affect the project's *Historical Resources Act* approval. Alberta Culture confirmed that it would not reconsider the project's original *Historical Resources Act* approval based upon concerns raised about visual impact.<sup>146</sup>

334. The Commission understands that there is interest from members of the public to designate the Majorville Cairn and Medicine Wheel as a UNESCO World Heritage Site, and for the expansion of the Majorville planning area. However, we note that there have been no indications from Alberta Culture of its intent to nominate this designation, and no estimate for when such a designation might occur, if at all. Similarly, there is no evidence before the Commission to suggest that an expansion to the Majorville planning area is under consideration.

335. The Commission recognizes that the provincial government, in enacting the *Majorville Guidelines*, intended to minimize intrusions on the viewscape from the Majorville Cairn and Medicine Wheel, including by prohibiting certain types of facilities and infrastructure within the planning area. The Commission also notes that the closest project

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<sup>145</sup> Exhibit 26214-X0446, Appendix E - Majorville Guidelines, PDF page 13.

<sup>146</sup> Exhibit 26214-X0495, BPWF Letter to AUC re Response to Undertaking.

turbine is 14 kilometres from the planning area boundary and 22.3 kilometres to the central cairn. Other infrastructure outside of the planning area, including utility developments, are currently visible from the Majorville Cairn and Medicine Wheel. The Commission appreciates the importance of minimizing further viewscape intrusions where reasonable, but is not persuaded that the public interest precludes the development of a wind farm on private land well outside of the planning area, based on its visual impacts.

336. In light of Alberta Culture's assessment of the project, the withdrawal of Kainai's and Siksika's objections, and having considered the record of this proceeding including the visual simulations of the project from the Majorville Cairn and Medicine Wheel, the Commission will not impose alternative or additional requirements for the protection of the viewscape. The Commission is not satisfied that the visual impacts of the project, namely the presence of towers approximately 20 kilometres away, are sufficiently intrusive or adverse in nature that denial of the project is warranted, or that mitigation is required to protect the public interest or preserve the integrity of the site.

#### 4.12.2 Undiscovered archeological resources

337. Dr. Reeves and Dr. Bubel argued that there was a great potential for undiscovered archeological resources within the project footprint and recommended techniques that would preserve such resources. They recommended systematic deep testing using a backhoe prior to construction and, at a minimum that an archeologist be present during turbine platform excavations and field transportation activities.

338. Buffalo Plains recognized the potential of encountering historic resources during construction, and committed to immediately notifying Alberta Culture in accordance with the project's *Historical Resources Act* approval if such resources were discovered during construction. Buffalo Plains suggested that chance discoveries are unlikely as the project infrastructure is predominantly located on private agricultural land. Buffalo Plains also committed to having Blackfoot Traditional Land Use monitors present during construction, and communicating and working with the Kainai and Siksika if historic resources are discovered.<sup>147</sup>

339. The Commission understands the public's concerns about potentially undiscovered archeological resources in the project area. However, we emphasize that the project must abide by its *Historical Resources Act* approval, which states that historic resources discovered during excavation must be reported to Alberta Culture. Further, if a historic resource is discovered during construction, Alberta Culture requires that construction must cease while the historic resource undergoes evaluation. This requirement applies regardless of whether a historic resources impact assessment was required for the project, and regardless of whether the discovery happens on private or public land. Since these conditions are legally required within the *Historical Resources Act* approval, the Commission will not require any additional historic resources related conditions of approval for the project.

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<sup>147</sup> Exhibit 26214-X0441, BWPF Reply Evidence to Kainai, Siksika and Reeves, PDF pages 10 and 11, and Exhibit 26214-X0443, Appendix B - Proposed Conditions and Applicant Response.

## 5 Conclusion

340. The Commission explained the legislative scheme in place for the consideration and approval of power plants in Alberta in Section 3 of this decision. In this conclusion, the Commission summarizes its findings made above, and applies the legislative scheme in light of those findings. In doing so, the Commission weighs the benefits of the project against its negative impacts. The Commission also addresses LOWP's argument that the social and economic costs of wind energy are being disproportionately shifted to rural Albertans.

341. 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 give consideration to whether approval of the project is in the public interest having regard to its social and economic effects and effects on the environment. 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 those experienced by more discrete members of the public.

342. The Commission has determined that many of the negative impacts associated with the project are minimal in nature and have been suitably addressed. In particular, the Commission considers that agricultural impacts related to collector lines, and impacts on weed spread, water wells and co-op lines are likely to be minimal. The Commission is satisfied that noise from the project is likely to satisfy the daytime and nighttime PSL values at all receptors, and that conditions are in place to ensure compliance with Rule 012. The Commission is also satisfied that potential shadow flicker impacts have been reasonably assessed and that measures are in place to address shadow flicker issues if they arise.

343. The Commission understands that LOWP has outstanding concerns regarding environmental impacts and future project reclamation, but the Commission is satisfied that the environmental impacts of the project can be adequately mitigated and that existing reclamation requirements sufficiently address Buffalo Plains' responsibilities at the project's end of life.

344. The Commission does not consider that the project will affect the safety of residents, based on the measures committed to by Buffalo Plains and the conditions imposed by the Commission, including those related to road use.

345. After discussing the impact of the project on human health, the Commission finds that LOWP has not provided technical or expert evidence showing that noise or shadow flicker may cause adverse health effects. There is, however, expert evidence from Ollson suggesting that noise and shadow flicker created by the operation of wind farms do not produce adverse health effects and the Commission accepts this evidence provided the wind farm operates in compliance with existing regulatory requirements including Rule 012.

346. The Commission finds that the project will impact the ability to aerial spray in the area. The Commission considers that the potential for economic losses due to adverse impacts on aerial spraying is likely to be minimal and that the project's turbine shut-off protocol is a reasonable measure to mitigate LOWP's aerial spraying concerns. The Commission has nevertheless weighed the potential consequences associated with impacts on aerial spraying in its overall determination.

347. The Commission also accepts that there is a negative public perception of the project's effects on viewsapes, and this may translate into a negative effect on property value for some properties in the Lomond area. Although the Commission is not able to quantify these effects based on the evidentiary record before it, the Commission recognizes that this is a consequence of the project that needs to be balanced against the project's public benefits.

348. Having determined that the project will result in some negative impacts, the Commission must weigh these impacts against the project's public benefits, in order to determine whether the project is in the public interest.

349. Buffalo Plains asserted that approval of the project is in the public interest as the benefits of the project outweigh its potential negative impacts. Buffalo Plains argued that the project would provide significant benefits, not only to Albertans generally but also to the residents of Lomond and Vulcan County through a combination of direct financial investment (\$750 million), local tax revenue (\$75 million over life of project), increased economic activity and employment (300 local construction jobs and 15 full-time positions), and by generating electricity from a renewable source. It also would establish a \$600,000 Community Vibrancy Fund for local initiatives, that would operate over the course of the project's proposed 25-year operational life as well as the Green Option Program which would pay \$1,000 per year to residents living within two kilometres of a project turbine.

350. LOWP disputed the economic benefits, pointing out that it was the county which controlled the property tax revenue and that construction and long-term jobs usually go to out-of-town contractors for these types of projects. The group argued that too few of the economic benefits would materialize for non-participating Lomond area residents and landowners, but that they would unduly bear the burden of the adverse impacts created by the project.

351. The Commission recognizes that there is no universal definition of what comprises the public interest and that the interests of individual members of the public will not necessarily be aligned or mutually achievable. The Commission also recognizes that, in some cases, the benefits and negative impacts of a project will not be evenly allocated across various stakeholder groups. In these cases, the Commission must carefully scrutinize the nature of the negative impacts, and the extent to which a project proponent has accounted for them, to determine if they have minimized or mitigated the impacts to an acceptable degree. Even where negative impacts cannot be entirely mitigated, the Commission must assess whether, in balancing the costs and benefits as a whole, the larger public interest favours approval of a project.

352. In the current circumstances, the benefits of the project include economic contributions through direct investment and tax revenue, as well as the production of electricity from a renewable resource. The project will help diversify electricity generation in the province. The Commission accepts that certain benefits of the project, such as the development of renewable electricity and increased tax revenue, are likely to be realized on a provincial or regional level whereas certain negative impacts, such as impacts to aerial spraying, the visual impacts of the project, and any property value impacts, will be experienced by individuals and landowners.

353. While a landowner in Alberta may be faced with situations where development (industrial or commercial) nearby may result in their property being devalued, this is a risk borne by all landowners in general. In these circumstances, the potential for one person's property to

devalue does not generally override or sterilize the ability for their neighbouring landowners to choose how to lawfully use their land. Similarly, commercial or industrial development in an area may also impact the economic viability of existing businesses.

354. The Commission notes that Buffalo Plains has designed the project to incorporate an 800-metre residential setback from all turbines, in part to reduce the visual impacts of the project on residences. Buffalo Plains has also committed to work with stakeholders to minimize potential visual impacts by exploring visual screening measures on a case-by-case basis. The Commission accepts that these measures are intended to mitigate the specific impacts to landowners.

355. Further, the Commission finds that the project's impacts on the local Lomond area will not solely be negative. The opportunities for job creation and increased economic activity in Lomond resulting from the project's construction and operation has the potential to provide positive economic benefits to the local community. Although the Commission understands that LOWP members challenged the sufficiency of Buffalo Plains' proposed Community Vibrancy Fund and Green Option Program, the Commission finds that these programs may financially benefit the Lomond area. There are also direct financial benefits accruing to local landowners hosting project infrastructure on their land. As Telford testified, the desirability of any given area is a personal opinion, and where some may be deterred by a wind development, others may perceive it in a positive light. Consequently, the Commission is not prepared to find that the project disproportionately imposes an unacceptable level of negative impacts on residents in the Lomond area.

356. In addition to the concerns raised by LOWP, the Commission has also considered the submissions made in this proceeding by First Nations and members of the public concerned with archeological and historic resources in arriving at its decision. The Commission considers that consultation with Kainai and Siksika is adequate for the project, and understands the First Nations' withdrawal of their submissions to mean that they are not requesting or relying on the Commission to address their concerns about the project.

357. In light of Alberta Culture's assessment of the project, the withdrawal of Kainai's and Siksika's objections, and having considered the record of this proceeding including the visual simulations of the project from the Majorville Cairn and Medicine Wheel, the Commission will not impose alternative or additional requirements for the protection of the viewscape; the Commission is not satisfied that the visual impacts of the project are sufficiently intrusive or adverse in nature that mitigation is required to protect the public interest or preserve the integrity of the site.

358. Overall, for the reasons outlined in this decision and subject to the conditions in Appendix C, the Commission finds that Buffalo Plains has satisfied the requirements of Rule 007 and Rule 012, and that the negative impacts of the project can be mitigated to an acceptable degree and are outweighed by the benefits of the project.

359. The Commission finds that approval of the project is in the public interest.

## 6 Decision

360. Pursuant to Section 11 of the *Hydro and Electric Energy Act*, the Commission approves Application 26214-A001 and grants Buffalo Plains Wind Farm Inc. the approval set out in Appendix 1 – Approval 26214-D02-2022, to construct and operate the Buffalo Plains Wind Farm.

361. Pursuant to sections 14 and 15 of the *Hydro and Electric Energy Act*, the Commission approves Application 26214-A002 and grants Buffalo Plains Wind Farm Inc. the permit and licence set out in Appendix 2 – Permit and Licence 26214-D03-2022, to construct and operate the Amber 611S Substation.

362. The appendixes will be distributed separately.

Dated on February 10, 2022.

### Alberta Utilities Commission

*(original signed by)*

Douglas A. Larder, QC  
Vice-Chair

*(original signed by)*

Neil Jamieson  
Commission Member

*(original signed by)*

Cairns Price  
Commission Member



## Appendix A – Proceeding participants

<b>Name of organization (abbreviation) Company name of counsel or representative</b>
Buffalo Plains Wind Farm Inc. (Buffalo Plains) Terri-Lee Oleniuk Elyse Bouey
Lomond Opposing Wind Projects (LOWP) Daryl Bennett
Marvin Maronda
Larry Root
Wayne Wegner
Brian Reeves
Shawn Bubel
Alberta Wilderness Association
Siksika Nation Blair Feltmate
Camille Pablo Russell
nis'koo, supported by Harley Bastien
Blood Tribe/Kainai Blair Feltmate
Chinook Country Historical Society

Alberta Utilities Commission

Commission panel

Douglas A. Larder, QC, Vice-Chair  
Neil Jamieson, Commission Member  
Cairns Price, Commission Member

Commission staff

Meghan Anderson (Commission counsel)  
Gary Perkins (Commission counsel)  
Kloria Wen  
Allan Anderson  
Amanda Spyce  
Joan Yu  
Heidi Ritchie  
Beth Boyce

**Appendix B – Oral hearing – registered appearances**

Name of organization (abbreviation) Name of counsel or representative	Witnesses
Buffalo Plains Wind Farm Inc. (Buffalo Plains) Terri-Lee Oleniuk Elyse Bouey	Robin Reese Gordon Verok Jon Cooper Glen Doll Shawn Sutherland Diane Munroe Jonathan Chui Chris Ollson Robert Telford Tim Crowell Andy Edeburn Alasdair Warnock Trevor Peck
Lomond Opposing Wind Projects (LOWP) Daryl Bennett	Laura Schlaht Tawnya Schlaht Curt Schlaht Ben Loree Brian Reed Greg Chitrenky Desiree Mensinger Justin Helland Luke Liebreich Bruce Henderson Lavinia Henderson Dennell Gillespie Ron Magnuson Larry Dietrich Sandra Kam
Brian Reeves	Brian Reeves
Shawn Bubel	Shawn Bubel

## Appendix C – Summary of Commission conditions of approval in the decision

This section is intended to provide a summary of all conditions of approval specified in the decision for the convenience of readers. Conditions that require subsequent filings with the Commission will be tracked as directions in the AUC's eFiling System. In the event of any difference between the conditions in this section and those in the main body of the decision, the wording in the main body of the decision shall prevail.

The following are conditions of Decision 26214-D01-2022 that require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 26214-D02-2022:

- b. Buffalo Plains shall submit an updated version of its project-specific environmental protection plan, which includes weed control measures, to the Commission at least 60 days prior to the start of construction.
- c. Buffalo Plains shall review any relevant groundwater issues identified and brought forward, including by Lomond Opposing Wind Project group members, on a case-by-case basis. Buffalo Plains shall track any complaints it receives regarding groundwater during construction, including impacts to groundwater caused by vehicular traffic, within the first 24 months of operations, and its responses to those complaints. Buffalo Plains shall submit a report to the Commission outlining any groundwater complaints received and its responses within 25 months of the project becoming operational.
- f. Buffalo Plains shall submit a 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*.
- g. Buffalo Plains shall conduct a post-construction comprehensive sound level survey, including an evaluation of low frequency noise, at receptors R8, R42, R108, R111 and R131. The post-construction comprehensive sound level survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. Within one year after the project commences operations, Buffalo Plains shall file a report with the Commission presenting measurements and summarizing results of the post-construction comprehensive sound level survey.
- h. As soon as reasonably possible, Buffalo Plains shall consult any new landowners within 1.5 kilometres of the project turbines who have not previously been consulted by Buffalo Plains, including the owner of Receptor R52, about predicted shadow flicker from the project turbines at their residences. Buffalo Plains shall then file a report with the Commission detailing the outcomes of its consultation at least 90 days prior to the start of construction.
- i. Buffalo Plains shall file a report with the Commission detailing any complaints or concerns it receives from local landowners regarding shadow flicker from the project during its first year of operation, as well as Buffalo Plains' response to the complaints or concerns. If Buffalo Plains implements mitigation to reduce shadow flicker impacts, the

report shall detail the mitigation measures and associated landowners' feedback regarding the mitigation. Buffalo Plains shall file this report no later than 13 months after the project becomes operational.

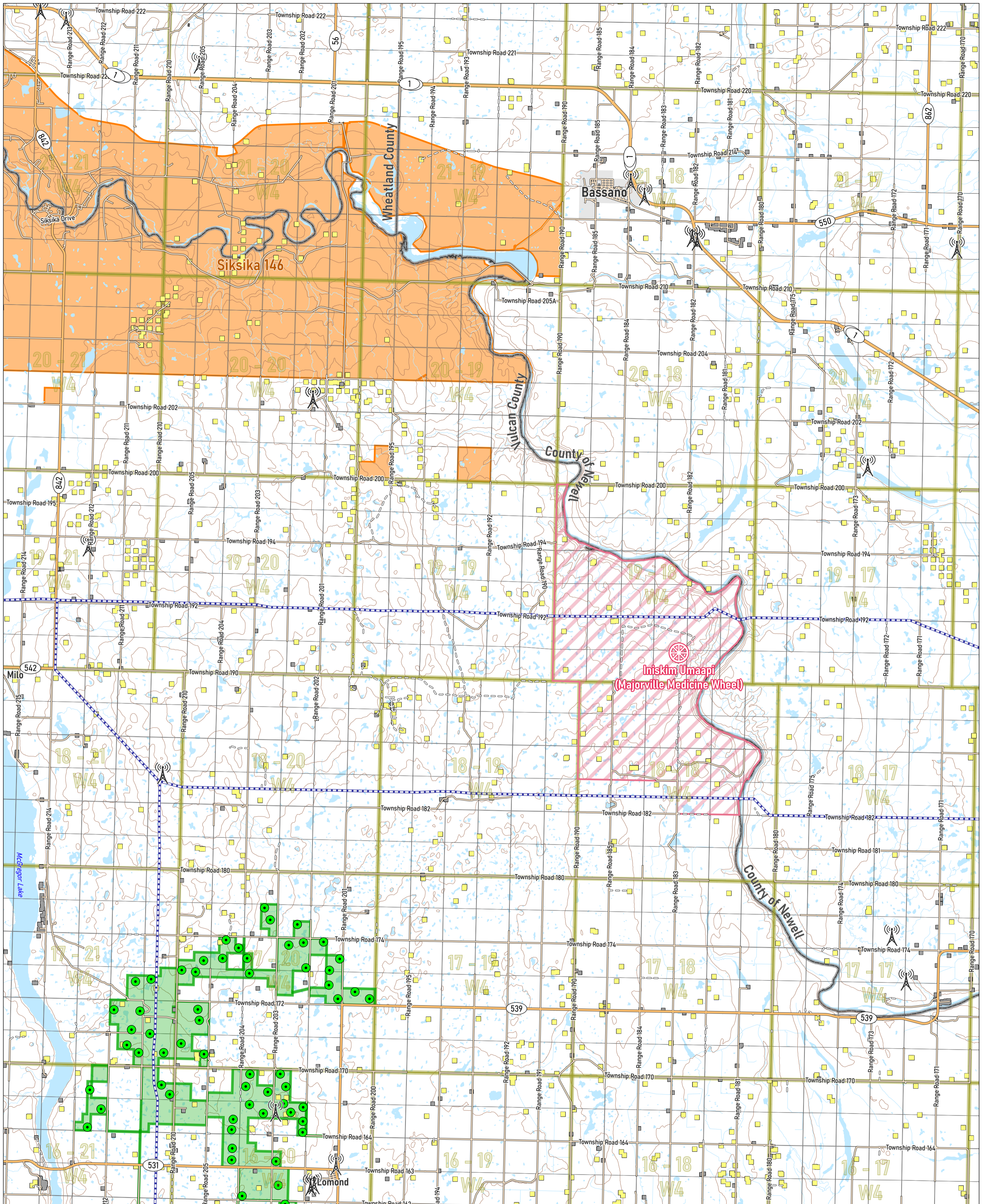
The following are conditions of Decision 26214-D01-2022 that do not require subsequent filings with the Commission:

- a. Buffalo Plains shall implement a turbine shut-off protocol to be followed when it receives a request at least 24 hours in advance of impacted aerial spraying operations. The protocol will include the direct phone number for the site supervisor and the remote operations control centre, a step-by-step process to identify which turbines should be curtailed, halted and/or yawed, a confirmation of dates and times for planned aerial spraying activities, a process to ensure the site is safe and secure for spraying to occur, and a process to ensure that Buffalo Plains is notified when spraying is completed.
- d. Buffalo Plains must install bird collision markers to overhead collector lines in areas where the collector lines intersect the 100-metre setback of Class III and higher wetlands.
- e. If the cumulative effects on birds or migratory bats were to occur such that mortality rates exceeded a cumulative threshold for a local area or regional area as determined by Alberta Environment and Parks (AEP), Buffalo Plains shall implement any recommended adaptive mitigation measures issued by AEP, as applicable, in order to reduce the average estimated corrected mortality rate under a cumulative threshold that could be established by AEP in the future.
- j. Buffalo Plains shall avoid any project-related use of the section of Range Road 202 passing along the west side of the Lomond Cemetery.
- k. Buffalo Plains shall work with families planning services at the Lomond Cemetery on a case-by-case basis to ensure minimal disturbances to their ceremonial activities.
- l. Buffalo Plains shall avoid, to the extent possible, school bus routes on roads that are under the authority of Vulcan County when designing its road use agreement with Vulcan County. Buffalo Plains shall also avoid the use of Range Road 203 between Township Road 164 and Turbine T-90's planned access road.

**Appendix D – Map of the Majorville Cairn and Medicine Wheel and project area from Exhibit 26214-X0442, Appendix A - Majorville Area Overview Map**



Appendix D -  
26214\_X0442\_Majorv



## Buffalo Plains Wind Farm

### Majorville Area Overview

- First Nation Reserve
- Majorville Planning Area
- Project Area
- Majorville Medicine Wheel
- Building
- Oil & Gas Facility
- Communications Tower
- Existing Transmission Line
- Turbine Site

Data Credits: Alberta Energy Regulator, Government of Canada, Natural Resources Canada, Newell County, Vulcan County

**ABO**  
**WIND**



0 2 4 6 km

Scale Printed at 11"X17": 1:20,000  
 Projection: NAD83 / UTM zone 12N  
 Publish Date: 2021-10-12