Capstone Infrastructure Corporation

Buffalo Atlee Wind Farm

June 28, 2021

Alberta Utilities Commission
Decision 25100-D01-2021
Capstone Infrastructure Corporation
Buffalo Atlee Wind Farm
Proceeding 25100
Applications 25100-A001 to 25100-A003

June 28, 2021

Published by the:
Alberta Utilities Commission
Eau Claire Tower
1400, 600 Third Avenue S.W.
Calgary, Alberta T2P 0G5

Telephone: 310-4AUC (310-4282) in Alberta
1-833-511-4AUC (1-833-511-4282) outside Alberta
Email: info@auc.ab.ca
Website: www.auc.ab.ca

Contents

1 Decision summary

1. In this decision, the Alberta Utilities Commission approves applications from Capstone Infrastructure Corporation, filed on behalf of BA1 Wind GP Corp., BA2 Wind GP Corp. and BA3 Wind GP Corp., to construct and operate Buffalo Atlee Wind Farm 1, Buffalo Atlee Wind Farm 2 and Buffalo Atlee Wind Farm 3, and connect them to the FortisAlberta Inc. electric distribution system at three locations.

2 Application and interveners

2.1 Application details

2. On December 6, 2019, Capstone Infrastructure Corporation applied to construct and operate Buffalo Atlee Wind Farm 1 (Buffalo Atlee 1), Buffalo Atlee Wind Farm 2 (Buffalo Atlee 2) and Buffalo Atlee Wind Farm 3 (Buffalo Atlee 3), (collectively, the Buffalo Atlee Wind Farm or the project), and to connect the project to the FortisAlberta Inc. electric distribution system.

3. Capstone stated that it acquired the project from MAXIM Power Corp., who had previously been granted Phase 1 Buildable Area Approval 22755-D02-2018[1] for Buffalo Atlee 1 and Buffalo Atlee 3. Capstone explained that it added Buffalo Atlee 2 as a third phase of the project and that it decided to reduce the number of turbines originally proposed by MAXIM for Buffalo Atlee 1 and Buffalo Atlee 3.

4. Neither MAXIM nor Capstone filed a Phase 2 buildable area application for the project and the deadline for doing so has passed. The Commission therefore considers that Approval 22755-D02-2018 has expired and will rescind it. The Commission has treated Capstone's applications in this proceeding as new power plant applications.

5. On March 23, 2020, the Commission issued a ruling that placed the applications in abeyance to give Capstone an opportunity to review, and if possible, further mitigate, the potential environmental effects of the project.

6. On August 10, 2020, Capstone advised the Commission of project amendments, including design changes and proposed mitigation measures, and requested that the Commission take the applications out of abeyance. Capstone filed its updated application submissions between August 10, 2020 and September 22, 2020. On September 8, 2020, the Commission ruled that it would resume its consideration of the applications.

7. In its updated application, Capstone, on behalf of itself and its partner Sawridge First Nation, applied for approval to construct and operate the 17.25-megawatt (MW) Buffalo Atlee 1,

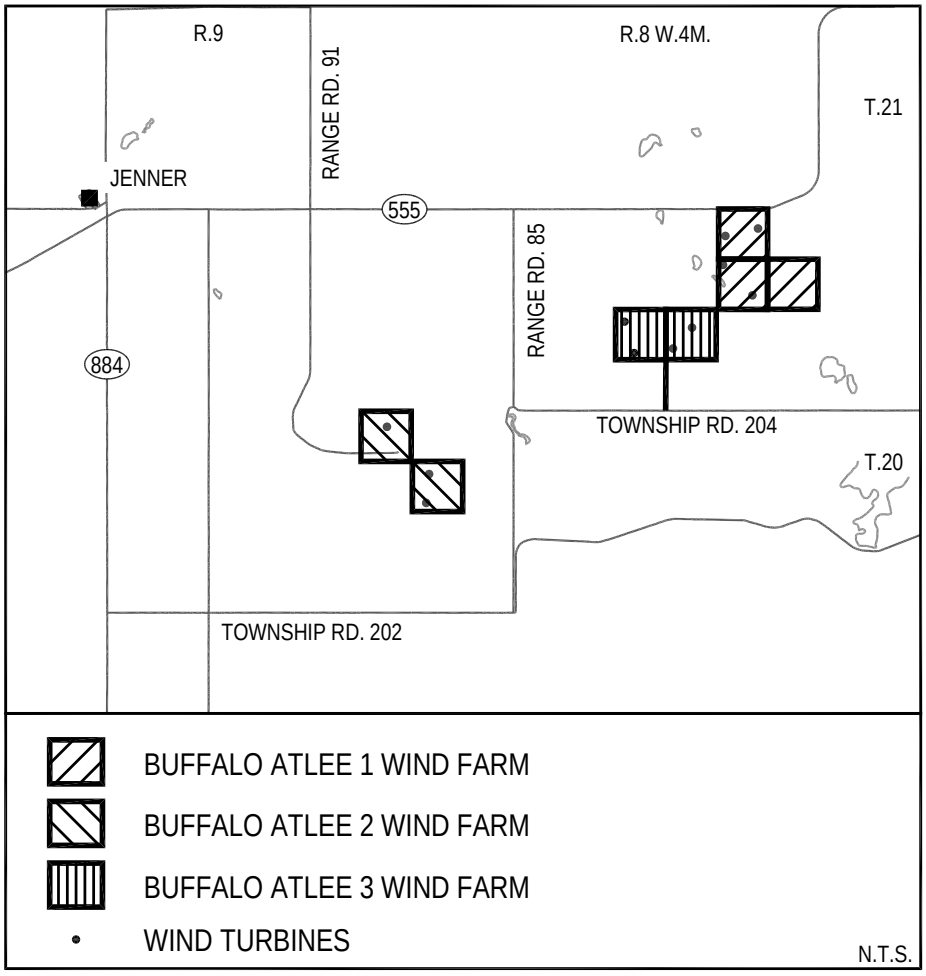
[1] Power Plant Approval 22755-D02-2018, Proceeding 22755, Application 22755-A001, February 7, 2018.

the 13.8-MW Buffalo Atlee 2 and the 17.25-MW Buffalo Atlee 3 power plants. Capstone stated that the project would be owned by the partners through the special purpose entities Buffalo Atlee 1 Wind LP, Buffalo Atlee 2 Wind LP and Buffalo Atlee 3 Wind LP, with the power plant approvals held by the respective general partners of those entities. Capstone therefore requested that if approved, BA1 Wind GP Corp. be granted the approval on behalf of Buffalo Atlee 1 Wind LP for Buffalo Atlee 1, BA2 Wind GP Corp. be granted approval on behalf of Buffalo Atlee 2 Wind LP for Buffalo Atlee 2, and BA3 Wind GP Corp. be granted approval on behalf of Buffalo Atlee 3 Wind LP for Buffalo Atlee 3.[2]

8. Each wind farm would use Siemens-Gamesa SG 4.5-145 4.5-MW wind turbines with a hub height of 127.5 metres and a rotor diameter of 145 metres. Buffalo Atlee 1 and Buffalo Atlee 3 would each have four wind turbines while Buffalo Atlee 2 would have three wind turbines. The project would also include access roads, crane pads, a permanent meteorological tower, an underground collector system, a control building and control equipment.

9. The project would be located on private lands in Special Area No. 2, approximately five kilometres southeast of the hamlet of Jenner, as shown in the following figure:

Figure 1. Project location



[2] Exhibit 25100-X0002, Rule 007 Power Plant Application for Buffalo Atlee Wind Farm Phases 1, 2 and 3, PDF page 8.

10. The project would connect to the FortisAlberta Inc. 25-kilovolt distribution system at three separate connection points.

11. Capstone's applications, applications updates, and reply evidence included the following:

- A participant involvement program, which detailed consultation with stakeholders within 800 metres of the project and notification to stakeholders within 2,000 metres of the project.

- A noise impact assessment, which concluded that the project would comply with permissible sound levels set out in Rule 012: *Noise Control*.

- An updated shadow flicker report,[3] which concluded that there is minimal potential for shadow flicker effects from the project. In particular, it concluded that an occupied residence located 1,917 metres from a turbine (Receptor R2) would not experience any shadow flicker as a result of the project, and shadow flicker at an occupied residence located 668 metres from a turbine (Receptor R1) was predicted to be less than 30 hours per year.

- An environmental evaluation[4] that outlined project components and activities, described baseline environmental conditions, identified potential effects and mitigation measures, and assessed predicted residual effects of the project. Capstone subsequently submitted an amendment to the environmental evaluation that focused on the proposed revised layout and additional field work conducted to determine the quality of the existing native grassland and wildlife habitat.[5]

- A renewable energy referral report by Alberta Environment and Parks (AEP), dated November 20, 2019, which ranked the project an overall high risk for wildlife and wildlife habitat.[6]

- An AEP referral report amendment letter dated July 2, 2020,[7] indicating that the project risk to wildlife and wildlife habitat had been reduced from the high risk ranking, as described in the referral report, to a moderate risk ranking.

- A project-specific native grassland offset plan to address the potential residual effects on native grassland as a result of the construction and operation of the project.[8]

- Documents outlining *Historical Resources Act* requirements for Buffalo Atlee 1 and Buffalo Atlee 3, dated June 1, 2020,[9] and *Historical Resources Act* approval for Buffalo Atlee 2, dated September 23, 2019.[10] Capstone indicated that it planned to submit amendment applications to the Historical Resources Management Branch of

[3] Exhibit 25100-X0033, Project Update - Shadow Flicker.
[4] Exhibit 25100-X0019, Attachment H: Environmental Evaluation.
[5] Exhibit 25100-X0031, Attachment B – Amendment to the EE, PDF page 9.
[6] Exhibit 25100-X0006, Attachment E: Alberta Environment and Parks Referral Report.
[7] Exhibit 25100-X0029, Attachment A – AEP-FWS Referral Report Amendment Letter.
[8] Exhibit 25100-X0030, Attachment C – Native Grassland Offset Plan.
[9] Exhibit 25100-X0038, Attachment 4: Amended Historical Resources Act Requirements.
[10] Exhibit 25100-X0007, Attachment F: Historical Resources Act Approval and Requirements.

Alberta Culture, Multiculturalism and Status of Women based on the updated project layout.

- A report by DNV GL Energy that analyzed wake effects of the Buffalo Atlee Wind Farm.[11]

- Letters from FortisAlberta Inc. confirming that it is prepared to allow the project to interconnect to its distribution system.[12]

2.2 Interveners

12. The Commission issued notices of applications on January 22, 2020 and September 24, 2020, in accordance with Section 7 of Rule 001: *Rules of Practice*. In response, the Commission received statements of intent to participate from Dustin Aebly; Danny Aebly; Special Area No. 2; Jenner Wind 1 GP Inc., on behalf of Jenner 1 LP (Jenner 1); and Jenner Wind LP (Jenner 1 and Jenner Wind LP are collectively referred to as the Jenner Entities).

13. The Commission granted standing to Dustin Aebly, Danny Aebly, and the Jenner Entities and held a written hearing to consider the applications. The Commission also granted Special Area No. 2 full rights to participate in the hearing, but noted that it would not be eligible to make a local intervener costs claim for its participation.

14. The Jenner Entities raised concerns related to consultation as well as noise impacts and wake effects on:

- Jenner 1's approved but not yet constructed Jenner Wind Power Project (JWPP),

- Jenner Wind LP's proposed Jenner Wind Power Project 2 (Jenner 2), and

- Jenner Wind LP's proposed Jenner Wind Power Project 3 (Jenner 3)

(collectively, JWPP, Jenner 2 and Jenner 3 will be referred to as the Jenner Projects).

15. The Jenner Projects (approved or proposed) are to be located north of the Buffalo Atlee Wind Farm. The closest turbines from the Buffalo Atlee Wind Farm and the Jenner Projects would be JWPP's approved T87 turbine location and Buffalo Atlee 1's proposed T1 turbine location, which would be approximately 1,330 metres apart.[13] The map in Appendix C, submitted by the Jenner Entities, depicts the area where the projects would be closest together.

[11] Exhibit 25100-X0079, Appendix D - DNV GL Energy Wake Analysis of Buffalo Atlee on Jenner Wind Report dated Jan 22, 2021.
[12] Exhibit 25100-X0012, Attachment L: FortisAlberta Inc. Letters.
[13] Exhibit 25100-X0083 Written Evidence of the Applicant Capstone Infrastructure Corporation, PDF page 14.

16. The Jenner Entities submitted evidence and arguments, including reports on the noise impacts[14] and wake effects of the Buffalo Atlee Wind Farm on the Jenner Projects.[15] They argued that the Commission should impose mitigation measures on the Buffalo Atlee Wind Farm to address their concerns.

17. Special Area No. 2 stated that the project does not meet the applicable land use requirements established by the government of Alberta and that the project would not receive a municipal development permit.

18. Dustin Aebly and Danny Aebly expressed concerns with proximity of the project infrastructure to their lands, decreased property values, and interference with their cattle operations. Dustin Aebly also raised concerns about shadow flicker, noise impacts and the project's effects on the environment.

19. Special Area No. 2, Dustin Aebly and Danny Aebly did not file evidence or argument in the proceeding.

3 Legislative framework

20. The Commission is considering these applications under sections 11, 18 and 19 of the *Hydro and Electric Energy Act* and Section 17 of the *Alberta Utilities Commission Act*. In accordance with Section 17, the Commission must assess whether approval of the applications is in the public interest, having regard to the social, economic and environmental effects of the project.

21. 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.[16] It must take into account the purposes of the *Hydro and Electric Energy Act* and the *Electric Utilities Act*, and it cannot consider whether there is a need for the electric energy that would be produced by the project or whether the project is the subject of a renewable energy support agreement under the *Renewable Electricity Act*.[17] The Commission must also determine whether the applicant has met the requirements of Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments* and Rule 012: *Noise Control*. An applicant must obtain all approvals required by other applicable provincial or federal legislation.

[14] Identical reports were filed by the Jenner Entities in Exhibit 25100-X0073, Appendix A – RWDI Evidence and Exhibit 25100-X0077, Appendix A – RWDI Evidence. They will be referenced with only one footnote for the remainder of this decision.

[15] Identical reports were filed by the Jenner Entities in Exhibit 25100-X0074, Appendix B – Westwood and Exhibit 25100-X0078, Appendix B – Westwood. They will be referenced with only one footnote for the remainder of this decision.

[16] 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.

[17] *Hydro and Electric Energy Act*, RSA 2000 c H-16, ss 2, 3.

4 Discussion and findings

22. The remaining sections of this decision provide an overview of the evidence in this proceeding and the Commission's findings on the central issues, namely: the concerns of Special Area No. 2 and adjacent landowners and occupants, Capstone's participant involvement program, the project's wake effect, the project's compliance with the AUC's regulatory requirements for noise, and the project's effects on the environment.

23. For the reasons stated below and subject to the conditions outlined in this decision (listed in Appendix B), the Commission approves the applications from Capstone, filed on behalf of BA1 Wind GP Corp., BA2 Wind GP Corp. and BA3 Wind GP Corp., to construct and operate Buffalo Atlee Wind Farm 1, Buffalo Atlee Wind Farm 2 and Buffalo Atlee Wind Farm 3, and connect them to the FortisAlberta Inc. electric distribution system.

4.1 Concerns of Special Area No. 2 and adjacent landowners and occupants

24. Special Area No. 2, the rural municipality governed by the Special Areas Board and within which the project would be located, stated that the project does not meet the requirements of *Special Areas – 2, 3 and 4 Land Use Order Ministerial Order No. MSL:007/15* (Land Use Order). Special Area No. 2 explained that the project's design does not meet the minimum setback requirements in the Land Use Order[18] and that the Land Use Order only allows the minimum setback requirements to be reduced if there is a written agreement with the affected landowner, which Capstone has not been successful in obtaining. Special Area No. 2 stated that the project would not receive a municipal development permit because the Land Use Order requirements are not met.

25. Dustin Aebly, whom the Commission understands from Capstone's submissions is the "affected landowner" referred to by Special Area No. 2, stated that he is the "land owner/lease holder" of five quarter sections of land that would be affected by the project. While Capstone's landowner maps show that the parcels listed by Dustin Aebly are owned by Aebly Ranch Inc., Mr. Aebly did not indicate that he was acting on behalf of Aebly Ranch Inc.[19] Notwithstanding, Mr. Aebly did state that Capstone did not follow the Land Use Order's minimum 550-metre setback between turbines and the boundary of his adjacent properties, and that this would affect his cattle operation. He also listed the following concerns: cattle grazing, decreased land values, noise pollution, groundwater, birds of prey that help control rodents and shadow flicker effects.

26. Danny Aebly stated that he is a landowner of adjacent lands in the Municipal District of Cypress County and that he holds the grazing lease in Section 18, Township 20, Range 8, west of the Fourth Meridian, which is 200 to 300 metres directly south of Turbine T3 of Buffalo Atlee 2. He indicated that he does not consent to that turbine location and that he is concerned about cattle grazing and property values.

[18] Land Use Order Part VII, 49 (4)(e)(i)4.

[19] In Exhibit 25100-X0021, System generated PDF, Danny Aebly listed the following lands as the affected lands: NW 24-20-9-W4; NW 19-20-8-W4; SE 32-20-8-W4; and NE and SE 29-20-8-W4. Capstone's maps in Exhibit 25100-X0039, Attachment 5: Amended Figures, PDF page 3, indicated that Aebly Ranch Inc. is the owner of these parcels.

27. Capstone submitted that there is no evidence to suggest that the project would have negative impacts on the interests of Danny Aebly, Dustin Aebly or other landowners and leaseholders in the project area.

28. In response to the concerns of Special Area No. 2, Capstone filed considerable argument seeking to demonstrate, among other things, that Buffalo Atlee 1 is in compliance with the Land Use Order, the consent of Dustin Aebly and Danny Aebly is not required and that, in any event, having regard to Section 619 of the *Municipal Government Act* and comments of the Court of Appeal of Alberta in *Borgel v Paintearth (Subdivision and Development Appeal Board)*, outstanding issues associated with the municipal planning process are not an impediment to Capstone's applications; and, the Commission's authority to approve the project prevails over the plans, orders, decisions and bylaws of local and municipal authorities.

29. Capstone added that if the project is approved, it is committed to filing a Wind Energy Conversion Systems – Commercial Development Application with the Special Areas Board.

4.1.1 Findings

30. Dustin Aebly and Danny Aebly were each granted standing in this proceeding as owners and leaseholders of lands adjacent to the project. They listed concerns including the effect of the project on their cattle operations, land values and groundwater; however, they did not file evidence or argument that would substantiate these concerns. In the absence of such evidence, the Commission cannot reasonably draw any conclusions or make any findings about whether the project is likely to have an adverse effect on any of those matters.

31. Dustin Aebly also expressed concern about the potential for shadow flicker. Capstone's updated shadow flicker assessment indicated that there is minimal potential for shadow flicker effects from the project. In the absence of evidence to the contrary, the Commission accepts Capstone's submission that Mr. Aebly's residence is located well outside of the two-kilometre buffer area considered in its assessment and is expected to have no risk (zero hours) of shadow flicker effects.[20]

32. Issues raised by Dustin Aebly concerning noise and potential environmental effects of the project are addressed more specifically in the Noise and Environmental effects sections.

33. Special Area No. 2 expressed concern that the project would infringe on the setback requirements of the Land Use Order but neither the municipal authority, Dustin Aebly nor Aebly Ranch Inc., as the affected landowner or occupant, filed evidence or argument about how the setback infringement affected them or the use of the lands adjacent to the project. Accordingly, while the Commission accepts that the Land Use Order requires a minimum setback between the project and the boundary of certain parcels of land within Special Area No. 2, and Buffalo Atlee 2 and Buffalo Atlee 3 infringe on that setback, no determination of impacts can be made.

34. The Commission considers that whether the Special Areas Board can or should issue or withhold municipal permits for the project is a decision to be made by that board when Capstone or the project approval holders bring their applications to it. Likewise, the apparent disagreement

[20] Exhibit 25100-X0098, Capstone Infrastructure Corporation Written Final Argument, PDF pages 14 and 15, paragraph 40.

between Capstone and Special Area No. 2 about whether the Special Areas Board can or should require Dustin Aebly or Aebly Ranch Inc.'s consent to an infringement of the minimum setback required under the Land Use Order, is a matter that is entirely within the authority of the Special Areas Board to decide; the Commission does not have authority to enforce the setback or to reduce the minimum setback requirements under the Land Use Order.

35. The Commission considers that Capstone has correctly described the relationship between the Commission's authority and a municipality's authority established by the *Municipal Government Act*. The Commission addressed this relationship in Decision 2014-040:

> An approval granted by the Commission prevails over a development decision of either the MD of Provost or the MD of Wainwright, pursuant to sections 619 and 620 of the *Municipal Government Act.* The Commission agrees with the [interveners] that the [Municipal Planning Commission]'s decision to deny the requested development approvals is a factor that it may take into account when deciding whether approval of the project is in the public interest because it reflects that some members of the community are opposed to the project. However, the Commission may also take into account the letters of support for the project filed in this proceeding.[21]

36. Although the Commission can consider Special Area No. 2's statement that the project would not receive a municipal development permit as a factor when deciding if approval of the project is in the public interest, in this proceeding there is no additional information on that point to assist the Commission. As previously noted, no evidence or argument was filed to indicate how the adjacent landowners or occupants could be affected by project infrastructure that is proposed to be located within the setback.

4.2 Participant involvement program

37. Capstone retained LandSolutions LP to support the management and completion of the consultation process for the project. LandSolutions stated that the purpose of the project's participant involvement program was to ensure that effective communication take place with the public, local authorities, agencies, industry and government such that questions and concerns may be raised, properly addressed, and if possible, resolved. The participant involvement program included project information packages mailed to community stakeholders on multiple occasions, consultation phone calls with local residents and stakeholders, one-on-one meetings and two public open houses.

38. LandSolutions submitted that overall, Capstone's participant involvement program was successful in engaging the community and sharing all of the project's details, and exceeded the minimum requirements of Rule 007.

39. The Jenner Entities argued that Capstone failed to meaningfully and sufficiently engage with them concerning the project and indicated that they would prefer a voluntary resolution of their concerns, including by way of a bilateral agreement.

40. Capstone replied that Jenner Wind GP Inc., Jenner 1 Inc. and the Jenner Entities' parent company Potentia Renewables Inc. all received the project's participant involvement information mailouts and that all stakeholders, including the Jenner Entities, were provided with materials

[21] Decision 2014-040: 1646658 Alberta Ltd. – Bull Creek Wind Project, Proceeding 1955, Application 1608556, February 20, 2014, paragraph 659.

and opportunities necessary to allow for effective engagement. Capstone stated that the Jenner Entities did not express any concerns during the participant involvement program and argued that if the Jenner Entities had concerns, they were obligated to make those concerns known to Capstone during the participant involvement process.

41. Capstone stated that on January 13, 2021, there was a call between senior representatives of the parties during which the Jenner Entities made a direct request for compensation. Capstone submitted "that Jenner's attempts to leverage their involvement in this proceeding has been done for financial gain. This is very concerning and clearly not the intention or purpose of the regulatory process."[22] Capstone further stated that the Jenner Entities':

> … late filing of a SIP [statement of intent to participate], after nearly two years in which numerous meetings and phone calls were held between the parties without Jenner once raising any concerns about [the Buffalo Atlee Wind Farm], is suggestive of Jenner seeking to use the Commission's regulatory process to secure a financial or business advantage.[23]

42. The Jenner Entities contested the consultation history outlined by Capstone. While they acknowledged that consultation is a two-way street, the Jenner Entities emphasized that Capstone is responsible for meaningfully consulting the Jenner Entities and addressing all concerns raised. They stated that Capstone's engagement with the Jenner Entities largely preceded the amendment to the project, and that Capstone did not renew meaningful or sufficient consultations with the Jenner Entities after the project was amended.

4.2.1 Findings

43. 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.[24]

44. The Commission is satisfied that Capstone's participant involvement program for the project met the applicable Rule 007 requirements. It observes that Capstone mailed multiple project information packages to stakeholders, conducted direct consultation meetings with stakeholders and held two public open houses for the project as part of its participant involvement program. In making this finding, the Commission acknowledges but is not

[22] Exhibit 25100-X0098, Capstone Infrastructure Corporation Written Final Argument, PDF pages 19-20.
[23] Exhibit 25100-X0098, Capstone Infrastructure Corporation Written Final Argument, PDF page 20.
[24] 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.

persuaded by the concerns raised by the Jenner Entities. As noted by Capstone, the Commission has consistently stated that consultation is a two-way street.[25]

45. The Commission's view of consultation remains unchanged and applies to all stakeholders, including companies with business interests in the vicinity of a project. It also bears repeating that a consultation program may not resolve all concerns with a project, and if an applicant does not agree with a stakeholder's proposed resolution to a concern, that does not necessarily mean that effective consultation did not occur.

46. While Capstone was ultimately unable to resolve the Jenner Entities' concerns, the Commission is satisfied, on the basis of the consultation records, that Capstone's participant involvement program generally achieved the purpose of consultation. That is, through Capstone's participant involvement program, the Jenner Entities were given sufficient information to understand the nature of the project, identify areas of concern and engage in dialogue with Capstone with the goal of eliminating or minimizing those concerns. The Commission therefore finds that the record of this proceeding does not support the Jenner Entities' argument that Capstone failed to meaningfully and sufficiently engage with the Jenner Entities.

4.3 Wake effect

47. Wake effect refers to the deceleration and increased turbulence of wind downstream from a turbine that results from the turbine extracting energy from the wind. The Jenner Entities' primary concern with the Buffalo Atlee Wind Farm relates to the wake effect on the adjacent Jenner Projects.

48. The Jenner Entities and Capstone each filed reports addressing the wake effect of the Buffalo Atlee Wind Farm on the Jenner Projects. Both parties also filed responses to an information request in which the Commission asked about legal rights associated with wake effect, how other jurisdictions have addressed wake effect, and what project planning standards or best practices exist to manage wake effect.

4.3.1 Wake effect and proposed mitigation

49. The Jenner Entities filed a wake loss study report prepared by Westwood Professional Services Inc. Westwood stated that it modelled the wake effect of the Buffalo Atlee Wind Farm on the JWPP, both with and without Jenner 2 and Jenner 3. Westwood concluded that when Jenner 2 and Jenner 3 were not included, the Buffalo Atlee Wind Farm would produce a total deficit in the JWPP's annual energy production of 2,613.1 megawatt hours per year (MWh/yr), which represents approximately 0.5 per cent of the JWPP's total energy production.[26] The Jenner Entities stated that the present value of the loss of revenue resulting from the deficit would be greater than $1.5 million over the lifetime of the JWPP. They also stated that wake

[25] Decision 2011-329: Naturener Energy Canada Inc. – 162-MW Wild Rose 2 Wind Power Plant and Associated Eagle Butte Substation, Proceeding 625, Application 1606143, August 2, 2011, page 30, paragraph 169.

[26] In Exhibit 25100-X0078, Appendix B – Westwood, PDF page 13, Westwood indicated that Buffalo Atlee 1 causes the highest deficit in the Jenner 1 Wind Project's annual energy production estimated at 1,446.8 MWh/yr, followed by Buffalo Atlee 3 causing a deficit of 736.3 MWh/year and Buffalo Atlee 2 causing a deficit of 343.8 MWh/yr.

effect from the Buffalo Atlee Wind Farm would create adverse operational and maintenance impacts for the JWPP.

50. Capstone stated that the two closest turbines of the Buffalo Atlee Wind Farm and the Jenner Projects would be JWPP's approved Turbine T87 location and Buffalo Atlee 1's proposed Turbine T1 location, which would be approximately 1,330 metres apart. Capstone and the Jenner Entities provided multiple project overlay maps that depicted the Buffalo Atlee Wind Farm in relation to the Jenner Projects.[27]

51. Capstone submitted a report from DNV GL Energy that analyzed the wake effect of the Buffalo Atlee Wind Farm on the Jenner Projects and vice versa. DNV, which also reviewed the wake effect study prepared by Westwood, calculated that the anticipated wake effect impacts from the Buffalo Atlee Wind Farm's turbines on the JWPP would be 0.4 per cent, or 2,127 MWh/yr.

52. However, Capstone also stated that based on the predominant wind direction, the Buffalo Atlee Wind Farm would not be located upwind of the JWPP. It submitted that if the Commission has the jurisdiction to consider wake effect, the Commission must consider that the Buffalo Atlee Wind Farm would be more adversely affected by wake from the Jenner Projects than the Jenner Projects would be by wake from the Buffalo Atlee Wind Farm. Capstone noted DNV's calculation that the Jenner Projects would collectively cause a 1.7 per cent or 3,297 MWh/yr adverse wake effect impact on the Buffalo Atlee Wind Farm.

53. Capstone stated that "The hypocrisy of [the Jenner Entities'] argument becomes apparent when one considers the reality of wake effect within the [Jenner Projects themselves]."[28] It argued that as demonstrated in the DNV report, the Jenner Projects' internal wake effect impacts would be much greater than anything resulting from the Buffalo Atlee Wind Farm. In this regard, DNV indicated that the JWPP turbines alone, modelled with no turbines from the Buffalo Atlee Wind Farm, Jenner 2 or Jenner 3, would cause internal wake effect impacts of 5.0 per cent, or 27,512 MWh/yr.

54. Capstone also contested the Jenner Entities' assertion that adverse operational and maintenance impacts are expected due to wake effect from the Buffalo Atlee Wind Farm. Capstone referred to the DNV report statement that when applying the engineering standard for the evaluation of wake-generated turbulence,[29] only one Buffalo Atlee Wind Farm turbine[30] would be located within the specified 10-rotor diameter zone required for evaluation of wake turbulence; and, since that turbine is at the very limit of this distance, any such costs are likely to be insignificant. Capstone further referred to DNV's statement that 138 turbines of the Jenner Projects are located within a 10-rotor diameter of another turbine of the Jenner Projects.

---

27 Exhibit 25100-X0083, Written Evidence of the Applicant Capstone Infrastructure Corporation, PDF page 14; Exhibit 25100-X0074, Appendix B – Westwood, PDF page 9; and Exhibit 25100-X0073, Appendix A – RWDI Evidence, PDF page 15 are examples of the project overlay maps filed by the parties.

28 Exhibit 25100-X0098, Capstone Infrastructure Corporation Written Final Argument, PDF page 32, paragraph 104.

29 It referred to standard IEC 61400-1 Edition 3 as the engineering standard for the evaluation of wake-generated turbulence.

30 Buffalo Atlee Turbine T1 is 1,330 metres from Jenner 1 Wind Project Turbine T87. The specified 10-rotor diameter zone is 1,550 metres.

55. In response to Capstone's evidence on internal wake effect, the Jenner Entities submitted that this proceeding is only concerned with the Buffalo Atlee Wind Farm's impacts on the Jenner Projects, such that Capstone's assertions on wake effect internal to the Jenner Projects are irrelevant.

56. Capstone subsequently filed a newsletter from the Jenner Entities' parent company (Jenner newsletter) that indicated that the JWPP turbine closest to the Buffalo Atlee Wind Farm had been removed.[31] Capstone stated that the Jenner newsletter is highly relevant because the Jenner Entities' evidence and argument asserted that these two turbines would be most affected by wake effects from the project. Capstone argued that the relevance of the Jenner newsletter is obvious in that "it directly undermines the basis for [the Jenner Entities'] intervention in this Proceeding."[32]

57. In their supplemental evidence, the Jenner Entities filed a letter from Westwood stating that even without the closest JWPP turbine, the Buffalo Atlee Wind Farm's wake effects would still result in an estimated annual energy production deficit for the JWPP of approximately 0.5 per cent. The Jenner Entities argued that the Jenner newsletter is irrelevant to the Commission's determination of this proceeding and should not be considered by the Commission because the changes indicated in the newsletter remained subject to further revision dependent on stakeholder feedback, and the project applications had not been filed with the Commission.

58. The Jenner Entities also submitted a Capstone newsletter about Buffalo Atlee 4 (Buffalo Atlee 4 newsletter), which is a project that was not before the Commission at the time that the newsletter was filed. The Jenner Entities submitted that Capstone was cherry-picking the Jenner newsletter while ignoring the Buffalo Atlee 4 newsletter, and submitted that this was procedurally unfair. The Jenner Entities argued that like the Jenner newsletter, the Buffalo Atlee 4 newsletter is irrelevant to the Commission's determination in this proceeding.

59. Capstone stated that the Buffalo Atlee 4 newsletter is not relevant and requested that the Buffalo Atlee 4 newsletter and several paragraphs in the Jenner Entities' supplemental evidence discussing it be struck from the record. In the alternative, Capstone submitted that the Jenner Entities intended to create a false equivalency between the Jenner newsletter and the Buffalo Atlee 4 newsletter and that Capstone's intentions to apply for a new project in the area of the Buffalo Atlee Wind Farm is irrelevant to this proceeding.

60. The Jenner Entities together and Jenner 1 individually requested that the Commission impose mitigation measures identified in the Westwood report to address the Buffalo Atlee Wind Farm's wake effects on the JWPP. Specifically, Westwood recommended (i) the relocation of the most impactful turbines (Buffalo Atlee 1 turbines T1 and T2), (ii) further analysis to quantify individual turbine wake effect impacts in light of its conclusion that all of Buffalo Atlee 1's turbines contribute to the wind speed deficit, and (iii) the implementation of sector management curtailment plans. Westwood stated that curtailment plans would involve setting operation modes on individual turbines in certain wind directions to reduce wake and added that because

[31] In Exhibit 25100-X0106, CAPSTONE Transmittal Letter to the AUC re the Jenner Power Project Winter 2021 Newsletter, Capstone noted that the newsletter advised that Turbine 81 (from Jenner 3) and Turbine 87 (from JWPP) have been removed.

[32] Exhibit 25100-X0125, CAPSTONE Supplemental Argument of the Applicant Capstone Infrastructure Corporation 4153-6198-4044 v, PDF page 5, paragraph 9.

curtailment would result in lost energy production, any such plan would have to be studied carefully to account for economic impacts.

61. The Jenner Entities also proposed post-construction analyses to determine the actual wake effect impacts from the Buffalo Atlee Wind Farm's individual turbines as a further mitigation measure. The Jenner Entities submitted that the Commission ignoring wake effect issues would contradict its mandate to fully assess whether approval of the Buffalo Atlee Wind Farm is in the public interest.

62. In response to the Jenner Entities' proposed mitigation measures, Capstone stated that the Jenner Entities' evidence was vague on the actual source of the wake effect complained about; that there is no evidence before the Commission that justifies ordering the relocation of any particular Buffalo Atlee Wind Farm turbine; and that imposing any of the mitigation measures suggested by the Jenner Entities would be unfairly punitive to Capstone.

63. Capstone also argued that Westwood's conclusion that there is no change in wake effect as a result of the changes in turbine layout reflected in the Jenner newsletter effectively calls into question the very relief sought by the Jenner Entities in this proceeding: that the most impactful Buffalo Atlee Wind Farm turbines should be relocated.

4.3.2 Wake effect treatment in Alberta and other jurisdictions

64. In their response to the Commission's information request, the Jenner Entities stated that the most common practice used in other jurisdictions to address wake effects is a private agreement that blocks development within a certain radius or allows development but calculates compensation for wake effect and other impacts. The Jenner Entities indicated that some jurisdictions have established mandatory setback limits, including Germany and certain U.S. states; for example, the Minnesota Public Utility Commission has established property line setbacks and requires that projects be designed and sited in a manner that ensures the efficient use of wind resources for long-term energy production and reliability.

65. The Jenner Entities submitted that when considering an application for a power plant and associated infrastructure, the Commission is guided by sections 2 and 3 of the *Hydro and Electric Energy Act* and Section 17 of the *Alberta Utilities Commission Act*. They stated that under this legislative framework, the Commission has the authority and the responsibility to consider wake effects in deciding whether to approve a project, and that both Section 2 of the *Hydro and Electric Energy Act* and Section 17 of the *Alberta Utilities Commission Act* require the Commission "to consider the economic effects of a proposed project in the public interest."[33]

66. The Jenner Entities submitted that where regulatory standards do not exist, the Commission must be satisfied that reasonable mitigation measures are in place to address a project's impacts and impose conditions if necessary. They further argued that the Commission cannot ignore issues for which regulatory standards do not exist, because doing so would contradict its mandate to fully assess whether the approval of a power plant is in the public interest.

67. In its response to the Commission's information request, Capstone stated that the wind industry has long accepted wake effect as being an inherent part of project development and

[33] Exhibit 25100-X0094, Written Argument, PDF page 20, paragraph 69.

operations; that the need to site projects in areas with economically viable wind resources generally results in wind projects being clustered; and that developers consider and account for the implications of wake effect during project development and operating stages.

68. Capstone could not identify any Canadian jurisdiction that has expressly addressed the issue of wake effect in the permitting of a wind farm. Capstone acknowledged that it did not canvass all U.S. jurisdictions because wind development there is regulated at the federal, state and county level. It nonetheless noted two approaches: first, in Minnesota, where the Minnesota Public Utility Commission requires that proposed wind farms be designed and sited in a manner that ensures efficient use of the wind resource and long-term energy production and reliability; and second, in Montana, North Dakota, Oregon, Nebraska and Wisconsin, jurisdictions that have embraced the concept of a wind easement, which allows a wind farm to secure unimpeded wind access by having the developer take an interest in surrounding lands.

69. Capstone also referred to Ireland's planning approach, where wind farm development is regulated by the Department of the Environment. This approach has guidelines that deal with "windtake" (i.e., the wake produced by turbines) in the scoping stage or in pre-application discussions to ensure that the site layout accounts for neighbouring sites. The guidelines are focused on site layout and use rotor diameter as the driving metric.

70. Capstone was unable to identify the existence of a positive legal right to protection from wake effects vis-à-vis proximate wind developers and stated that no Alberta statute or subsidiary legislation was found that expressly provided for such a right. Capstone's review of legal authorities did not disclose any such right at common law and it submitted that academic sources did not support the existence of such a right.

71. In Capstone's view, the relief sought by the Jenner Entities and Jenner 1 individually in this proceeding is a marked departure from both industry and regulatory standards in Alberta and North America; and, wake effect is an issue that is best left to be addressed by competitive market forces, outside the regulatory process, as has been the practice in Alberta to date and is generally the practice in most jurisdictions.

72. Capstone argued that "the regulation of wake effects by the Commission for the first time, in relation to a particular proponent in a particular proceeding, would be arbitrary, unfair and inappropriate."[34] Capstone also submitted that it has a legitimate expectation that the Commission would not use the Buffalo Atlee Wind Farm applications to introduce new rules or concepts on the regulation of wake effect simply because another wind developer is using the proceeding to enhance its competitive position.

73. Jenner 1 submitted that the best practices employed by different jurisdictions, such as Germany and the United States, may be a helpful guide for the Commission. It disagreed with Capstone's submission that wake effect issues should be left to competitive market forces outside of the Commission's regulatory process, stating that competitive market forces can only resolve regulatory issues where both parties are committed to negotiating with each other in good faith. It also disagreed with Capstone's submission that Jenner 1 could have secured land rights adjacent to the JWPP that would protect it from wake effect from another project. Jenner 1

[34] Exhibit 25100-X0098, Capstone Infrastructure Corporation Written Final Argument, PDF page 27, paragraph 85.

submitted that it should not be forced to buy additional land in order to protect itself from wake effect from the Buffalo Atlee Wind Farm.

4.3.3 Findings

74. The Commission appreciates the parties' respective submissions on legal rights associated with wake effect, how other jurisdictions have addressed wake effect, and what project planning standards or best practices exist to manage wake effect. The Jenner Entities and Capstone identified that while regulatory requirements, such as a land easement or pre-planning site layouts, have been developed by some U.S. states and by Ireland, no regulatory requirement to address wake effect on adjacent wind projects exists in Canada. Likewise, neither party identified any existing Alberta nor Canadian common law right to be protected from adverse wake effect impacts from an adjacent wind project. According to the submissions of both parties, private land agreements obtained by project owners to create a buffer between their projects and adjacent development appear to be the most common measure used to address the potential for wake effect impacts.

75. Based on the submissions and evidence of the parties, the Commission finds that, at present, neither Alberta nor Canadian law recognizes or establishes that one wind project owner is entitled to be protected from adverse wake effect impacts from an adjacent wind project and there is no well-established industry practice in Canada recognizing such a right. In making this finding, the Commission acknowledges that standing was granted to the Jenner Entities, based in part on assertions of potential wake effect on the JWPP. However, as was stated in its November 17, 2020 ruling, the factual part of the standing test does not require a high degree of proof of the potential for direct and adverse effects. A person seeking standing need not demonstrate that the perceived risk of an impact on their interests is a certainty, or even likely; it is sufficient if events could arise that could prejudice the party seeking standing. Accordingly, a grant of standing is not determinative of the legal right or the potential for an adverse effect on that right.

76. The Commission also acknowledges but is not persuaded by Jenner 1's argument that protecting the JWPP from adverse wake effect impacts is a matter of public interest. Jenner 1's arguments were of a generic nature and its evidence did not address matters of public interest. Rather, the evidence of Jenner 1 on this point was largely directed to its private economic interests; and more specifically, its concern about the potential for production losses and increased maintenance and operating costs for its adjacent wind project.

77. In view of the foregoing and the evidence presented, the Jenner Entities have failed to establish that either a public interest associated with, or a legal right to protection from wake effects vis-à-vis proximate wind developers exists in Alberta. Accordingly, it is not necessary for the Commission to consider the evidence offered by the parties on the necessity for or the reasonability of the mitigation measures requested by the Jenner Entities (including the weight to be afforded, if any, to the information contained in the Jenner newsletter to those matters), or whether symmetrical mitigation should be reasonably considered.

78. That said, it is noteworthy that the respective wake effect reports filed by the parties come to similar conclusions about the extent to which the JWPP could experience an adverse wake effect from the Buffalo Atlee Wind Farm. Westwood estimates that the JWPP will suffer an adverse wake effect of 0.5 per cent of the project's annual energy production (irrespective of the layout changes contemplated in the Jenner newsletter), while DNV calculated it to be

0.4 per cent. In either case, the evidence indicates that the anticipated wake effect impact on the productivity of the Jenner Entities' approved project is very small, to the point of being insignificant, in comparison to the relief and other measures that the Jenner Entities asked the Commission to impose on the Buffalo Atlee Wind Farm.

4.4 Noise

79. As part of the application updates, Capstone retained Golder Associates Ltd. to prepare a noise impact assessment (NIA) for the project.[35] In the NIA, Golder predicted that the project would comply with Rule 012: *Noise Control*, that there would be no low frequency noise issues related to the project, and provided evidence in response to noise issues raised by the Jenner Entities.

80. The Jenner Entities retained RWDI to review the NIA and to provide evidence about noise impacts on the approved JWPP and the proposed Jenner 2 and Jenner 3 projects. They argued that the Commission should impose a number of conditions on Capstone's project: holding the project to the noise contribution predicted in the NIA; requiring Capstone to conduct a pre-construction ambient sound level (ASL) survey to establish the ASLs; requiring Capstone to conduct a post-construction comprehensive sound level (CSL) survey to demonstrate compliance with Rule 012 and to validate the predicted noise contribution from the project turbines; and, requiring project layout changes to ensure no negative impacts on the Jenner 2 and Jenner 3 projects.

81. Issues pertaining to noise raised by Capstone and the Jenner Entities can be divided into four categories: (i) compliance determination, (ii) post-construction CSL survey, (iii) noise constraints on Jenner 2 and Jenner 3, and (iv) relevance of the information in the Jenner newsletter to the project's NIA. Dustin Aebly also raised a concern about project noise in his statement of intent to participate.

4.4.1 Compliance determination

82. The NIA assumed ASLs based on Table 1 of Rule 012. RWDI submitted that the NIA did not consider the influence of high ground level wind on ASLs in the area, and recommended that the Commission order a pre-construction ASL survey as a condition of approval for the project. Golder submitted that an ASL survey is not required because the NIA appropriately used Table 1 of Rule 012 to establish ASLs for noise receptors located in rural areas of Alberta. Golder stated that in a previous proceeding,[36] RWDI had used assumed ASLs and had stated that the use of assumed ASLs from Rule 012 is appropriate in rural areas of Alberta.

83. The Jenner Entities noted that the ground attenuation factor of 0.7 used by Golder in the current proceeding was less conservative than the factor of 0.5 Golder used in a previous proceeding.[37] Golder responded that a ground attenuation factor of 0.7 was selected for consistency with an NIA that RWDI prepared for the JWPP in Proceeding 24718; that based on a visual review of satellite imagery, it found that roads, water bodies and other reflective surfaces make up a very small fraction of the study area; and on this basis it concluded that the use of a ground attenuation factor of 0.7 is conservative.

[35] Exhibit 25100-X0032, Project Update – NIA.
[36] Golder referenced RWDI's evidence in Proceeding 24401 - Sharp Hills Wind Project Amendments.
[37] The Jenner Entities referenced the Golder's NIA in Proceeding 25018 - Rattlesnake Ridge Wind Power Project.

84. The NIA identified one dwelling, designated as R1, located within 1.5 kilometres of the project turbines and within 1.5 kilometres of the JWPP. For R1, the NIA established the nighttime permissible sound level (PSL) to be 40 A-weighted decibels (dBA) and predicted the cumulative sound level to be 40.3 dBA. Golder rounded the cumulative sound level at R1 to the nearest whole number (40 dBA) and then compared the cumulative sound level to the nighttime PSL to assess compliance with Rule 012. Golder submitted that Section 2.7(6) of Rule 012 and previous Commission decisions made it clear that cumulative sound levels may be rounded to the nearest whole number when assessing compliance with PSLs. As such, it suggested that "cumulative noise levels up to 40.4 dBA can and should be considered compliant with a PSL limit of 40 dBA."[38]

85. RWDI asserted that Golder misinterpreted the use of rounding; that the rounding approach should not be used to determine project compliance; that compliance margins should be used to determine project compliance; and that the margins should be presented with single decimal precision. RWDI concluded that the project is not compliant with Rule 012 because the predicted compliance margin is -0.3 dBA at R1 (i.e., a negative compliance margin indicates non-compliance).

86. Golder stated that RWDI's assertions about the rounding approach are not only inconsistent with Rule 012 and previous Commission decisions, but also with evidence filed by RWDI in a previous proceeding,[39] where RWDI concluded that cumulative sound levels that round down to 40 dBA are compliant with a PSL of 40 dBA.

87. Golder stated that because rounding cumulative sound levels is an acceptable practice under Rule 012, it is logical to use compliance margins (i.e., PSL minus cumulative sound level) at whole number precision when assessing project compliance. Consequently, it suggested that "margins of compliance between -0.1 dBA and -0.4 dBA can and should be considered compliant in the context of Rule 012."[40] Golder emphasized that the compliance margin is simply another way of comparing cumulative sound levels to PSLs and that compliance margins do not provide any new or independent information about the compliance situation at a given receptor.

88. The NIA indicated that specific turbine operating modes would ensure the project is compliant with Rule 012 and that the planned operating mode for each project turbine corresponds to its maximum noise emissions. In response to a Commission information request, Capstone confirmed that the turbine operating modes set out in the NIA are required to achieve compliance with the nighttime PSL "while also ensuring the output of each phase complies with the Renewable Electricity Program commitments (through each [Renewable Electricity Support Agreement]), as well as limits set out by FortisAlberta for interconnection of each phase to the distribution system." Capstone committed to implementing these specific turbine operating modes for the project turbines.[41]

89. RWDI remarked that the Buffalo Atlee Wind Farm "uses various operating modes to achieve both compliance with AUC Rule 012 and to meet [Alberta Electric System Operator]

[38] Exhibit 25100-X0080, Appendix C - Golder Technical Memo, PDF page 5.
[39] Golder referenced RWDI's evidence in Proceeding 24401 - Sharp Hills Wind Project Amendments.
[40] Exhibit 25100-X0080, Appendix C - Golder Technical Memo, PDF page 8.
[41] Exhibit 25100-X0050, Capstone's Response to AUC Information Request 1, PDF page 6.

Power requirements."[42] In light of this, the Jenner Entities suggested that the Commission should require that the project be held to the noise contribution specified in the NIA.

90. Capstone submitted that the NIA used a two-kilometre receptor buffer to identify dwellings that may be affected by noise from the project, and that Dustin Aebly's dwelling is located outside of the two-kilometre receptor buffer within which the NIA predicted that sound levels would comply with PSLs. As a result, project noise at Mr. Aebly's location would also be expected to be within the PSLs.

4.4.1.1 Findings

91. The noise receptors identified in the NIA are located in a typical rural area of Alberta, which is neither a pristine area nor an area dominated by non-energy industrial activity. The Commission is satisfied that in this case, the use of assumed ASLs based on Table 1 of Rule 012 is appropriate and that an ASL survey is consequently not required for the project. Further, although the Commission will not require a pre-construction ASL survey as a condition of approval of the project, it considers that an ASL survey may be required in the future to establish Class C2 adjustments (i.e., adjustments that account for noise from high wind) if a post-construction CSL survey concludes that cumulative sound levels are non-compliant with applicable PSLs and the non-compliance may be caused by high wind speeds.

92. The Commission accepts Golder's use of a ground attenuation factor of 0.7, which it chose for consistency with an NIA conducted by RWDI for the JWPP in Proceeding 24718. Given that the JWPP study area partially overlaps that of the project, Golder's use of 0.7 to maintain consistency between the two applications is reasonable. In addition, the study area for the project is uniform farmland covered by vegetation, and reflective surfaces make up a very small fraction of the total area. According to ISO 9613-2,[43] the use of a ground attenuation factor of 0.7 is conservative for this type of ground surface. As such, the Commission considers that further noise assessment using a more conservative ground attenuation factor (e.g., 0.5) is unnecessary.

93. Section 2.7(1) of Rule 012 requires an NIA to predict compliance for a proposed facility by comparing cumulative sound levels with the PSLs that are applicable at affected dwellings. Section 2.7(6) of Rule 012 states that predicted sound levels are required to be presented to single decimal precision, but that predicted cumulative sound levels may be rounded to the nearest whole number before comparing to the applicable PSL.[44] As such, the rounding approach may be used when assessing and determining compliance with Rule 012.

94. Golder justified compliance at R1 using the rounding approach, which is allowed under Rule 012. The Commission is accordingly satisfied that the NIA fulfilled the requirements of Rule 012, and that the project is predicted to comply with the rule. The Commission finds that once compliance is assessed through a comparison of predicted cumulative sound levels to PSLs, it is not necessary to use compliance margins to further evaluate project compliance because any further evaluation becomes redundant.

---

[42] Exhibit 25100-X0073, Appendix A – RWDI Evidence, PDF page 3; Exhibit 25100-X0077, Appendix A – RWDI Evidence, PDF page 3.

[43] International Standards Organization (ISO), ISO 9613-2, *Acoustics – Attenuation of sound during propagation outdoors - Part 2: General method of calculation*, Geneva, 1996.

[44] Rule 012 : *Noise Control*, PDF page 17.

95. The NIA identified specific operating modes for the project turbines that must be implemented for the project to achieve compliance with Rule 012. In particular, the project's turbines would be constrained to maximum noise emissions associated with their operating modes. The following condition of approval is therefore imposed for Buffalo Atlee 1, Buffalo Atlee 2 and Buffalo Atlee 3:

a. The approval holder shall implement the required operating modes for the project turbines, as described in the project noise impact assessment, as of the date the project turbines commence operation.

96. Rule 012 requires an NIA to assess noise compliance at dwellings within 1.5 kilometres of the project turbines. The NIA filed by Capstone conservatively used a two-kilometre buffer to identify any dwelling that may be affected by noise from the project and predicted that the project would comply with Rule 012 at these dwellings. Because sound levels will attenuate with distance from the project, it is reasonable to expect that project sound levels at dwellings located farther than two kilometres from project turbines, such as Dustin Aebly's dwelling, will also comply with Rule 012.

4.4.2 Post-construction comprehensive sound level survey

97. As stated above, the NIA established the nighttime PSL at R1 to be 40 dBA and the predicted cumulative sound level to be 40.3 dBA.

98. RWDI stated that Capstone should conduct a post-construction CSL survey to demonstrate compliance at R1, and to validate the noise contribution predicted in the project's NIA. It submitted that the noise contribution from the project would increase the likelihood of non-compliance at R1, which would result in negative impacts on the JWPP. RWDI added that a determination of non-compliance during the post-construction CSL survey would likely require the temporary shutdown of JWPP turbines for the purpose of identifying the reasons for the non-compliance.

99. In response, Golder submitted that a post-construction CSL survey should not be required as a condition of approval because of the NIA's predicted project compliance with Rule 012; but that if one were ordered, the survey could be completed without any adverse impact on the JWPP's operations. It further submitted that an investigation into non-compliance at R1 would not require the shutdown of any JWPP wind turbines and would instead involve collecting near-field noise measurements, using the "model verification approach" from Rule 012 to demonstrate that the actual noise contribution from the wind turbines does not exceed the contribution predicted in the NIA. Golder explained that near-field noise measurements could be collected without the need to shut down or alter any turbine operations.

100. Golder stated that as the project is predicted to be the dominant noise contributor at R1, if non-compliance were determined, it would be logical to investigate the project's turbines, particularly Buffalo Atlee 1's Turbine T1, (the closest turbine to R1) and not the JWPP turbines.

4.4.2.1 Findings

101. Given that the predicted cumulative sound level at R1 is slightly greater than the nighttime PSL, the Commission finds it reasonable to require a CSL survey to confirm compliance after project operations commence.

102. Based on the NIA, the predicted noise contribution from the project at R1 is 37.5 dBA, which is greater than the noise contribution from baseline case facilities (32.6 dBA) and greater than the assumed ASL (35 dBA). Further, as the four wind turbines closest to R1 will be part of Buffalo Atlee 1, Buffalo Atlee 1 would be the dominant noise contributor at R1, making it a suitable location for a post-construction CSL survey to verify its compliance with Rule 012. Accordingly, the following condition of approval is imposed for Buffalo Atlee 1:

b. BA1 Wind GP Corp. shall conduct a post-construction comprehensive sound level survey, including an evaluation of low frequency noise, at Receptor R1. The post-construction comprehensive sound level survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. Capstone shall file a report with the Commission presenting the measurements and summarizing the results of the post-construction comprehensive sound level survey within one year after the Buffalo Atlee 1 Wind Farm commences operations.

103. It is not necessary to direct Capstone to specifically validate the predicted Buffalo Atlee Wind Farm noise contribution during the CSL survey as requested by the Jenner Entities. The primary goal of the CSL survey is to demonstrate compliance. Validation of predicted noise contribution specifically from the project is not required at this time and would only be required in the future by Rule 012 if the CSL survey were to conclude that CSLs are non-compliant with applicable PSLs and the non-compliance may be caused by a nearby wind turbine from the project. If this were the case, Capstone would be required by Rule 012 to conduct an investigation to identify the specific turbines that are contributing to the non-compliance and to develop appropriate noise mitigation measures for those turbines.

104. The Commission is satisfied that Capstone can conduct a CSL survey for Buffalo Atlee 1 without having any adverse impact on JWPP operations because the Commission expects that near-field measurements would be collected at potentially problematic turbines using the "model verification approach" in Rule 012. This approach would be used to determine whether the actual noise contribution from nearby turbines exceeds the noise contribution predicted in the NIA. It would also specify that turbines should be operating with maximum approved noise emissions, and therefore it would have no operational impact on the JWPP. The Commission also expects that any future potential investigation into non-compliance issues at R1 would focus on the four closest wind turbines, namely the turbines from Buffalo Atlee 1.

4.4.3 Noise constraints on Jenner 2 and Jenner 3

105. RWDI argued that because of the negative compliance margin predicted at R1, the project would take all the noise headroom available under Rule 012 and Jenner 2 and Jenner 3 would be significantly constrained. RWDI asserted that during the project design phase, when conservatism and variability are controlled, additional efforts should be made to achieve a positive compliance margin. It identified two changes to the project layout that could result in positive compliance margins at R1. The Jenner Entities requested that the Commission impose mitigation measures on the project that include the two changes:

- Moving Buffalo Atlee 1's Turbine T1 (i.e., the nearest turbine to R1) 170 metres southwest.

- Applying the noise reduced operation mode to Buffalo Atlee 1's Turbine T1 and increasing the operating mode at another turbine location to maintain generating capacity.

106. In response to RWDI's argument that the project would place constraints on noise from Jenner 2 and Jenner 3, Golder stated: "[t]his is a natural consequence of the way that Rule 012 regulates environmental noise: the development of one AUC-regulated facility will always place noise constraints on the future development of AUC-regulated facilities in the same area."[45]

107. Golder indicated that the project is predicted to comply with Rule 012 and that there is no need to redesign the project to achieve a positive compliance margin because margins between -0.1 dBA and -0.4 dBA should be considered compliant in the context of Rule 012. Capstone submitted that the project has been carefully designed to deal with noise, environmental, landowner, operational and other constraints, and that it is not feasible to redesign the project as suggested by RWDI.

108. Capstone also referenced the Jenner newsletter, which indicates that the Jenner Projects' turbines T81 and T87 are to be removed and that the Jenner Projects would use a different type of turbine that has a lower noise profile than the turbines reflected in the Jenner Entities' evidence and argument. Capstone submitted that this new information is highly relevant to the noise issues raised by the Jenner Entities.

109. The Jenner Entities submitted that the Jenner newsletter does not represent any inconsistencies with their previously filed written evidence. RWDI explained that according to Rule 012, cumulative sound levels should include predicted noise contribution from proposed energy-related facilities that have been deemed complete under Rule 007; as such, the changes indicated in the newsletter should not be considered in this proceeding. RWDI added that the changes indicated in the Jenner newsletter would allow more noise headroom for other developments.

4.4.3.1 Findings

110. Noise headroom refers to the numerical difference between the existing or approved sound level and the applicable PSL at a given receptor (i.e., noise headroom is equal to PSL minus existing/approved sound level). Because the PSL is a fixed value, the noise headroom at a given receptor is reduced as more energy-related facilities are approved in a particular area. This means that energy-related facilities share or compete for noise headroom at nearby receptors; once a facility is approved or a facility's application is deemed complete, less noise headroom is available for future developments. From this perspective, the Commission agrees that development or approval of one facility will always place noise constraints on future facilities in the same area.

111. RWDI developed two alternative project layouts by adjusting turbine locations in noise models. It appears to the Commission that no factors other than noise were considered when RWDI developed these alternative layouts. Given this, and that there may be engineering or environmental requirements that constrain the project layout, the Commission has given little weight to these alternative layouts. Furthermore, the Commission's noise review is centered on whether the project layout proposed by Capstone is likely to comply with Rule 012. As the project is predicted to be in compliance with Rule 012, there is no reason to further review the alternative project layouts proposed by RWDI.

[45] Exhibit 25100-X0080, Appendix C - Golder Technical Memo, PDF page 9.

112. The Commission agrees with RWDI that the changes indicated in the Jenner newsletter should not be considered in the NIA and the associated noise analysis for the Buffalo Atlee Wind Farm. As the Jenner Entities indicated, the changes were presented for consultation and notification purposes, and should not be considered to be certain or final. Accordingly, the information in the Jenner newsletter had no bearing on the Commission's finding in this proceeding that the project complies with Rule 012 requirements and its decision to require a post-construction CSL survey.

4.5 Environmental effects

113. AECOM Canada Ltd. was retained by Capstone to complete environmental studies and an environmental evaluation report for the Buffalo Atlee Wind Farm. In its environmental evaluation report, AECOM outlined project components and activities, described baseline environmental conditions, and identified potential effects, mitigation measures, and assessed predicted residual effects of the project.

114. In a renewable energy referral report issued on November 20, 2019, Alberta Environment and Parks (AEP) assessed the project as having an overall high risk for wildlife and wildlife habitat based on the project's siting on native grassland and the high occurrence of species at risk, species at risk habitat features and their dependence on native grassland.[46]

115. On March 23, 2020, the Commission put this proceeding in abeyance to give Capstone an opportunity to explore ways to avoid or further reduce the potential and residual effects of the project on wildlife and wildlife habitat, including native grassland.[47] In its letter, the Commission stated that the project, as then submitted, posed substantial, unacceptable environmental risks that had not been adequately mitigated by the proposed mitigation and monitoring plans, and noted AEP's conclusion in its renewable energy referral report that the project's potential effects on wildlife species at risk and important wildlife habitat would be significant. The Commission stated that Capstone's proposed mitigation and monitoring plans would not address the most substantial environmental impact associated with the project: the disturbance and loss of native grassland and other important wildlife habitat. It also found that if the project were to be constructed, the ability to mitigate habitat loss during operation would be limited.

116. In response, Capstone filed a project update and revised layout that summarized the revised planning, design, construction and operational aspects of the project to reduce the environmental effects. Capstone stated that it completed a detailed review of the project and updated the layout based on feedback received in the abeyance letter, information from discussions with AEP, the November 20, 2019 referral report, and the *Wildlife Directive for Alberta Wind Energy Projects*. AECOM subsequently prepared an amendment to the original environmental evaluation focusing on the proposed revised layout and additional field work which was conducted to determine the quality of the existing native grassland and wildlife habitat.[48]

117. Capstone retained EDI Environmental Dynamics Inc. to conduct a habitat quality field assessment in June 2020 for areas of native grassland with the potential to be directly affected by the revised project layout. The habitat quality assessment was conducted by professional

[46] Exhibit 25100-X0006, Attachment E: Alberta Environment and Parks Referral Report.
[47] Exhibit 25100-X0026, AUC Ruling on Abeyance.
[48] Exhibit 25100-X0031, Attachment B – Amendment to the EE, PDF page 9.

vegetation ecologists who evaluated the habitat quality and range health of the native grassland expected to be affected by construction activities. Of the five quarter sections evaluated, EDI concluded that three were of low quality habitat and two were of moderate quality habitat for indicator grassland avian species. EDI determined that based on the conservative review of the five quarter sections assessed, the habitat quality for Buffalo Atlee 1 and Buffalo Atlee 3 was found to be of moderate quality overall. In the updated project layout, the proposed infrastructure for Buffalo Atlee 2 was sited to avoid areas of native grassland.

118. Capstone indicated that, as a result of the revised project layout: the direct effects to native grassland due to the project were reduced by 56 per cent; the total number of turbines directly located on native grassland habitat was reduced from eight to six; and the removal of two turbines and associated infrastructure off native grassland, removal of access between Buffalo Atlee 1 and Buffalo Atlee 3 lands, and routing collector lines within access right-of-way have reduced the effects on habitat fragmentation. Capstone stated that the project is located on privately-owned lands that have been used for agricultural activities and oil and gas exploitation. Given that habitat quality for the project was found to be moderate, Capstone submitted that an appropriate offset framework would be the final process for proposing and achieving a net-zero habitat impact for the project.

119. Capstone developed a project-specific native grassland offset plan to address the potential residual effects on native grassland that would result from the construction and operation of the project. An overall offset amount of approximately 22 to 32 hectares was determined as the appropriate offset quantity for the direct and indirect effects of the project on native grassland, pending the final offset method. Capstone indicated that an offset confirmation report would be prepared and submitted to the relevant agency to confirm the location, quantity and structure of the final offset implementation of the native grassland offset plan.[49]

120. Capstone concluded that the revised project layout and additional mitigation measures proposed would reduce the overall risks to the valued ecosystem components. The residual effects on the environment would be limited, with those associated with native grassland addressed through the implementation of a native grassland offset plan. It submitted that by improving adherence to the *Wildlife Directive for Alberta Wind Energy Projects* and implementing appropriate mitigation and offsets, the project can be constructed, operated and eventually decommissioned in an environmentally responsible manner.

121. In a July 2, 2020 referral report amendment letter in which it assessed the project update, AEP indicated that the revised project layout generally meets the intent of AEP policy and the *Wildlife Directive for Alberta Wind Projects* and acknowledged that Capstone has made efforts to align the project with AEP policy to minimize impacts to sensitive wildlife habitat, including native grassland.

122. AEP observed that Capstone's revised project layout reduced the direct impacts on native grassland habitat from 12.14 hectares to 5.34 hectares; removed two turbines previously proposed on native grassland habitat; relocated four other turbines to reduce new disturbance on native grassland habitat and follow existing oil and gas access roads within native grassland habitat; and that all collector lines have been routed to be located within the access rights-of-way in native grassland habitat. However, AEP indicated that the project risk to native grassland

[49] Exhibit 25100-X0030, Attachment C – Native Grassland Offset Plan.

habitat would remain high because six turbines and associated infrastructure would remain on native grassland.

123. AEP observed that the revised project layout would infringe on the setbacks of seven non-temporary wetlands, which AEP acknowledged is a reduction from 12 wetlands in the original project submission. Because there would be no direct impacts to any of the wetlands, AEP found that the implementation of Capstone's proposed mitigation measures would be sufficient to reduce the risk to wetland habitat and wildlife.

124. AEP noted that all project infrastructure, such as turbines, access roads and collector lines, has been removed from within the setbacks for all identified raptor species nests. (This includes the removal of one turbine sited within a ferruginous hawk nest setback in the original project layout).

125. As a result of the changes to the layout outlined in the project update, AEP concluded that significant changes had been made to reduce and limit project impacts to wildlife and wildlife habitat. AEP indicated that the avoidance and mitigation strategies identified by Capstone resulted in a reduction of risk to wildlife and wildlife habitat, and outlined the changes to the project risk ranking as follows:

> 1. The project risk to native grassland habitat remains a high risk.
> 2. The project risk to wetland habitat and sensitive amphibians has been reduced to a low risk.
> 3. The project risk to raptor nests has been reduced to a low risk.
> 4. The overall project risk has been reduced to a moderate risk.
>
> The overall Project risk to wildlife and wildlife habitat has been reduced from the high risk ranking, as described in the Referral Report, to a moderate risk ranking.[50]

4.5.1 Findings

126. The Commission considered all of the evidence on the record of this proceeding in assessing the environmental effects of the siting, construction and operation of the revised project layout, including the various commitments and updated alternative mitigations committed to by Capstone in response to its further consultation with AEP; Capstone's adherence to AEP's *Wildlife Directive for Alberta Wind Energy Projects* and other related AEP guidelines or standards; and, AEP's assessment of the project's environmental impacts.

127. The Buffalo Atlee Wind Farm is sited on a mix of tame and native grassland which provides suitable habitat for species at risk and species of management concern. AEP has identified, and the Commission accepts, that the highest project risk is to native grassland habitat and that the project's siting will result in some habitat loss, habitat degradation and consequently, the potential for direct impacts to wildlife. Accordingly, while all potential environmental impacts associated with the project have been considered by the Commission, the project's potential impact on native grassland habitat has been a primary focus.

128. In its original submission, AEP noted that eight of 13 turbines and their associated infrastructure had been proposed on native grassland. As a result, AEP assessed the risk to wildlife and wildlife habitat as high. In addition, AEP determined that the risk to breeding birds

[50] Exhibit 25100-X0029, Attachment A – AEP-FWS Referral Report Amendment Letter.

is high because of the high occurrence of sensitive species in native grassland, and that siting within areas of native grassland would have the potential for their increased mortality and their disturbance or displacement during construction and operation of the project.

129. Capstone's revised project layout reduces the direct impacts on native grassland habitat from 12.14 hectares to 5.34 hectares, removes two turbines previously proposed on native grassland habitat, and relocates four other turbines to reduce new disturbance on native grassland habitat and follow existing oil and gas access roads within native grassland habitat. Capstone has also committed to using minimal disturbance construction techniques and stated that all underground collector lines would be buried and generally located to parallel access roads.

130. In addition, Capstone developed a project-specific native grassland offset plan to identify areas to be reclaimed after construction, assess available options for offsetting, and provide a schedule and process for the implementation of the offset plan. The offset plan's primary focus is on Buffalo Atlee 1 and Buffalo Atlee 3 because there would be no Buffalo Atlee 2 infrastructure sited on native grassland. Capstone committed to provide an offset confirmation report to its native grassland offset plan.

131. Notwithstanding the above, the Commission observes that six turbines and associated infrastructure would remain on native grassland in the revised layout, and further, that:

- Capstone originally committed to scheduling construction activities within areas of tame and native grassland outside of the restricted activity period (RAP) for breeding birds of April 1st to July 15th for 2020 only. Beyond that, Capstone proposes to have a qualified professional wildlife biologist conduct nest sweep surveys.

- In its original referral report AEP stated "AEP-WM strongly recommends abiding by the mitigation commitment to construct outside of the RAP for grassland breeding birds during all phases of construction." While AEP did not comment on this in its referral report amendment letter, it stated that the risk to native grassland habitat remains "high."

132. In view of the foregoing, the Commission finds that implementing mitigation measures and imposing conditions to minimize residual effects on native grassland and the potential for direct impacts to wildlife is of high importance in this instance. Accordingly, the following conditions will be imposed as conditions of approval for Buffalo Atlee 1 and Buffalo Atlee 3:

c. The approval holder shall not perform any construction activities within areas of tame and native grassland during the restricted activity period for breeding birds of April 1st to July 15th as described in the *Wildlife Directive for Alberta Wind Energy Projects*. For construction activities within areas of tame and native grassland between July 16th and August 24th, an experienced wildlife biologist shall conduct nest sweep surveys and implement mitigation measures as outlined in the power plant's renewable energy referral report if active nests are detected.

d. The approval holder shall provide a copy of the offset confirmation report to the Commission which confirms the location, quantity and structure of the final offset to be implemented from the native grassland offset plan prior to the project commencing operations.

133. In response to its further consultation with AEP, Capstone also made significant changes to the project layout, infrastructure and operational aspects to further reduce and limit other environmental effects of the project. For example, the revised project layout would infringe on the setbacks of seven, non-temporary wetlands compared to 12 wetlands in the original project submission. There would be no direct impacts to these seven wetlands, and AEP identified the proposed mitigation measures for wetland impacts as sufficient to reduce the risk to wetland habitat and wildlife. Further, all project infrastructure has been removed (including removal of one previously proposed turbine from the original layout sited within a ferruginous hawk nest setback) from within the setbacks of all identified raptor species nests.

134. The Commission has considered AEP's conclusion that the revised project layout largely meets the intent of the *Wildlife Directive for Alberta Wind Energy Projects*; that Capstone has made efforts to align with AEP policy to avoid and minimize the impacts to sensitive wildlife habitat, including native grassland; and, that following its consideration of the project update, AEP's conclusion that the revised layout of project infrastructure and the additional avoidance and mitigation measures would result in a reduction of risk to wildlife and wildlife habitat sufficient to reduce its assessment of the overall project risk ranking from "high" to "moderate."

135. On the whole, and relying in particular on AEP's revised project risk assessment in its July 2, 2020 amendment letter, the Commission is satisfied that the project's potential effects on wildlife and wildlife habitat, including the risk associated with impacts to native grassland, will be adequately mitigated with diligent implementation of Capstone's various commitments and through imposition of the conditions stipulated in paragraph 132 above, as conditions of approval for Buffalo Atlee 1 and Buffalo Atlee 3.

136. Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants* came into force on July 1, 2019, and applies to all wind projects approved after September 1, 2019. Accordingly, the approval holders of BA1 Wind GP Corp., BA2 Wind GP Corp. and BA3 Wind GP Corp. must comply with the requirements of Rule 033. Subsection 3(3) of Rule 033 requires that approval holders submit annual post-construction monitoring survey reports to AEP and to the Commission. Consequently, the following condition will also be imposed as a condition of approval for Buffalo Atlee 1, Buffalo Atlee 2 and Buffalo Atlee 3:

e. The approval holder shall submit a post-construction monitoring survey report to AEP and the Commission within 13 months of the project becoming operational, and on or before the same date every subsequent year for which AEP requires surveys, pursuant to Subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*.

5 Conclusion

137. FortisAlberta Inc. is prepared to allow the project to interconnect to its distribution system and there are no outstanding public or industry concerns in this regard.

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

6 Decision

139. Pursuant to sections 11 and 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 25100-A001 and grants BA1 Wind GP Corp. the approval set out in Appendix 1 – Power Plant Approval 25100-D02-2021 – June 28, 2021, and the order set out in Appendix 2 – Connection Order 25100-D03-2021 – June 28, 2021.

140. Pursuant to sections 11 and 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 25100-A002 and grants BA2 Wind GP Corp. the approval set out in Appendix 3 – Power Plant Approval 25100-D04-2021 – June 28, 2021, and the order set out in Appendix 4 – Connection Order 25100-D05-2021 – June 28, 2021.

141. Pursuant to sections 11 and 18 of the *Hydro and Electric Energy Act*, the Commission approves Application 25100-A003 and grants BA3 Wind GP Corp. the approval set out in Appendix 5 – Power Plant Approval 25100-D06-2021 – June 28, 2021, and the order set out in Appendix 6 – Connection Order 25100-D07-2021 – June 28, 2021.

142. The appendices will be distributed separately.

143. The Commission rescinds Approval 22755-D02-2018 for the Buffalo Atlee Wind Farm - Phase 1 Buildable Area.

Dated on June 28, 2021.

Alberta Utilities Commission

(original signed by)

Anne Michaud
Vice-Chair

(original signed by)

Carolyn Hutniak
Commission Member

(original signed by)

Neil Jamieson
Commission Member

Appendix A – Proceeding participants

Name of organization (abbreviation) Name of counsel or representative
Capstone Infrastructure Corporation (Capstone) Michael Barbero Gavin Fitch
Jenner Wind 1 GP Inc., on behalf of Jenner 1 LP (Jenner 1) Jeremy Barretto
Jenner Wind LP Jeremy Barretto
Special Area No. 2 Brett Richards
Danny Aebly
Dustin Aebly

Appendix B – Summary of Commission conditions of approval in the decision

(return to text)

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.

Buffalo Atlee Wind Farm 1

The following are conditions of Decision 25100-D01-2021 for Buffalo Atlee Wind Farm 1 that require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 25100-D02-2021:

- BA1 Wind GP Corp. shall conduct a post-construction comprehensive sound level survey, including an evaluation of low frequency noise, at Receptor R1. The post-construction comprehensive sound level survey must be conducted under representative conditions and in accordance with Rule 012: *Noise Control*. Capstone shall file a report with the Commission presenting the measurements and summarizing the results of the post-construction comprehensive sound level survey within one year after the Buffalo Atlee 1 Wind Farm commences operations.

- The approval holder shall provide a copy of the offset confirmation report to the Commission which confirms the location, quantity and structure of the final offset to be implemented from the native grassland offset plan prior to the project commencing operations.

- The approval holder shall submit a post-construction monitoring survey report to AEP and the Commission within 13 months of the project becoming operational, and on or before the same date every subsequent year for which AEP requires surveys, pursuant to Subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants*.

The following are conditions of Decision 25100-D01-2021 for Buffalo Atlee Wind Farm 1 that do not require subsequent filings with the Commission:

- The approval holder shall implement the required operating modes for the project turbines, as described in the project noise impact assessment, as of the date the project turbines commence operation.

- The approval holder shall not perform any construction activities within areas of tame and native grassland during the restricted activity period for breeding birds of April 1st to July 15th as described in the *Wildlife Directive for Alberta Wind Energy Projects*. For construction activities within areas of tame and native grassland between July 16th and August 24th, an experienced wildlife biologist shall conduct nest sweep surveys and implement mitigation measures as outlined in the power plant's renewable energy referral report if active nests are detected.

Buffalo Atlee Wind Farm 2

The following are conditions of Decision 25100-D01-2021 for Buffalo Atlee Wind Farm 2 that require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 25100-D04-2021:

- The approval holder shall submit a post-construction monitoring survey report to AEP and the Commission within 13 months of the project becoming operational, and on or before the same date every subsequent year for which AEP requires surveys, pursuant to Subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants.*

The following are conditions of Decision 25100-D01-2021 for Buffalo Atlee Wind Farm 2 that do not require subsequent filings with the Commission:

- The approval holder shall implement the required operating modes for the project turbines, as described in the project noise impact assessment, as of the date the project turbines commence operation.

Buffalo Atlee Wind Farm 3

The following are conditions of Decision 25100-D01-2021 for Buffalo Atlee Wind Farm 3 that require subsequent filings with the Commission and will be included as conditions of Power Plant Approval 25100-D06-2021:

- The approval holder shall provide a copy of the offset confirmation report to the Commission which confirms the location, quantity and structure of the final offset to be implemented from the native grassland offset plan prior to the project commencing operations.

- The approval holder shall submit a post-construction monitoring survey report to AEP and the Commission within 13 months of the project becoming operational, and on or before the same date every subsequent year for which AEP requires surveys, pursuant to Subsection 3(3) of Rule 033: *Post-approval Monitoring Requirements for Wind and Solar Power Plants.*

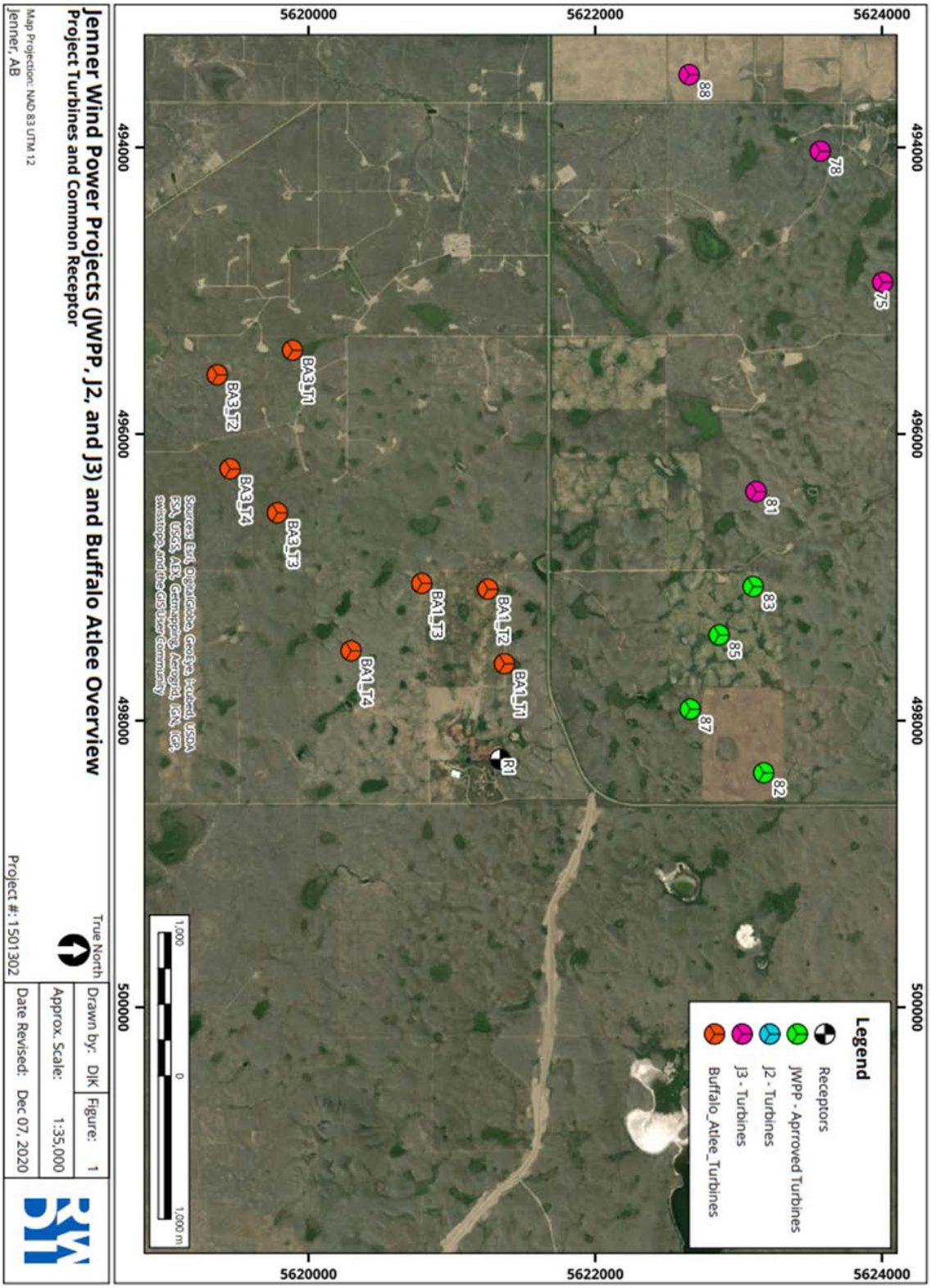
The following are conditions of Decision 25100-D01-2021 for Buffalo Atlee Wind Farm 3 that do not require subsequent filings with the Commission:

- The approval holder shall implement the required operating modes for the project turbines, as described in the project noise impact assessment, as of the date the project turbines commence operation.

- The approval holder shall not perform any construction activities within areas of tame and native grassland during the restricted activity period for breeding birds of April 1st to July 15th as described in the *Wildlife Directive for Alberta Wind Energy Projects*. For construction activities within areas of tame and native grassland between July 16th and August 24th, an experienced wildlife biologist shall conduct nest sweep surveys and implement mitigation measures as outlined in the power plant's renewable energy referral report if active nests are detected.

Appendix C – Map of the area where the Jenner Projects and the Buffalo Atlee Wind Farm would be closest together[51]

(return to text)



[51] Exhibit 25100-X0073, Appendix A – RWDI Evidence, PDF page 15.