

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

IN THE MATTER OF THE APPLICATION) BY CROWNED RIDGE WIND, LLC FOR A) PERMIT OF A WIND ENERGY FACILITY IN) GRANT AND CODINGTON COUNTIES)))	FINAL DECISION AND ORDER GRANTING PERMIT TO CONSTRUCT FACILITY; NOTICE OF ENTRY EL19-003
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APPEARANCES

Commissioners Gary Hanson, Chris Nelson, and Kristie Fiegen.

Miles Schumacher, Lynn, Jackson, Shultz and Lebrun, PC, 110 N. Minnesota Ave., Suite 400, Sioux Falls, South Dakota 57104, and Brian Murphy, NextEra Energy Resources, LLC, 700 Universe Blvd., Juno Beach, FL 33408, appeared on behalf of Applicant, Crowned Ridge Wind, LLC.

Kristen Edwards, Amanda Reiss, and Mikal Hanson, 500 E. Capitol Ave., Pierre, South Dakota 57501, appeared on behalf of the South Dakota Public Utilities Commission Staff (Staff).

David Ganje, Ganje Law Offices, 17220 N. Boswell Blvd., Suite 130L, Sun City, AZ 85373, appeared on behalf of intervenors Allen Robish, Amber Christenson, Kristi Mogen, Patrick Lynch, and Melissa Lynch (Intervenors).

PROCEDURAL HISTORY

On January 30, 2019, the South Dakota Public Utilities Commission (Commission) received an Application for a Facility Permit for a wind energy facility (Application) from Crowned Ridge Wind, LLC (Crowned Ridge or Applicant) to construct a wind energy conversion facility to be located in Grant County and Codington County, South Dakota (Project).¹ Also on January 30, 2019, Crowned Ridge filed the prefiled Direct Testimony and Exhibits of Jay Haley, Kimberly Wells, Mark Thompson, Tyler Wilhelm, and Sam Massey.

On January 31, 2019, the Commission electronically transmitted notice of the filing and the intervention deadline of April 1, 2019, to interested individuals and entities on the Commission's PUC Weekly Filings electronic listserv.

On January 31, 2019, Crowned Ridge filed copies of the Application with the Grant and Codington County auditors.

On February 6, 2019, the Commission issued a Notice of Application; Order for and Notice of Public Input Hearing; Notice of Opportunity to Apply for Party Status (Order). The Order scheduled a public input hearing for March 20, 2019, at 5:30 p.m., CDT, at the Waverly-South Shore School Gymnasium, 319 Mary Place, Waverly, South Dakota.

¹ See Ex. A1 (Application).

On February 7, 2019, Crowned Ridge filed a Supplemental Figure 3a.

On February 22, 2019, the Commission issued an Order Assessing a Filing Fee; Order Authorizing Executive Director to enter into Necessary Consulting Contracts; Order Granting Party Status (Amber Christenson, Allen Robish, Kristi Mogen).

On February 27, 2019, Crowned Ridge filed updated appendices for Appendix H and Appendix I.

On February 28, 2019, Crowned Ridge filed additional Updated Supplements to Appendix H and Appendix I.

On March 12, 2019, Crowned Ridge filed a Supplement to Appendix B.

On March 20, 2019, a public input hearing was held as noticed at the Waverly-South Shore School Gymnasium, 319 Mary Place, Waverly, South Dakota.

On March 21, 2019, the Commission issued an Order Granting Party Status (Melissa Lynch).

On March 25, 2019, Patrick Lynch filed an Application for Party Status.

On March 26, 2019, Staff filed a Motion for Procedural Schedule.

On March 27, 2019, Crowned Ridge filed its Response to the Motion for Procedural Schedule.

On March 28, 2019, Intervenors filed a Response to Crowned Ridge's Response to the Motion for Procedural Schedule.

On March 28, 2019, Affidavits of Publication were filed by Staff confirming that the Notice of Public Hearing was published in the *Watertown Public Opinion* on February 20 and March 13, 2019, in the *South Shore Gazette* on February 21 and March 14, 2019, and in the *Grant County Review* on February 20 and March 13, 2019.

On April 2, 2019, Affidavits of Publication were filed by Crowned Ridge confirming that the Notice of Public Hearing was published in the *Watertown Public Opinion* on February 13 and 20, 2019, in the *South Shore Gazette* on February 14 and 21, 2019, and in the *Grant County Review* on February 13 and 20, 2019.

On April 2, 2019, Crowned Ridge filed a Proof of Mailing to affected landowners pursuant to SDCL 49-41B-5.2.

On April 5, 2019, the Commission issued an Order Granting Party Status (Patrick Lynch); Order Establishing Procedural Schedule.

On April 9, 2019, Crowned Ridge filed the prefiled Supplemental Testimony and Exhibits of Mark Thompson, Jay Haley, Tyler Wilhelm, Sam Massey, and Dr. Christopher Ollson.

On April 10, 2019, Crowned Ridge filed the prefiled Direct Testimony and Exhibits of Sarah

Sappington adopting the Direct Testimony of Kimberly Wells.

On April 25, 2019, Intervenors filed a Motion to Deny and Dismiss.

On April 30, 2019, the Commission issued an Order for and Notice of Motion Hearing on Less Than 10 Days' Notice.

On April 30, 2019, Staff and Crowned Ridge each filed a Response to Motion to Deny and Dismiss.

On May 6, 2019, Intervenors filed a Reply Brief in Support of Motion to Deny and Dismiss.

On May 10, 2019, the Commission issued an Order Denying Motion to Deny and Dismiss; Order to Amend Application.

On May 10, 2019, the Commission issued an Order for and Notice of Evidentiary Hearing.

On May 10, 2019, Intervenors filed the testimony of John Thompson and Allen Robish.²

On May 15, 2019, Applicant filed an Amendment to the Application.

On May 17, 2019, Intervenors filed a Second Motion to Deny and Dismiss.

On May 22, 2019, the Commission issued an Order for and Notice of Motion Hearing.

On May 23, 2019, Crowned Ridge filed a Response to Intervenors' Second Motion to Deny and Dismiss.

On May 23, 2019, Staff filed a Request for Exception to Procedural Schedule.

On May 23, 2019, Crowned Ridge filed Revised Maps.

On May 24, 2019, Crowned Ridge filed the prefiled Rebuttal Testimony and Exhibits of Mark Thompson, Jay Haley, Tyler Wilhelm, Sam Massey, Andrew Baker, Dr. Robert McCunney, Richard Lampeter, Sarah Sappington, and Dr. Christopher Ollson.

On May 28, 2019, Crowned Ridge filed the prefiled Rebuttal Exhibits 1 and 2 of Tyler Wilhelm and Sam Massey.

On May 28, 2019, Intervenors filed a Reply Brief in Support of Motion to Deny and Dismiss and a Motion to Take Judicial Notice.

On May 30, 2019, the Commission issued an Order for and Notice of Motion for Exception to Procedural Schedule on Less Than 10 Days' Notice.

On May 30, 2019, Staff filed the prefiled Direct Testimony and Exhibits of David Hessler, Darren Kearney, Tom Kirschenmann, and Paige Olson.

² During the evidentiary hearing, Intervenors did not move for its testimony to be made part of the evidentiary record, and, therefore, it is not part of the evidentiary record.

On May 31, June 3, and June 5, 2019, Intervenors filed its prefiled Exhibits.

On June 6, 2019, the evidentiary hearing commenced to hear the testimony of Staff witness, David Hessler.

On June 7, 2019, Crowned Ridge filed a Final Land Status Map.

On June 10, 2019, Crowned Ridge filed a Replacement Final Land Status Map.

On June 11, 2019, prior to the start of the evidentiary hearing, the Commission heard the Second Motion to Deny and Dismiss. The Commission voted unanimously to deny the Second Motion to Deny and Dismiss.

On June 11, 2019, the evidentiary hearing was resumed, as scheduled, and concluded on June 12, 2019.

On June 12, 2019, the Commission issued an Order Granting Request for Exception to Procedural Schedule; Order Denying Motion to Take Judicial Notice; Order Denying Motion to Strike.

On June 13, 2019, the Commission received a late-filed Application for Party Status from Timothy and Linda Lindgren.

On June 18, 2019, the Commission issued an Order Setting Post-Hearing Briefing Schedule and Decision Date.

On June 18, 2019, Staff filed its Response to Late Application for Party Status.

On June 19, 2019, Intervenors filed an email regarding the Late Application for Party Status.

On June 25, 2019, at its regularly scheduled meeting, the Commission heard the late-filed Application for Party Status and denied it.

On June 26, 2019, the Commission issued an Order Denying Late-Filed Application for Party Status.

On July 2, 2019, post-hearing briefs were filed by Crowned Ridge, Staff, and Intervenors.

On July 9, 2019, at its regularly scheduled meeting, the parties made oral arguments. After questions of the parties by the Commissioners and public discussion among the Commissioners, the Commission voted unanimously to grant a permit to construct the Project to Crowned Ridge, subject to the approved Permit Conditions.

Having considered the evidence of record, applicable law, and the briefs and arguments of the parties, the Commission makes the following Findings of Fact, Conclusions of Law, and Final Decision and Order Granting Permit to Construct Facility:

FINDINGS OF FACT

I. PROCEDURAL FINDINGS.

1. The Procedural History set forth above is hereby incorporated by reference in its entirety in these Procedural Findings. The procedural findings set forth in the Procedural History are a substantially complete and accurate description of the material documents filed in this docket and the proceedings conducted and decisions rendered by the Commission in this matter.

II. PARTIES.

2. Applicant, Crowned Ridge Wind, LLC, is a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC (NextEra).³ NextEra, through its affiliates, is the world's largest generator of renewable energy from the wind and sun, generating over 19,000 MWs in 29 states and Canada.⁴

3. Amber Christenson, Allen Robish, Kristi Mogen, Melissa Lynch, and Patrick Lynch were granted party status (Intervenors).

4. Staff fully participated as a party in this matter, in accordance with SDCL 49-41B-17.

III. PROJECT DESCRIPTION.

5. The Project is an up to 300 MW wind facility to be located in Codington County and Grant County, South Dakota.⁵ It will be owned and operated by Applicant.⁶ The Project is situated within an approximately 53,186-acre Project Area and will include the following: (i) up to 130 GE 2.3 MW wind turbine generators; (ii) access roads to turbines and associated facilities; (iii) underground 34.5-kilovolt (kV) electrical collector lines connecting the turbines to the collection substation; (iv) underground fiber-optic cable for turbine communications co-located with the collector lines; (v) the low-side of a 34.5 to 345-kV collection substation; (vi) one permanent meteorological (met) tower; (vii) an operations and maintenance (O&M) facility; and (viii) temporary construction areas, including laydown and batch plant areas.⁷ The estimated construction cost associated with the wind facility is approximately \$400 million.⁸ Fluctuations in Project costs could be as much as 20% percent, dependent on final micro-siting and MISO interconnection costs.⁹ The Project will utilize the Crowned Ridge 34-mile 230 kV generation tie line and a new reactive power compensation substation¹⁰ to transmit the generation from the Project's collector substation to the Project's point of interconnection located at the Big Stone South 230 kV Substation, which is owned by Otter Tail Power Company.¹¹ Applicant has no plans for future expansion of the Project.¹²

³ Ex. A1 at 1 (Application).

⁴ Ex. A5 at 1 (Wilhelm and Massey Direct Testimony).

⁵ Ex. A1 at 1 (Application); Ex A1-A (Figures); Ex. A42-1 (Sappington Rebuttal Testimony); and Ex. A54 (Final Land Status Map).

⁶ Ex. A1 at 14 (Application) and Ex. A29 (Amendment to Application on Ownership).

⁷ Ex. A1 at 1, 17-25 (Application); Ex. A1-A (Figures 4a, 4b, and 5); Ex. A54 (Final Land Status Map); and Ex. A59 (Final Land Status and Hessler 7 Turbine Moves).

⁸ Ex. A1 at 17 (Application).

⁹ *Id.*

¹⁰ The transmission gen-tie and reactive compensation substation were approved in Docket No. EL17-050.

¹¹ Ex. A1 at 1 (Application).

¹² *Id.* at 112.

6. All turbines will be constructed within the Project Area consistent with the configuration presented in Exhibit A44-2 (Updated Project Layout Map) and subject to all commitments, conditions, and requirements of the Commission's Final Order and Permit Conditions.

7. Applicant has agreed, if feasible, to use alternative turbine locations instead of the following primary turbine locations: CR-16, CR-19, CR-23, CR-49, CR-60, CR-67, and CR-68.¹³ Applicant testified that based on the final land status map, there would be a shift in turbines CR-50 and CR-Alt22.¹⁴ Crowned Ridge further testified that final land status required the dropping of CR-17 and CR-40, to be replaced with CR-Alt42 and CR-Alt45.¹⁵ Crowned Ridge also testified that turbines CR-56, CR-57, CR-79, CR-Alt20, and CR-Alt19 will be removed due to Crowned Ridge not having leases for those properties.¹⁶

8. Crowned Ridge presented evidence of consumer demand and need for the Project.¹⁷ Applicant has executed a PPA with Northern States Power Company (NSP) to sell NSP the full output of the Project.¹⁸ On July 6, 2017, the Minnesota Public Utilities Commission approved NSP's Petition for Approval of the Acquisition of Wind Generation from the Company's 2016-2030 Integrated Resource Plan, including the PPA with Applicant. On December 6, 2018, North Dakota Public Service Commission issued an order granting an advance determination of prudence for the PPA between NSP and Applicant.¹⁹ The commercial operation date for the Project is projected to be in or before the first quarter of 2020.²⁰

9. With regard to micrositing, Crowned Ridge identified the need for turbine and associated facility flexibility.²¹ With respect to turbine flexibility, Crowned Ridge and Staff agreed to the turbine flexibility and "material change" provisions set forth in Permit Condition 22. With respect to the access roads, the collector and communications systems, meteorological towers, Aircraft Detection Lighting System (ADLS) facilities, the O&M facility, the Project Substation, and temporary facilities, Crowned Ridge and Staff agreed to Permit Condition 23.

10. Applicant has entered into lease and easement agreements with private landowners within the Project Area for the placement of Project infrastructure.²² Applicant anticipates that the life of the Project will be approximately 25 years, which is consistent with the Project's contracted term.²³ At the end of the Project's contracted life there may be opportunities to extend the life of the Project by repowering the Project by retrofitting the turbines and power system with upgrades based on new technology, which may allow the wind farm to produce efficiently and successfully for many more years.²⁴

11. In the event the Project's contracted life is not extended, the record demonstrates that Applicant has appropriate and reasonable plans for decommissioning.²⁵ The Project will be

¹³ Permit Conditions ¶ 27.

¹⁴ Ex. A59 (Final Land Status and Hessler 7 Turbine Moves); Ex. A55 (Proposed Turbine Drops and Moves). Evid. Hrg. Tr. at 229-230 (Wilhelm).

¹⁵ Ex. A59 (Final Land Status and Hessler 7 Turbine Moves). Ex. A 55 (Proposed Turbine Drops and Moves). Evid. Hrg. Tr. at 231 (Wilhelm).

¹⁶ Evid. Hrg. Tr. at 229-230 (Wilhelm).

¹⁷ See, e.g., Ex. A1 at Ch. 4.0 (Application).

¹⁸ Ex. A1 at 1, 15 (Application).

¹⁹ *Id.* at 1.

²⁰ *Id.* at 1, 94.

²¹ Ex. A5 (Wilhelm and Massey Direct Testimony); Ex. A44 (Wilhelm and Massey Rebuttal Testimony).

²² Ex. A1 at 113 (Application) and Ex. A54 (Final Land Status Map).

²³ Ex. A1 at 113 (Application).

²⁴ *Id.*

²⁵ *Id.* at Appendix L and Ex. A4 at 9-11 (Thompson Direct Testimony).

decommissioned in accordance with applicable state and county regulations.²⁶ Applicant has agreed to establish an escrow account for the purpose of financing the decommissioning of the Project.²⁷

12. The record demonstrates that Crowned Ridge submitted substantial evidence on the potential cumulative impacts of the Project, and that the Project will not have a significant impact.²⁸

IV. APPLICABLE STATUTES AND REGULATIONS FOR AN ENERGY FACILITY PERMIT.

13. The following South Dakota statutes are applicable: SDCL 49-41B-1, 49-41B-2, 49-41B-2.1, 49-41B-4, 49-41B-5.2, 49-41B-12 through 49-41B-19, 49-41B-22, 49-41B-25, 49-41B-26, 49-41B-35, 49-41B-36, and applicable provisions of SDCL Chapters 1-26 and 15-6.

14. The following South Dakota administrative rules are applicable: ARSD Chapters 20:10:01 and 20:10:22.

15. Pursuant to SDCL 49-41B-22, Applicant has the burden of proof to establish that:

- a) The proposed facility will comply with all applicable laws and rules;
- b) The facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area;
- c) The facility will not substantially impair the health, safety or welfare of the inhabitants; and
- d) The facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.

16. SDCL 49-41B-25 provides that the Commission must make a finding that the construction of the facility meets all of the requirements of Chapter 49-41B.

17. There is sufficient evidence on the record for the Commission to assess the proposed Project using the criteria set forth above.

²⁶ Ex. A1 at 113 (Application).

²⁷ Ex. A44 at 5 (Wilhelm and Massey Rebuttal Testimony); Permit Conditions ¶ 32.

²⁸ Ex. A7 at 5-7 (Applicant's Responses to Staff First Set of Data Requests); Ex. A26 at 2-3 (Applicant's Responses to Staff's Third Set of Data Requests); Ex. A43 at 2 (Haley Rebuttal); Ex. A56 (Appendix D and ISO-Lines Map Book); Ex. A57 (Appendix C-3 Sound Results Table Rev 6); Ex. A67 (Appendix C-1 Shadow Flicker Results Table Rev 5); and Ex. A68 Appendix C-2 Shadow Flicker Results Table Rev 5).

V. SATISFACTION OF REQUIREMENTS FOR THE ISSUANCE OF AN ENERGY FACILITY PERMIT.

A. The proposed facility will comply with all applicable laws and rules.

18. The evidence submitted by Crowned Ridge demonstrates that the Project will comply with applicable laws and rules.²⁹ Applicant committed that it will obtain all governmental permits which reasonably may be required by any township, county, state agency, federal agency, or any other governmental unit for the construction and operation activity of the Project prior to engaging in the particular activity covered by that permit.³⁰

19. The record demonstrates that construction of the Project, subject to the Permit Conditions, meets all applicable requirements of SDCL Chapter 49-41B and ARSD Chapter 20:10:22.³¹

B. The facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area.

1. Environment.

20. The evidence demonstrates that the Project does not pose a threat of serious injury to the environment in the Project Area.³² The evidence also shows that Crowned Ridge will implement reasonable avoidance and mitigation measures, as well as commitments, to further limit potential environmental impacts.³³

21. With respect to geological resources, the evidence shows that construction of the Project will not pose a threat of serious injury to these resources.³⁴ The risk of seismic activity in the vicinity of the Project Area is "low" according to data from the South Dakota Dept of Natural Resources.³⁵ The evidence further shows that the impact to geological resources from the Project will be minimal.³⁶

22. The evidence demonstrates that the Project does not pose a threat of serious injury to soil resources, including prime farmland.³⁷ The Project during construction will only impact 2,134.4-acres of the 53,186.2-acre Project Area, and only 86.0 acres on a permanent basis.³⁸ Table 11.1.2 of the Application sets forth additional detail on the temporary and permanent impacts from the Project, broken down by land cover type.³⁹ During and after construction a number of mitigation measures, including best management practices (BMP), a Storm Water Pollution Prevention Plan (SWPPP), and a Spill Prevention, Control, and Countermeasures Plan (SPCCP), will be implemented to minimize the impacts to soil resources.⁴⁰ Applicant has

²⁹ Ex. A1 at 75-78, 118-119 (Application) and Ex. A5 at 8-11 (Wilhelm and Massey Direct Testimony).

³⁰ Permit Conditions ¶ 1; Evid. Hrg. Tr. at 243 (Wilhelm); Evid. Hrg. Tr. at 295 (Massey).

³¹ Ex. A1 through Ex. A61.

³² Ex. A1 at 29-87, 89-93 (Application); Ex. A25 at 3-11 (Sappington Direct Testimony); Ex. A42 at 3-10, 12-21, 23-24 (Sappington Rebuttal Testimony); Ex. A42-1 (Updated Maps); and Ex. A54 (Final Land Status Map).

³³ Ex. A1 at 24-25, 29-87, 89-93 (Application); Ex. A4 at 4-5 (Thompson Direct Testimony); Ex. A25 at 3-11 (Sappington Direct Testimony); and Ex. A42 at 3-10, 12-21, 23-24 (Sappington Rebuttal Testimony).

³⁴ Ex. A1 at 32-35 (Application) and Ex. A42-1, Figures 9a, 9b, and 10 (Updated Maps). See Ex. A1 at § 9.0 (Application).

³⁵ Ex. A1 at 34 (Application).

³⁶ Ex. A1 at 34-35 (Application).

³⁷ Ex. A1 at 28-29, 35-39 (Application) and Ex. A42-1, Figure 11 (Updated Maps).

³⁸ Ex. A1 at 37 and 50 (Application) and Ex. A42 at 5, 13-14, 23-24 (Sappington Rebuttal Testimony).

³⁹ Ex. A1 at 50 (Application); Ex. A25 at 5-7 (Sappington Direct Testimony); Ex. A42 at 6-7 (Sappington Rebuttal Testimony).

⁴⁰ Ex. A1 at 24, 38-39 (Application).

committed that during construction, it will protect topsoil and minimize soil erosion. Soil areas disturbed during construction will be decompacted and returned to preconstruction contours to the extent practicable and in accordance with landowner agreements.⁴¹

23. The evidence also demonstrates that the Project does not pose a threat of serious injury to hydrological resources.⁴² The evidence shows there will only be limited and temporary impacts to: (i) groundwater resources; (ii) existing surface water resources; and (iii) current and planned water uses.⁴³ To minimize impacts, Applicant has committed to implement BMPs, a SWPPP, and SPCCP to mitigate impacts to hydrology resources.⁴⁴ The evidence also shows there will be no impact to impaired waters and flood storage areas.⁴⁵ Applicant has indicated the amount of water it will likely use during construction, and has committed to obtain any necessary permits for water sources used during construction and operations.⁴⁶

24. The evidence demonstrates that the Project does not pose a threat of serious injury to terrestrial ecosystems.⁴⁷ Specifically, there are no anticipated impacts to federally or state-listed plants.⁴⁸ The Project will not involve any major tree-clearing.⁴⁹ Also, Crowned Ridge has designed the Project so that turbines will not be sited in wetlands.⁵⁰ To minimize temporary impacts to vegetation due to construction, Applicant has also committed to implement BMP, a SWPPP, and SPCCP. Applicant will avoid impacts to United States Fish and Wildlife Services (USFWS) grasslands and grassland-wetland combination easements, as well as avoid impacts to native grassland to the extent practicable.⁵¹ BMPs will include re-vegetation practices and erosion control devices.⁵² Applicant has also agreed to compensate landowners for crop damage.⁵³ Applicant will develop and implement a plan to control noxious weeds.⁵⁴ Further, Applicant indicated that the minor shifts in the siting of collector lines, access roads, two turbines, and the use of alternative turbine sites does not change the overall impact of the Project on the terrestrial environment.⁵⁵

25. The evidence demonstrates that the Project does not pose a threat of serious injury to wildlife however, the potential impact to prairie grouse leks is unknown.⁵⁶ Applicant has conducted extensive studies and consulted relevant studies to understand the potential impact to wildlife.⁵⁷ Applicant will implement an avoidance, minimization, and mitigation approach to lessen the impact the Project has on wildlife.⁵⁸

⁴¹ *Id.* at 38.

⁴² *Id.* at 40-46; Ex. A42-1, Figure 12.

⁴³ Ex. A1 at 40-46 (Application).

⁴⁴ *Id.*

⁴⁵ *Id.* at 45.

⁴⁶ Ex. A1 at 23, 41, 42 (Application) and Ex. A45 at 5-10 and 5-11 (Applicant's Responses to Intervenor's Fifth Set of Data Requests).

⁴⁷ Ex. A1 at 46-69 (Application); Ex. A1-C (Dakota Skipper and Poweshiek Skipperrling Survey); Ex. A1-D (2017-2018 Raptor Nest Survey Report); Ex. A1-E (Avian Use Survey Report); Ex. A1-F (Bat Habitat Assessment Report); and Ex. A1-G (Bat Acoustic Survey Report).

⁴⁸ Ex. A1 at 50 (Application).

⁴⁹ *Id.* at 51.

⁵⁰ Ex. A1 at 52 (Application) and Ex. A42 at 8 (Sappington Rebuttal Testimony).

⁵¹ Ex. A1 at 12, 43 (Application).

⁵² *Id.* at 51.

⁵³ Ex. A1 at 50 (Application) and Ex. A23 at 3-7 (Wilhelm and Massey Supplemental Testimony); Permit Conditions ¶ 20.

⁵⁴ Permit Conditions ¶ 16.

⁵⁵ Ex. A42 at 11 (Sappington Rebuttal Testimony); Ex. A42-1 (Updated Maps); Ex. A59 (Final Land Status and Hessler 7 Turbine Moves); Evid. Hrg. Tr. at 173, 308 (Sappington).

⁵⁶ Ex. A1 at 53-69 (Application).

⁵⁷ Ex. A1 at 53-66 (Application); Ex. A1-C (Dakota Skipper and Poweshiek Skipperrling Survey); Ex. A1-D (2017-2018 Raptor Nest Survey Report); Ex. A1-E (Avian Use Survey Report); Ex. A1-F (Bat Habitat Assessment Report); and Ex. A1-G (Bat Acoustic Survey Report); Ex. A42 at 9-10 (Sappington Rebuttal Testimony).

⁵⁸ Ex. A1 at 69 (Application); Ex. A25 at 3 and 12-13 (Wells Direct Testimony adopted by Sappington); Evid. Hr. Tr. at 172-173.

26. Prairie grouse leks are the locations at which male prairie grouse make displays to attract females to mate.⁵⁹ Prairie grouse are known to historically use the same areas for leks year after year.⁶⁰ Crowned Ridge acknowledges that “sharp-tailed grouse and greater prairie-chicken could be affected by Project development if Project infrastructure disturbs or displaces grouse from leks or areas of preferred habitat (grasslands).”⁶¹

27. Crowned Ridge observed several active greater prairie-chicken leks during a spring survey in 2007-2008 and four active leks were recorded during a spring 2016 survey in, or near, an earlier iteration of the Project Area, including two greater prairie-chicken leks and two unknown leks.⁶² The SD GF&P recommended Crowned Ridge place a one-mile buffer around leks when siting and placing infrastructure and that a two-mile buffer should be placed around known leks for construction occurring during the lekking period (March 1 to June 30).⁶³ Applicant agreed to follow the SD GF&P’s construction buffer recommendation of 2-miles during the lekking period, however Crowned Ridge elected to use a reduced buffer from Project infrastructure and sited wind turbines as close as 0.3 miles from known lek locations.⁶⁴

28. Both the SD GF&P and Crowned Ridge wildlife experts testified that the effect of wind turbines on leks is still not well known.⁶⁵ SD GF&P recommended 2 years of post-construction grouse lek monitoring of confirmed leks less than 1 mile from proposed turbines in order to gain additional information on the effect of operating wind turbines on leks and to aide with future discussions around cumulative effects of wind energy development on prairie grouse.⁶⁶

29. The Commission finds that Crowned Ridge decided to site wind turbines less than 1 mile from known leks and not implement the SD GF&P’s recommendation for siting project infrastructure at least 1 mile from known leks. Further, the Commission finds that the effects of wind turbines on prairie grouse leks is still not sufficiently understood. Therefore, to add to the scientific knowledge on the impact operating wind turbines may have on prairie grouse leks, if any, the Commission adopts Staff’s proposed condition.⁶⁷

30. The Commission’s review of correspondence and comment letters from the South Dakota Game, Fish & Parks (SD GF&P) and USFWS wildlife experts found that neither of the agencies recommended general mammal studies be done, therefore general mammal studies are not needed in the Project Area.⁶⁸ The wildlife experts did recommend a survey to be conducted for bats, which are a mammal, and Crowned Ridge conducted the recommend survey.⁶⁹

31. Intervenors argue that Crowned Ridge’s Application is materially incomplete since the Avian Use Survey⁷⁰ did not include the portion of the Crowned Ridge Project Area that was formerly known as Cattle Ridge. Crowned Ridge’s expert witness, Ms. Sarah Sappington, testified that while the avian use survey did not include the Cattle Ridge portion of the Project Area, the

⁵⁹ Evid. Hrg. Tr. at 193 (Sappington).

⁶⁰ *Id.*; Evid. Hrg. Tr. at 504, 505 (Kirschenmann).

⁶¹ Ex. S2 at 430 (Kearney Direct Testimony).

⁶² Ex. A1 at 61 (Application).

⁶³ Ex. S2 at 440 (Kearney Direct Testimony).

⁶⁴ *Id.*; Ex. A1-A, Figure 6 at 25 (Application).

⁶⁵ Ex. S6; Evid. Hrg. Tr. at 198 (Sappington); Evid. Hrg. Tr. at 508 (Kirschenmann).

⁶⁶ Ex. S3 at 20 (Kirschenmann Direct Testimony).

⁶⁷ Permit Conditions ¶ 45.

⁶⁸ Ex. A1-B; Ex. A12.

⁶⁹ Ex. A1-G.

⁷⁰ Ex. A1-E.

raptor nest surveys did include that area.⁷¹ Ms. Sappington further testified that Crowned Ridge did study the full extent of the Project Area as detailed in the Application and that shapefiles of the full extent of the Project Area were sent to the SD GF&P.⁷² Staff's witness, Mr. Tom Kirschenmann, from the SD GF&P, testified that the survey methods used by Crowned Ridge followed the USFWS guidelines, and were reasonable and appropriate.⁷³ The Commission finds that the lack of an avian use survey in the Cattle Ridge portion of the Project Area is not fatal to the Application since Section 11.3 of the Application⁷⁴ identified the Project's potential effects to wildlife for the entire Project Area, as testified to by Ms. Sappington, and that proper survey methods were used by Crowned Ridge, as testified to by Mr. Kirschenmann.

32. Crowned Ridge will also mitigate temporary impacts to habitat consistent with Mr. Kirschenmann's recommendations.⁷⁵ There will be no turbines on game production areas, with the closest two turbines .24 mile and .35 mile away from a game production area.⁷⁶ Further, Applicant is required to conduct two years of independently-conducted post-construction avian and bat mortality monitoring for the Project.⁷⁷ Applicant committed to file a Wildlife Conservation Strategy, which includes both direct and indirect effects as well as the wildlife mitigations measures set forth in the Application, prior to the start of construction.⁷⁸ Applicant will file a Bird and Bat Conservation Strategy prior to the start of construction.⁷⁹ Also, Mr. Kirschenmann testified that Applicant had appropriately coordinated with SD GF&P on the impact of the Project on wildlife.⁸⁰

33. The evidence demonstrates that the Project does not pose a threat of serious injury to aquatic ecosystems.⁸¹ Similarly, the evidence demonstrates that the Project does not pose a threat of serious injury to land use and will comply with local controls.⁸² Applicant has coordinated with landowners to locate infrastructure in a manner that minimizes the impact to their land uses.⁸³ The evidence further demonstrates that there are no anticipated material impacts to existing air and water quality, and the Project will comply with applicable air and water quality standards and regulations.⁸⁴ Applicant also committed to implement a number of BMPs to mitigate the impact of the Project on air and water quality.⁸⁵

34. Applicant will install and use lighting required by the Federal Aviation Administration (FAA).⁸⁶ Applicant has also committed to use an FAA-approved Aircraft Detection Lighting System to minimize visual impact of the Project.⁸⁷

⁷¹ Evid. Hrg. Tr. at 178.

⁷² Evid. Hrg. Tr. at 180.

⁷³ Ex. S3 at 6.

⁷⁴ Ex. A1.

⁷⁵ Ex. A42 at 4 (Sappington Rebuttal Testimony); S3 (Kirschenmann Direct Testimony).

⁷⁶ Ex. A42 at 10 (Sappington Rebuttal Testimony).

⁷⁷ Permit Conditions ¶ 29.

⁷⁸ Ex. A42 at 6 (Sappington Rebuttal Testimony) and Evid. Hrg. Tr. at 212-213 (June 11, 2019).

⁷⁹ Permit Conditions ¶ 30.

⁸⁰ Ex. S3 at 3-5 (Kirschenmann Direct Testimony).

⁸¹ Ex. A1 at 70-73 (Application).

⁸² Ex. A1 at 73-88 (Application); Ex. A1-A (Figures); Ex. A5 at 8-11 (Wilhelm and Massey Direct Testimony); Ex. A2 (Haley Direct Testimony); Ex. A1-H (Sound Modelling Report); Ex. A1-J (Shadow Flicker Report); Ex. A1-L (Decommissioning Plan); Ex. A22 (Haley Supplemental Testimony); Ex. A43 (Haley Rebuttal Testimony); Ex. A43-1 (Shadow Flicker ISO-Lines); Ex. A43-2 (Sound Pressure ISO-Lines); Ex. A56 (Appendix D Sound ISO-Lines Map Book); Ex. A57 (Appendix C3 Sound Results Table Rev 6); Ex. A67 (Appendix C-1 Shadow Flicker Results) and Ex. A68 Appendix C-2 Shadow Flicker Results).

⁸³ Ex. A5 at 11-12 (Wilhelm and Massey Direct Testimony).

⁸⁴ Ex. A1 at 89-91, 92-93 (Application).

⁸⁵ Ex. A1 at 90-93 (Application) and Ex. A42 at 12-13, 18-20 (Sappington Rebuttal Testimony).

⁸⁶ Ex. A1 at 87 (Application). See also, Permit Conditions ¶ 33.

⁸⁷ *Id.*

35. Applicant has undertaken extensive study, surveys, and consultation with applicable tribes to identify and avoid sites of cultural, archaeological, and historical importance.⁸⁸ For example, Applicant's Records Search per the South Dakota State Historic Preservation Office (SD SHPO) guidance identified 133 previously documented archaeological sites, 6 previously documented historic bridges, 83 previously documented standing historic structures, and 5 previously documented cemeteries that have been recorded inside and within 1 mile of the Project Area.⁸⁹ As a mitigation measure, Applicant will avoid direct physical impacts to National Register of Historic Places listed sites.⁹⁰

36. Applicant also consulted with the tribal members from the Sisseton Wahpeton Oyate, Yankton Sioux, and Spirit Lake Nation tribes (who were selected by the affected tribes to represent those all applicable tribes) to identify significant tribal resources, and Applicant included them as part of the survey field team.⁹¹ Applicant further consulted with the SD SHPO on the type and content of surveys.⁹² Applicant agrees to avoid direct impacts to cultural resources not previously identified and evaluated or notify the Commission and the SD SHPO if avoidance cannot be achieved so to coordinate minimization and/or treatment measures.⁹³ Applicant will also develop a plan to address any unanticipated discovery of cultural resources, consistent with SDCL 34-27-25, 34-27-26, and 34-27-28.⁹⁴ Applicant will file with the Commission a Level III Archaeological survey for, among other facilities, access roads, crane paths, and collection lines prior to commercial operation.⁹⁵ Further, Applicant will implement specific avoidance, minimization, and mitigation measures for Traditional Cultural Properties.⁹⁶ Based on the record in this proceeding and the Permit Conditions, Applicant has demonstrated that it will minimize or avoid impacts to cultural resources.⁹⁷

2. Social and Economic.

37. Applicant has been developing the Project for 10 years through an iterative process to identify the Project Area.⁹⁸ During this time, Applicant worked closely with federal and state agencies, landowners, and tribal and local governments to properly design and site the infrastructure for the Project.⁹⁹ After accounting for land status and Project changes as identified in Finding of Fact 7, Applicant has all land rights needed to construct and operate the Project.¹⁰⁰

38. Applicant has demonstrated that the Project does not pose a threat of serious injury to the community.¹⁰¹ The Project will only permanently impact approximately 86 acres of farmland.¹⁰² The Project is expected to have a negligible effect, if any, on the assessed values of private property and, therefore, on property taxes.¹⁰³ Applicant has committed to coordinate with first responders and provide them with the Applicant's safety plan.¹⁰⁴ Further, Applicant has

⁸⁸ Ex. A1 at 104-110 (Application); Ex. A25 13-16 (Sappington Direct Testimony); and Ex. A42 at 2-3 (Sappington Rebuttal Testimony).

⁸⁹ Ex. A1 at 105 (Application); Ex. A16 at 2-30 and Attachment 1 to 2-30 Confidential (Applicant's Responses to Staff Second Set of Data Requests).

⁹⁰ Ex. A1 at 108 (Application).

⁹¹ Ex. A25 at 15 (Sappington Direct Testimony).

⁹² Ex. A25 at 15-16 (Sappington Direct Testimony); Ex. A1-B (Agency Coordination); Ex. S4 at 3-7 (Olson Direct Testimony).

⁹³ Permit Conditions ¶ 11.

⁹⁴ Permit Conditions ¶ 12.

⁹⁵ Permit Conditions ¶ 13.

⁹⁶ Permit Conditions ¶ 37.

⁹⁷ Permit Conditions ¶ 48.

⁹⁸ Ex. A1 at 2, 26-28, 88 (Application).

⁹⁹ Ex. A1 at 2, 26-28, 88; Ex. A5 at 6-15.

¹⁰⁰ Exs. A52, A53, A54, A64, and A65; Evid. Hear. Tr. at 228-231 and 260 (Wilhelm Testimony).

¹⁰¹ Ex. A1 at 95-110, 117 (Application); Ex. A1-K (Property Value Effects Studies); and Ex. A1-M (Telecommunication Study).

¹⁰² Ex. A1 at 102 (Application).

¹⁰³ Ex. A1 at 100 (Application) and Ex. A1-K (Property Value Effects Studies); Ex. S8.

¹⁰⁴ Ex. A1 at 101 (Application); Permit Conditions ¶¶ 8, 28, 43.

demonstrated that the construction and operation of the Project will result in benefits to South Dakota and local economies through payment of property taxes and lease payments.¹⁰⁵ Also, there will be approximately 250 temporary workers used during the construction of the Project, and 12 permanent workers in South Dakota to conduct operation and maintenance activities, including 10 wind technicians, 1 lead wind technician, and 1 site manager.¹⁰⁶

39. The record also demonstrates that the Project is not expected to adversely impact communication systems, such as microwave, AM, FM, cellular, TV, and aviation towers.¹⁰⁷ Also, Applicant has agreed to take action to minimize interference the Project causes to radio, television, and other licensed communication transmitting or receiving equipment.¹⁰⁸

40. The record demonstrates that Applicant will avoid and/or minimize impacts to transportation.¹⁰⁹ Applicant has committed to coordinate with the South Dakota Department of Transportation (SDDOT), Codington County and Grant County, and Project Area townships to manage construction traffic, and to ensure that equipment and components are delivered safely to the Project. Applicant will also obtain SDDOT Highway Access and Utility Permits prior to construction, and contractors will be required to obtain applicable over height or overweight haul permits. County road permits required for right-of-way occupancy, utility crossings, road approaches, and overweight loads will be obtained by Applicant from Codington County and Grant County prior to beginning construction activities for which the permit is required.¹¹⁰ Applicant is required to obtain applicable road use agreements and implement specific road protection practices.¹¹¹

41. Crowned Ridge has demonstrated that the Project will not adversely impact property values. Applicant's witness, Mr. Andrew Baker, a licensed appraiser in South Dakota, with experience evaluating the impact of wind turbines on property values, conducted a Market Analysis to analyze the potential impact of the Project on the value of the surrounding properties and found no market data indicating property values will be adversely impacted due to proximity to the Project.¹¹² This conclusion is also consistent with the Commission's recent findings regarding property values in the Prevailing Wind Park, Dakota Range I and II, Crocker, and Deuel Harvest wind farm proceedings.¹¹³

¹⁰⁵ Ex. A1 at 15, 98 (Application).

¹⁰⁶ Ex. A1 at 111 (Application); Ex. A4 at 8 (Thompson Direct Testimony); Ex. A5 at 12 (Wilhelm and Massey Direct Testimony); and Ex. A28 (Allocation of Tax Revenues).

¹⁰⁷ Ex. A1 at 103-104 (Application) and A1-M (Telecommunication Study).

¹⁰⁸ Permit Conditions ¶ 24.

¹⁰⁹ Ex. A1 at 103 (Application).

¹¹⁰ Permit Conditions ¶¶ 7, 8, 9.

¹¹¹ *Id.*

¹¹² Ex. A1 at 99-100 (Application); Ex. A1-K (Property Value Effects Studies); Exs. A39; A39-1; A39-2; A39-3 (Baker Rebuttal Testimony); Ex. S8.

¹¹³ See *In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind Park Project*, Docket EL18-026, Final Decision and Order Granting Permit to Construct Facilities and Notice of Entry (Nov. 28, 2018); *In the Matter of the Application by Dakota Range I, LLC and Dakota Range II, LLC for a Permit of a Wind Energy Facility in Grant County and Codington County, South Dakota, for the Dakota Range Wind Project*, Docket EL18-003, Final Decision and Order Granting Permit to Construct Wind Energy Facility; Notice of Entry (July 23, 2018); *In the Matter of the Application by Crocker Wind Farm, LLC for a Permit of a Wind Energy Facility and a 345 kV Transmission Line in Clark County, South Dakota, for Crocker Wind Farm*, Docket EL17-055, Final Decision and Order Granting Permit to Construct Facilities and Notice of Entry (June 12, 2018); *In the Matter of the Application of Deuel Harvest Wind Energy, LLC*, Docket No. EL18-053, Final Decision and Order (May 30, 2019). See also Ex. S8 (Surrebuttal Testimony of David Lawrence in Docket EL18-003).

42. The FAA has not yet issued a Determination of No Hazard for five of the Project's proposed turbine sites.¹¹⁴ Applicant has committed to not build any wind turbines that do not have an FAA Determination of No Hazard.¹¹⁵

43. In prior contested siting dockets, the Commission has considered the following socioeconomic issues in evaluating whether a project would pose a threat of serious injury to the social and economic condition: temporary and permanent jobs; tax revenue; and impacts on commercial, agricultural, and industrial sectors, housing, land values, labor market, health facilities, energy, sewage and water, solid waste management facilities, fire protection, law enforcement, recreational facilities, schools, transportation facilities, and other community and government facilities.¹¹⁶

44. The record demonstrates that the Project will not pose a threat of serious injury to the social and economic condition of inhabitants or expected inhabitants in the siting area.¹¹⁷

C. The facility will not substantially impair the health, safety or welfare of the inhabitants.

45. The record demonstrates that Applicant has appropriately minimized the sound level produced from the Project to the following: (1) no more than 45 dBA at any non-participants' residence and (2) no more than 50 dBA at any participants' residence.¹¹⁸ These sound levels were modeled using the following conservative assumptions: (1) the wind turbines were assumed to be operating at maximum sound emission levels; (2) a 2 dBA adder was applied to the wind turbines sound emission levels; (3) the wind turbines were assumed to be downwind of the receptor; and (4) the atmospheric conditions were assumed to be the most favorable for sound to be transmitted.¹¹⁹ The Project will also not result in sound above 50 dBA at any non-participants property boundaries for those residences in Codington County.¹²⁰ Applicant modelled sound levels with consideration of the cumulative sound impacts from Dakota Range I and II and Crowned Ridge Wind, II, LLC wind projects.¹²¹ Further, Applicant agreed to further reduce certain non-participant sound levels, consistent with the Permit Condition agreed to by Staff and

¹¹⁴ Ex. S7 at 31 (Applicant's Additional Data Request Responses to Staff) (Public); Ex. A62; Evid. Hrg. Tr. at 253.

¹¹⁵ Evid. Hrg. Tr. at 243; Evid. Hrg. Tr. at 253.

¹¹⁶ See, e.g., *In the Matter of the Application of Dakota Access, LLC for an Energy Facility Permit to Construct the Dakota Access Pipeline*, Docket HP14-002, Final Decision and Order; Notice of Entry (Dec. 14, 2015); *In the Matter of the Application by TransCanada Keystone Pipeline, LP for a Permit Under the South Dakota Energy Conversion and Transmission Facilities Act to Construct the Keystone XL Project*, Docket HP09-001, Amended Final Decision and Order; Notice of Entry (June 29, 2010) (discussing socioeconomic effects, including tax revenue, jobs, and impacts on agricultural, commercial, and industrial sectors and public facilities); *In the Matter of the Application of Dakota Range I, LLC and Dakota Range II, LLC for a Permit of a Wind Energy Facility in Grant County and Codington County, South Dakota, for the Dakota Range Wind Project*, Final Decision and Order Granting Permit to Construct Wind Energy Facility; Notice of Entry (July 23, 2018); *In the Matter of the Application of Montana-Dakota Utilities Co. and Otter Tail Power Company for a Permit to Construct the Big Stone South to Ellendale 345 kV Transmission Line*, Docket EL13-028, Final Decision and Order; Notice of Entry (Aug. 22, 2014) (discussing impacts to agriculture, property values, and local roads under this criterion). See *In the Matter of the Application by Prevailing Wind Park, LLC for a Permit of a Wind Energy Facility in Bon Homme County, Charles Mix County and Hutchinson County, South Dakota, for the Prevailing Wind Park Project*, Docket EL18-026, Final Decision and Order Granting Permit to Construct Facilities and Notice of Entry (Nov. 28, 2018); *In the Matter of the Application by Crocker Wind Farm, LLC for a Permit of a Wind Energy Facility and a 345 kV Transmission Line in Clark County, South Dakota, for Crocker Wind Farm*, Docket EL17-055, Final Decision and Order Granting Permit to Construct Facilities and Notice of Entry (June 12, 2018); *In the Matter of the Application of Deuel Harvest Wind Energy, LLC*, Docket No. EL18-053, Final Decision and Order (May 30, 2019).

¹¹⁷ See, e.g., Ex. A1 at § 18 (Application).

¹¹⁸ Ex. A56 (Appendix D Sound ISO-Lines Map Book); Ex. A57 (Appendix C-3 Sound Results Table Rev 6).

¹¹⁹ Ex. A22 at 3 (Haley Supplemental Testimony); Evid. Hrg. Tr. at 358 (Haley).

¹²⁰ Evid. Hrg. Tr. at 358 (Haley).

¹²¹ Ex. A26 at 3-3 (Applicant's Responses to Staff Third Set of Data Requests); Ex. A56 (Appendix D Sound ISO-Lines Map Book); Ex. A57 (Appendix C-3 Sound Results Table Rev 6); Evid. Hrg. Tr. at 361 (Haley).

Applicant.¹²² Applicant agreed to a post construction sound protocol to be used in the event the Commission orders post construction sound monitoring.¹²³

46. Similarly, the record also demonstrates that Applicant has appropriately minimized the shadow flicker for the Project to no more than 30 hours for participants and non-participants, with the understanding that there is one participant (CR1-C10-P) who is at 36:57 hours of shadow flicker.¹²⁴ Applicant modelled the cumulative impacts of shadow flicker from Dakota Range I and II and Crowned Ridge Wind, II, LLC wind projects when calculating its total shadow flicker hours.¹²⁵ Applicant also used conservative assumptions, such as the greenhouse-mode, to model shadow flicker, which, in turn, produces conservative results.¹²⁶

47. Receptor CR1-C10-P is a participating landowner in Codington County.¹²⁷

48. Receptor CR1-C10-P will experience 36 hours and 57 minutes of shadow flicker per year.¹²⁸

49. Nothing in the record indicates that Receptor CR1-C10-P has signed a waiver.

50. Applicant will work with the one participant that will experience 36 hours of shadow flicker to either waive the 6:57 hour overage or implement mitigation, such as curtailing the turbine for the 6:57 hours of shadow flicker.¹²⁹

51. There is no record evidence that the Project will substantially impair human health or welfare. To the contrary, Crowned Ridge witnesses Dr. Robert McCunney and Dr. Christopher Ollson submitted evidence that demonstrates that there is no human health or welfare concern associated with the Project as designed and proposed by Applicant.¹³⁰ Both Crowned Ridge witnesses analyzed the scientific peer-reviewed literature in the context of the proposed Project, and Dr. McCunney testified based on his experience and training as a medical doctor specializing in occupational health and the impact of sound on humans.¹³¹

52. There is no evidence in the record that the Project will substantially impair safety. Applicant will meet or exceed required setbacks established for safety,¹³² and, also, implement safety practices during construction, operation, and maintenance, including grounding wind turbines in accordance with National Electrical Safety Code standards.¹³³ Applicant will monitor the operation of the Project twenty-four hours a day, seven days a week through the Supervisory Control and Data Acquisition system.¹³⁴ Also, Applicant will implement a SWPPP and SPCCP, part of which will ensure that state and local disaster services are coordinated with in the event of the accidental release of contaminants.¹³⁵ Applicant will illuminate the wind turbines as required

¹²² Ex. A58 (Final Land Status and Hessler 7 on Intervenors); Ex. A60 (Hessler 7 on Hessler Identified Non-Participants); Permit Conditions ¶¶ 26, 27.

¹²³ Permit Conditions ¶ 26.

¹²⁴ Ex. A67 (Appendix C-1 Shadow Flicker Results); Ex. A68 Appendix C-2 Shadow Flicker Results).

¹²⁵ Ex. A26 at 3-3 (Applicant's Responses to Staff Third Set of Data Requests); Ex. A43 at 2 (Haley Rebuttal Testimony).

¹²⁶ Ex. A2 at 7 (Haley Direct Testimony); Evid. Hrg. Tr. at 359-360 (Haley).

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ Ex. A44 at 2-3 (Wilhelm and Massey Rebuttal Testimony); Evid. Hrg. Tr. at 361 (Haley); Permit Conditions ¶¶ 34, 41.

¹³⁰ Ex. A24 (Ollson Supplemental Testimony); Ex. A24-1 and through Ex. A24-17; Ex. A38 (Ollson Rebuttal Testimony); Ex. A38-1 through Ex. A38-7; Ex. A40 (McCunney Rebuttal Testimony); Ex. A 40-2 through Ex. A40-9; Evid. Hrg. Tr. at 433-435 (McCunney); Evid. Hrg. Tr. at 452-458 (Ollson).

¹³¹ *Id.*

¹³² Ex. A1 at 12, 27, 75-78 (Application); Ex. A5 at 9-11 (Wilhelm and Massey Direct Testimony).

¹³³ Ex. A1 at 20, 114-115 (Application); Ex. A4 at 3, 7 (Thompson Direct Testimony).

¹³⁴ Ex. A1 at 23 (Application); Ex. A4 at 5, 7-8 (Thompson Direct Testimony).

¹³⁵ Ex. A1 at 41, 90-91, 100, 102 (Application).

by the FAA.¹³⁶ Applicant is required to use two methods to detect icing conditions on turbine blades to shut down turbines when they are accumulating ice.¹³⁷

53. Applicant, prior to construction, is required to notify public safety agencies on the location of construction work.¹³⁸

54. Applicant is required to provide each participating and non-participating landowner detailed safety information, including safety precautions, 14 days prior to the commencement of construction.¹³⁹

55. Therefore, the record shows that Crowned Ridge has met its burden to demonstrate that the Project will not substantially impair the health, safety or welfare of the inhabitants of the siting area; indeed, there is no evidence in the record that the Project would substantially impair human health.

D. The facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.

56. The Commission must give due consideration to the views of governing bodies of affected local units of government pursuant to SDCL 49-41B-22(4).

57. The record demonstrates that the Project will not unduly interfere with the orderly development of the region. The Project complies with all applicable local land use requirements as demonstrated by the granting of conditional use permits for the Project by Grant County and Codrington County.¹⁴⁰

58. Applicant has also committed to decommissioning the Project at the end of its 25 year useful life, provided the life of the Project is not extended by retrofitting the turbines and power systems.¹⁴¹ In support of decommissioning, Applicant will establish an escrow agreement consistent with the Commission's past rulings.¹⁴² The escrow agreement covers decommissioning of the entire project, and, therefore, the Commission finds the escrow agreement required in this proceeding will provide sufficient financial protection for the decommissioning of the Project, and, accordingly, there is no need for Grant County and Codrington County to require duplicative financial security related to decommissioning.

59. Staff witness Darren Kearney attached to his testimony 37 proposed conditions that the Intervenor indicated they desired to advance in this proceeding.¹⁴³ While Mr. Kearney provided Staff's initial reaction to the 37 conditions, he, also, testified that Staff had not seen supporting information from the Intervenor on the 37 conditions.¹⁴⁴ During the proceeding, the Intervenor submitted no evidence in support of the 37 conditions. In contrast, the Applicant

¹³⁶ *Id.* at 12.

¹³⁷ Permit Conditions ¶35.

¹³⁸ Permit Conditions ¶43.

¹³⁹ Permit Conditions ¶4.

¹⁴⁰ Ex. A1 at 88 (Application); Ex. A1-J (County Conditional Use Permits); Ex. A5 at 8-11 (Wilhelm and Massey Direct Testimony); Ex. A44 at 3-4 (Wilhelm and Massey Rebuttal Testimony).

¹⁴¹ Ex. A1 at 113 (Application); Ex. A1-L (Decommission Plan).

¹⁴² *In the Matter of the Application of Deuel Harvest Wind Energy, LLC*, Docket No. EL18-053, Final Decision and Order (Condition No. 36) (May 30, 2019). The Commission, however, will allow the Crowned Ridge escrow agreement to be filed 30 days (instead of the 60 days in past cases) prior to the commencement of commercial operations in order to allow Crowned Ridge with additional time to work with Grant County and Codrington County so that they do not require duplicative escrow agreement(s).

¹⁴³ Ex. S2 at 12 (Exhibit DK-9) (Kearney Direct Testimony).

¹⁴⁴ *Id.*

provided evidence that the conditions should not be adopted.¹⁴⁵ Therefore, the 37 conditions proposed by the Intervenor will not be adopted.

VI. GENERAL.

60. Applicants have furnished all information required by the applicable statutes and Commission regulations.

61. Applicants have satisfied their burden of proving all of the requirements imposed by SDCL 49-41B-22 for issuance of the permit to construct by the preponderance of the evidence.

62. An application may be denied, returned, or amended, at the discretion of the Commission, for failure to file an application generally in the form and content required by SDCL Chapter 49-41B and ARSD Chapter 20:10:22.¹⁴⁶ The Commission finds that Applicant filed its application generally in the form and content required by SDCL Chapter 49-41B and ARSD Chapter 20:10:22. The Commission notes that the supplementation of an application with additional information is common.¹⁴⁷

63. An application may be denied, returned, or amended, at the discretion of the Commission, if there are any deliberate misstatements of material facts in the application or in accompanying statements or studies.¹⁴⁸ The Commission finds that the application and its accompanying statements and studies did not contain any deliberate misstatements of material facts.

64. The Commission finds that the Permit Conditions attached hereto and incorporated herein by reference are supported by the record, are reasonable and will help ensure that the Project will meet the standards established for approval of a construction permit for the Project set forth in SDCL 49-41B-22.

65. The Commission finds that the Project, if constructed in accordance with the Permit Conditions of this decision, will comply with all applicable laws and rules, including all requirements of SDCL Chapter 49-41B and ARSD Chapter 20:10:22.

66. The Commission finds that the Project, if constructed in accordance with the Permit Conditions of this decision, will not pose an unacceptable threat of serious injury to the environment nor to the social and economic conditions of inhabitants or expected inhabitants in the siting area.

67. The Commission finds that the Project, if constructed in accordance with the Permit Conditions of this decision, will not substantially impair the health, safety or welfare of the inhabitants in the siting area.

68. The Commission finds that the Project, if constructed in accordance with the Permit Conditions of this decision, will not unduly interfere with the orderly development of the region

¹⁴⁵ Ex. A1-K (Property Value Effects Study); Ex. A37 at 4-11 (Thompson Rebuttal Testimony); Ex. A38 at 8-12 (Olson Rebuttal Testimony); Ex. A39 at 2-6 (Baker Rebuttal Testimony); Ex. A40 at 3-11 (McCunney Rebuttal Testimony); Ex. A42 at 12-24 (Sappington Rebuttal Testimony); Ex. A43 at 6-7 (Haley Rebuttal Testimony); and Ex. A44 at 9-19 (Wilhelm and Massey Direct Testimony).

¹⁴⁶ SDCL 49-41B-13(2).

¹⁴⁷ Ex. S2 at 8 (Kearney).

¹⁴⁸ SDCL 49-41B-13(1).

with due consideration having been given the views of governing bodies of affected local units of government.

69. The Commission finds the Intervenor's have not presented evidence sufficient to deny the permit under the applicable statutes and Commission regulations.

70. The Commission finds that a permit to construct the Project should be granted subject to the attached Permit Conditions.

71. To the extent that any Conclusion of Law set forth below is more appropriately a finding of fact, that Conclusion of Law is incorporated herein by reference as a Finding of Fact as if set forth in full herein.

72. To the extent that any of the Findings of Fact in this decision are determined to be Conclusions of Law or mixed findings of fact and conclusions of law, the same are incorporated herein by this reference as a Conclusion of Law as if set forth in full herein.

Based on the foregoing Findings of Fact and the record in this proceeding, the Commission hereby makes the following:

CONCLUSIONS OF LAW

From the foregoing Findings of Fact and the record in this proceeding, the Commission now makes the following Conclusions of Law:

1. The Commission has jurisdiction to consider the Application under SDCL Chapter 49-41B.

2. The wind energy conversion facility proposed by Applicant is a wind energy facility as defined under SDCL 49-41B-2(13).

3. The Application submitted by Applicant, as amended and supplemented through the proceedings in this matter, meets the criteria required by SDCL 49-41B-25, and construction of the Project meets the requirements of SDCL 49-41B and ARSD Chapter 20:10:22.

4. The Commission concludes that it possesses the authority under SDCL 49-41B-25 to impose conditions on the construction, operation and maintenance of the Project, that the Conditions set forth in the attached Permit Conditions are supported by the record, are reasonable, and will help ensure that the Project will meet the standards established for approval of a construction permit for the Project set forth in SDCL 49-41B-22 and that the Permit Conditions are hereby adopted.

5. The Commission concludes that it needs no other information to assess the impact of the proposed facility or to determine if Crowned Ridge has met its burden of proof.

6. The Commission satisfied the hearing and notice requirement in SDCL Chapter 49-41B.

7. Applicant satisfied the applicable notice requirements in SDCL Chapter 49-41B.

8. All other applicable procedural requirements in SDCL Chapter 49-41B have been satisfied.
9. Applicant has demonstrated that the proposed facility will comply with all applicable laws and rules.
10. When considered with all Permit Conditions, Applicant has demonstrated that the facility will not pose a threat of serious injury to the environment nor to the social and economic condition of inhabitants or expected inhabitants in the siting area.
11. When considered with all Permit Conditions, Applicant has demonstrated that the facility will not substantially impair the health, safety or welfare of the inhabitants.
12. When considered with all Permit Conditions, Applicant has demonstrated that the facility will not unduly interfere with the orderly development of the region with due consideration having been given the views of governing bodies of affected local units of government.
13. Crowned Ridge must comply with the requirements in the Grant County and Codrington County ordinances.
14. No party has provided sufficient evidence to impose any of the 37 proposed Intervenor conditions.
15. The standard of proof is by the preponderance of evidence. Applicant has met its burden of proof imposed by SDCL 49-41B-22 for issuance of the permit to construct by the preponderance of the evidence and is entitled to a permit to construct as provided in SDCL 49-41B-25.
16. Based on the preponderance of the evidence presented to the Commission, the Commission concludes that all of the requirements of SDCL 49-41B-22 have been satisfied.
17. The Commission thus concludes that the Application should be granted, and a facility permit should be issued for the Project for the reasons stated in these Findings of Fact and Conclusions of Law. The Commission grants the permit to construct requested in the Application, as amended, subject to the Permit Conditions.

ORDER

From the foregoing Findings of Fact and Conclusions of Law, it is therefore:

ORDERED, that a permit to construct the Crowned Ridge Wind Project is granted to Crowned Ridge Wind, LLC for the construction and operation of the Project. It is further

ORDERED, that Applicant shall comply with all of the attached Permit Conditions, which are incorporated by reference into this Order the same as if they had been set forth in their entirety herein. It is further

ORDERED, that Intervenor's Second Motion to Dismiss is hereby denied.

NOTICE OF ENTRY

PLEASE TAKE NOTICE that this Final Decision and Order Granting Permit to Construct Facility was duly issued and entered on the 26th day of July 2019.

Dated at Pierre, South Dakota, this 26th day of July 2019.

<p style="text-align: center;">CERTIFICATE OF SERVICE</p> <p>The undersigned hereby certifies that this document has been served today upon all parties of record in this docket, as listed on the docket service list, electronically or by mail.</p> <p>By: <u>Karen E. Cromer</u></p> <p>Date: <u>07/26/19</u></p> <p style="text-align: center;">(OFFICIAL SEAL)</p>

BY ORDER OF THE COMMISSION:

Gary Hanson
GARY HANSON, Chairman

Chris Nelson
CHRIS NELSON, Commissioner

Kristie Fiegen
KRISTIE FIEGEN, Commissioner

PERMIT CONDITIONS

1. Applicant will obtain all governmental permits which reasonably may be required by any township, county, state agency, or federal agency, or any other governmental unit for construction and operation activity of the Project prior to engaging in the particular activity covered by that permit. Copies of any permits obtained by Applicant shall be filed with the Commission.
2. Applicant shall construct, operate, and maintain the Project in a manner consistent with (1) descriptions in the Application, (2) Application supplements and corrections, (3) commitments made by Applicant in response to data requests, (4) the Final Decision and Order Granting Permit to Construct Facility, and attached Permit Conditions, (5) all applicable industry standards, (6) all applicable permits issued by a federal, state, or local agency with jurisdiction over the Project, and (7) evidence presented by Applicant at the evidentiary hearing.
3. Applicant agrees that the Commission's complaint process as set forth in ARSD Chapter 20:10:01 shall be available to landowners and other persons sustaining or threatened with damage as the result of Applicant's failure to abide by the conditions of the Permit or otherwise having standing to seek enforcement of the conditions of the Permit. Participating landowners are free to use the complaint process free from retribution or consequence regardless of any private easement term to the contrary.
4. At least 14 days prior to commencement of construction, Applicant shall provide each participating and non-participating landowner in the Project Area, using the addresses designated to receive the property tax bill sent by the county treasurer, with the following information:
 - a) A copy of the Final Decision and Order Granting Permit to Construct Facilities with attached Permit Conditions;
 - b) Detailed safety information describing:
 - i. Reasonable safety precautions for existing activities on or near the Project;
 - ii. Known activities or uses that are presently prohibited near the Project; and
 - iii. Other known potential dangers or limitations near the Project;
 - c) Construction/maintenance damage compensation plans and procedures (only to participating landowners);
 - d) The Commission's address, website, and phone number;
 - e) Contact person for Applicant, including name, e-mail address, and phone number.
5. In order to ensure compliance with the terms and conditions of this Permit pursuant to SDCL 49-41B-33, it is necessary for the enforcement of this Order that all employees, contractors, and agents of Applicant involved in this Project be made aware of the terms and conditions of this Permit.

6. Except as otherwise provided in the Permit Conditions, Applicant shall comply with all mitigation measures set forth in the Application and Applicant's commitments in its responses to data requests, and Applicant exhibits and testimony at the evidentiary hearing. Material modifications to the mitigation measures shall be subject to prior approval of the Commission.
7. Applicant will negotiate road use agreements with Codrington and Grant Counties and all affected townships, if required. Applicant will comply with such road use agreements. When using haul roads specified in applicable road use agreements, Applicant shall take appropriate action to mitigate wind-blown particles created throughout the construction process, including implementation of dust control measures such as road watering, covering of open haul trucks when transporting material subject to being windblown, and the removal of any soils or mud deposits by construction equipment when necessary.
8. In accordance with applicable road use agreements or applicable law, Applicant shall comply with the following conditions regarding road protection:
 - a) Applicant shall acquire all necessary permits authorizing the crossing of federal, state, county, and township roads.
 - b) Applicant shall coordinate road closures with federal, state, and local governments and emergency responders.
 - c) Applicant shall implement a regular program of road maintenance and repair through the active construction period to keep paved and gravel roads in an acceptable condition for residents and the public.
 - d) After construction, Applicant shall repair and restore deteriorated roads resulting from construction traffic or compensate governmental entities for their repair and restoration of deteriorated roads, such that the roads are returned to their preconstruction condition.
 - e) Within 180 days of completing construction and reclamation of the Project, Applicant shall submit documentation to the Commission identifying that the roads were repaired in accordance with this Condition 8 and to the satisfaction of affected townships and county. If the townships or county will not provide such documentation, then Applicant shall provide a report to the Commission on the outstanding road repair issues and how those issues have been or will be resolved.
 - f) Privately owned areas used as temporary roads or crane paths during construction will be restored to their preconstruction condition, except as otherwise requested or agreed to by the landowner.
 - g) Should Applicant need to widen any existing roadways during construction of the Project, Applicant shall return the roadways back to original width after completion of the Project, unless otherwise agreed upon with the federal, state, county, or township entities, or the landowner.
9. Applicant shall provide signage that identifies road closures and disturbances resulting from the Project in accordance with the most recent editions of the Manual on Uniform Traffic Control Devices as published by the Federal Highway Administration.

10. Applicant shall promptly report to the Commission the presence of any critical habitat of threatened or endangered species in the Project Area that Applicant becomes aware of and that was not previously reported to the Commission.
11. Applicant agrees to avoid direct impacts to cultural resources that are unevaluated, eligible for, or listed in the National Register of Historic Places (NRHP). When a NRHP unevaluated, eligible, or listed resource cannot be avoided, Applicant shall notify the South Dakota State Historic Preservation Office (SHPO) and the Commission of the reasons that complete avoidance cannot be achieved in order to coordinate minimization and/or treatment measures.
12. Prior to the commencement of construction, Applicant agrees to develop an unanticipated discovery plan for cultural resources and comply with SDCL 34-27-25, 34-27-26, and 34-27-28 for the discovery of human remains.
13. Applicant shall file a Level III Archaeological survey of the remaining facilities (i.e. access roads, crane paths, collection lines, O&M facilities, concrete batch plant, and laydown areas) with the Commission and provide a copy of the survey to SHPO prior to commercial operation. The survey report may contain confidential information and all confidential portions of the survey report shall be filed as confidential and not for public disclosure. If any potential adverse impacts to NRHP unevaluated, listed, or eligible cultural resources are identified in the survey, Applicant shall file with the Commission a report describing the SHPO-approved planned measures to ameliorate those impacts.
14. Applicant shall provide the Stormwater Pollution Prevention Plan (SWPPP) to the Commission when Applicant has a final design for the Project. The SWPPP will outline the water and soil conservation practices that will be used during construction to prevent or minimize erosion and sedimentation and be in a form consistent with the South Dakota Department of Environment and Natural Resources guidelines. The SWPPP will be completed before submittal of an application for a National Pollutant Discharge Elimination System (NPDES) general permit for construction activities. All contractors to be engaged in ground disturbing activities will be given a copy of the SWPPP and the requirements will be reviewed with them prior to the start of construction.
15. Applicant shall repair and restore areas disturbed by the construction or maintenance of the Project. Except as otherwise agreed to by the landowner, restoration shall include the replacement of the original pre-construction topsoil or equivalent quality topsoil to its original elevation, contour, and compaction and re-establishment of original vegetation as close thereto as reasonably practical. In order to facilitate compliance with this Permit Condition, Applicant shall:
 - a) Strip the topsoil to the actual depth of the topsoil, or as otherwise agreed to by the landowner in writing (e-mail is sufficient), in all areas disturbed by the Project; however, with respect to access roads, Applicant may remove less than the actual depth of the topsoil to ensure roads remain low-profile and the contours align with the surrounding area;
 - b) Store the topsoil separate from the subsoil in order to prevent mixing of the soil types;
 - c) All excess soils generated during the excavation of the turbine foundations shall remain on the same landowner's land, unless the landowner requests, and the landowner agrees otherwise; and

- d) When revegetating non-cultivated grasslands, Applicant shall use a seed mix that is recommended by the Natural Resource Conservation Service (NRCS), or other land management agency, unless otherwise agreed upon with the landowner in writing.
16. Applicant shall work closely with landowners or land management agencies, such as the NRCS, to determine a plan to control noxious weeds and Applicant shall implement the plan.
 17. Applicant shall stage construction materials in a manner that minimizes the adverse impact to landowners and land users as agreed upon between Applicant and landowner or Applicant and the appropriate federal, state, and/or local government agency. All excess (non-permanent) construction materials and debris shall be removed upon completion of the Project, unless the landowner agrees otherwise.
 18. In order to mitigate interference with agricultural operations during and after construction, Applicant shall locate all structures, to the extent feasible and prudent, to minimize adverse impacts and interferences with agricultural operations, shelterbelts, and other land uses or activities. Applicant shall take appropriate precautions to protect livestock and crops during construction. Applicant shall repair all fences and gates removed or damaged during construction or maintenance unless otherwise agreed upon with the landowner or designee. Applicant shall be responsible for the repair of private roads damaged when moving equipment or when obtaining access to the right-of-way.
 19. Applicant shall bury the underground collector system at a minimum depth of 48 inches, or deeper if necessary, to ensure the current land use is not impacted.
 20. Applicant shall repair or replace all property removed or damaged during all phases of construction, including but not limited to, all fences, gates, and utility, water supply, irrigation, or drainage systems. Applicant shall compensate the owners for damages or losses that cannot be fully remedied by repair or replacement, such as lost productivity and crop and livestock losses. All repair, replacement and/or compensation described above shall be in accordance with the terms and conditions of written agreements between Applicant and affected landowners where such agreements exist.
 21. Applicant shall, in the manner described in its written agreement with a landowner, indemnify and hold the landowner harmless for loss, damage, claim, or actions resulting from Applicant's use of the easement, including any damage resulting from any release, except to the extent such loss, damage claim, or action results from the negligence or willful misconduct of the landowner or his employees, agents, contractors, invitees, or other representatives.
 22. Applicant may make turbine adjustments of 250 feet or less from the turbine locations identified at the time a Facility Permit is issued without prior Commission approval, so long as the specified noise and shadow flicker thresholds are not exceeded, cultural resource impacts and documented habitats for listed species are avoided, and wetland impacts are avoided or are in compliance with applicable U.S. Army Corps of Engineers (USACE) regulations. Prior to implementing the turbine adjustment, Applicant will file in the docket an affidavit demonstrating compliance with the limitations set forth above. Any turbine adjustment that does not comply with the aforesaid limitations, or turbine model change, would be considered a "material change," and Applicant shall file a request for approval of the "material change" prior to making the adjustment pursuant to the following approval process:

Applicant will file with the Commission and serve on the official Service List a request for approval of the material change that includes:

- An affidavit describing the proposed turbine adjustment, the reason for the adjustment, the reason the adjustment does not comply with one or more turbine flexibility limitations set forth above, and information regarding compliance with all other applicable requirements; and
 - A map showing both the approved location and the proposed adjustment (in different colors).
 - Once received, the information would be reviewed by Commission staff, and Commission staff will have 10 calendar days within which to request further Commission review.
 - If no further review is requested, Applicant may proceed with the adjustment.
 - If further review is requested, the Commission will issue a decision regarding Applicant's request at its next available regularly scheduled Commission meeting, subject to notice requirements, after the request for further review is made by Commission staff.
23. Applicant may adjust access roads, the collector and communications systems, meteorological towers, Aircraft Detection Lighting System facilities, the operations and maintenance facility, the Project Substation, and temporary facilities, so long as they are located on land leased for the Project, cultural resources are avoided or mitigated in consultation with the SHPO; documented habitats for listed species are avoided; wetland impacts are avoided or are in compliance with applicable USACE regulations; and all other applicable regulations and requirements are met.
24. If the Project causes interference with radio, television, or any other licensed communication transmitting or receiving equipment, Applicant shall take all appropriate action to minimize any such interference and shall make a good faith effort to restore or provide reception levels equivalent to reception levels in the immediate areas just prior to construction of the Project. This mitigation requirement shall not apply to any dwellings or other structures built after completion of the Project.
25. Applicant will provide Global Positioning System (GPS) coordinates of structure locations to affected landowners at any time during the life of the Project. Coordinates will be provided in writing to landowners within 30 days of a request.
26. The Project, exclusive of all unrelated background noise, shall not generate a sound pressure level (10-minute equivalent continuous sound level, Leq) of more than 45 dBA as measured within 25 feet of any non-participating residence unless the owner of the residence has signed a waiver, or more than 50 dBA (10-minute equivalent continuous sound level, Leq) within 25 feet of any participating residence unless the owner of the residence has signed a waiver. The Project Owner shall, upon Commission formal request, conduct field surveys and provide monitoring data verifying compliance with specified noise level limits. If the measured wind turbine noise level exceeds a limit set forth above, then the Project Owner shall take whatever steps are necessary in accordance with prudent operating standards to rectify the situation.

If a field survey and monitoring data is requested by the Commission, the Project Owner shall submit the test protocol to the Commission prior to conducting the survey and sound monitoring for approval. The test protocol shall include and be implemented as follows:

- a) The post-construction monitoring survey shall be conducted following applicable American National Standard Institute (ANSI) methods.
- b) Sound levels shall be measured continuously for 14 days in an effort to capture a sufficient quantity of valid readings meeting the wind conditions delineated below in subpart (e). A sufficient quantity shall be defined as 0.5% of the total number of samples, or a minimum of 10 for a 14-day measurement period. As a precaution against the possibility that a sufficient number of valid readings are not automatically recorded during the chosen 14-day sampling period, 10 on/off tests shall be carried out during the survey period when the Project is operating at full power production irrespective of the ground level wind speed. For the on/off tests, all units in the Project shall be shut down for a 10-minute period synchronized with the monitor's clocks (starting, for example, at the top of the hour or 10 minutes after, 20 minutes after, etc.). The background level measured during the shutdown interval can then be subtracted from the average of the levels measured immediately before and after it to determine the Project-only sound level. The results from these tests may be used to make up for any shortfall in collecting 10 samples measured when the ground level wind speed is less than or equal to 5 m/s.
- c) Measurements shall be conducted at a select number of non-participating and participating residences with the highest expected noise levels and/or at specific residences identified in the Commission's formal request. Typically, 4 to 6 measurement locations total should be selected.
- d) Measurements shall be conducted using sound level meters meeting ANSI Type 1 specifications. An anemometer shall be placed within 20 feet of each microphone, and at a height of approximately 2 meters above the ground.
- e) The measurement data shall be analyzed as follows:
 - i. At a minimum, the closest five wind turbines will be operating for evaluation periods and when at least the closest wind turbine is operating at a condition at full (within one decibel of maximum sound power levels) acoustic emissions.
 - ii. Discard those samples measured when the 10-minute average ground wind speed is greater than 5 m/s.
 - iii. Discard those samples measured during periods with precipitation.
 - iv. If measured (total) sound levels exceed the sound level limits, determine Project-only sound levels by removing transient background noise (i.e. occasional traffic, activities of residents, farming activities, and wind gusts) based upon audio recordings, excessive wind gusts, personal observations, and/or comparison of sound level metrics.
 - v. If measured (total) sound levels exceed the sound level limits, determine Project-only sound levels by removing, continuous background noise. This approach requires wind turbine shut-downs, where the background noise is measured directly. Background noise levels will be subtracted from total noise levels measured during these wind conditions to calculate turbine-only noise levels.

- vi. As necessary, review of the frequency spectra of potential turbine-only samples to identify and remove outliers (spectral shape clearly differing from those samples measured under very low (less than 2 m/s) ground wind conditions, which are the samples most representative of turbine-only noise).
 - f) Compare the resulting turbine-only noise levels to the 45 and 50 dBA limits. Compliance shall be demonstrated if all samples are less than the limits.
- 27. Applicant agrees to use alternative turbine locations instead of the following primary turbine locations CR-16, CR19, CR-23, CR-49, CR-60, CR-67, and CR-68. If during construction at an alternative turbine, Applicant determines that the location is not suitable for a turbine due to geotechnical, cultural, environmental issues or other constructability issues, Applicant shall file an affidavit with the Commission setting forth why the alternative turbine cannot be used and identifying which primary turbine will be used. If there is a dispute over the use of a primary turbine, Applicant and Commission staff shall meet and attempt to resolve the dispute within 10 business days of the filing of the affidavit. If the dispute cannot be resolved within 10 business days, Applicant shall file a request for a material change with the Commission.
- 28. Applicant shall seek input from local emergency response personnel to properly and effectively coordinate an emergency response plan consistent with local resources and response abilities. Upon completion of construction, a Project operation emergency response plan shall be provided to Commission staff to make available to the general public on the Commission's website.
- 29. Applicant agrees to undertake a minimum of two years of independently-conducted post-construction avian and bat mortality monitoring for the Project, and to provide a copy of the report and all further reports to the United States Fish and Wildlife Services, South Dakota Game, Fish and Parks, and the Commission.
- 30. Applicant shall file a Bird and Bat Conservation Strategy (BBCS) prior to beginning construction of the Project. The BBCS shall be implemented during construction and operation of the Project.
- 31. If the Project is decommissioned, Applicant will follow Section 21 of the Application and the decommissioning plan laid out in Appendix L of the Application. The Commission shall be notified prior to any decommissioning action.
- 32. At least 30 days prior to commencement of commercial operation, Applicant shall file an escrow agreement with the Commission for Commission approval that provides a decommissioning escrow account. The escrow agreement shall incorporate the following requirements:
 - a) The escrow account is funded by the turbine owner annually at a rate of \$5,000 per turbine per year for the first 30 years, commencing no later than the commercial operation date.
 - b) Beginning in year ten following commercial operation of the Project and each fifth year thereafter, the turbine owner shall submit to the Commission an estimated decommissioning date, if established, and estimated decommissioning costs and salvage values. Based on the verification of the information in the filing the Commission may determine that funds in escrow are sufficient to cover the costs

of decommissioning and that reduced, or no additional deposits are required. The Commission also may determine that additional funding is required and may require additional funding equal to the estimated amount needed for decommissioning.

- c) All revenues earned by the account shall remain in the account.
 - d) An account statement shall be provided annually to the Commission and become a public record in this docket.
 - e) The escrow account obligations will be those of Crowned Ridge and the escrow agreement shall include terms providing that the agreement binds Crowned Ridge's successors, transferees, and assigns. A sale of Project assets shall include the associated Permit that requires Commission approval per SDCL §49-41B-29.
 - f) The escrow account agent shall be a South Dakota chartered state bank or a nationally chartered bank with an office located in South Dakota.
 - g) The escrow agreement shall be subject to the laws of South Dakota and any disputes regarding the agreement shall be venued in South Dakota.
 - h) To minimize the risk that the escrow account would be subject to foreclosure, lien, judgment, or bankruptcy, the escrow agreement will be structured to reflect the follow factors:
 - i. That Crowned Ridge agreed to the creation of the escrow account;
 - ii. Crowned Ridge exercises no (or the least amount possible of) control over the escrow;
 - iii. The initial source of the escrow account;
 - iv. The nature of the funds put into the escrow account;
 - v. The recipient of its remainder (if any);
 - vi. The target of all its benefit; and
 - vii. The purpose and its creation.
 - i) Account funds are to be paid to the Project owner at the time of decommissioning, to be paid out as decommissioning costs are incurred and paid.
 - j) If the Project owner fails to execute the decommissioning requirement found in this section of the Permit Conditions, the account is payable to the landowner who owns the land on which associated Project facilities are located as the landowner incurs and pays decommissioning costs.
33. Applicant shall utilize an Aircraft Detection Lighting System approved by the Federal Aviation Administration.

34. Shadow flicker at residences shall not exceed 30 hours per year unless the owner of the residence has signed a waiver. Prior to construction, Applicant shall obtain and file with the Commission and the Codington County Zoning Officer a waiver for any occupied structure which will experience more than thirty hours of shadow flicker per year. If no waiver is obtained, Applicant shall file a mitigation plan with the Commission prior to construction and obtain Commission approval of the mitigation plan.
35. Applicant will use two methods to detect icing conditions on turbine blades: (1) sensors that will detect when blades become imbalanced or create vibration due to ice accumulation; and (2) meteorological data from on-site permanent meteorological towers, on-site anemometers, and other relevant meteorological sources that will be used to determine if ice accumulation is occurring. These control systems will either automatically shut down the turbine(s) in icing conditions (per the sensors) or Applicant will manually shut down turbine(s) if icing conditions are identified (using meteorological data). Turbines will not return to normal operation until the control systems no longer detect an imbalance or when weather conditions either remove icing on the blades or indicate icing is no longer a concern. Applicant will pay for any documented damage caused by ice thrown from a turbine.
36. Turbines shall be set back at least 1.1 times the tip height, with a minimum set back distance of 500 feet, from any surrounding property line. However, if the owner of the wind turbine tower has a written agreement with an adjacent land owner allowing the placement of the tower closer to the property line, the tower may be placed closer to the property line shared with that adjacent land owner.
37. Applicant shall implement the avoidance, minimization, and mitigation measures identified as follows for Traditional Cultural Properties (TCPs):
 - a) Implement standard avoidance or resource protection practices (e.g., barrier fencing, contractor training) for TCPs, where feasible, in collaboration with the Sisseton-Wahpeton Oyate, Yankton Sioux, Rosebud Sioux and Spirit Lake Tribal Historic Preservation Officers (THPOs) and Applicant;
 - b) Make reasonable efforts to identify participating landowners who may be willing to work with the tribes on site preservation, accessibility, and protection of TCPs on their property;
 - c) Conduct site revisits prior to construction;
 - d) Help facilitate post-construction site revisits for tribes with the landowners; and
 - e) Identify and implement education/interpretation opportunities regarding tribal resource preservation and/or Native American perspectives which may include sensitivity training when needed.
38. For purposes of this Project and the commitments herein, “residences,” “business(es),” “structures,” “schools,” “churches,” “cemeteries,” and “public buildings” shall include only those that are in existence and in use as of the date of the Commission’s order issuing a permit.

39. The terms and conditions of the Permit shall be made a uniform condition of construction and operation, subject only to an affirmative written request for an exemption addressed to the Commission. A request for an exemption shall clearly state which particular condition should not be applied to the property in question and the reason for the requested exemption. The Commission shall evaluate such requests on a case-by-case basis, which evaluation shall be completed within 60 days unless exigent circumstances require action sooner.
40. Applicant shall provide a copy of the Commission's Final Decision and Order Granting Permit to Construct Facility; Notice of Entry and attached Permit Conditions in this docket to the affected county, townships, and municipalities in the Project Area.
41. At least 30 days prior to the commencement of construction work in the field for the Project, Applicant will provide to Commission staff the following information:
 - a) the most current preconstruction design, layout, and plans, including the turbine model selected;
 - b) a sound level analysis showing compliance with the applicable sound level requirements;
 - c) a shadow flicker analysis showing the anticipated shadow flicker levels will not exceed applicable requirements per year at any residence, absent a waiver agreement executed by the residence owner(s);
 - d) should Applicant decide at a later point to use a different turbine model, it shall provide the information required in parts a-c above. Applicant shall also demonstrate that in selecting locations for the other turbines, it considered how to reduce impacts on non-participating landowners; and
 - e) additional Project preconstruction information as Commission staff requests.
42. At least 30 days prior to commencement of construction, Applicant shall submit the identity and qualifications of a public liaison officer to the Commission for approval to facilitate the exchange of information between Applicant, including its contractors, landowners, local communities, and residents, and to facilitate prompt resolution of complaints and problems that may develop for landowners, local communities, and residents as a result of the Project. Applicant shall file with the Commission its proposed public liaison officer's credentials for approval by the Commission prior to the commencement of construction. After the public liaison officer has been approved by the Commission, the public liaison officer may not be removed by Applicant without the approval of the Commission. The public liaison officer shall be afforded immediate access to Applicant's on-site Project manager, its executive Project manager, and to the contractors' on-site managers and shall be available at all times to Commission staff via mobile phone to respond to complaints and concerns communicated to the Commission staff by concerned landowners and others. Within 10 working days of when Applicant's public liaison officer has been appointed and approved, Applicant shall provide contact information for him/her to all landowners in the Project Area and to law enforcement agencies and local governments in the vicinity of the Project. The public liaison officer's contact information shall be provided to landowners in each subsequent written communication with them. If the Commission determines that the public liaison officer has not been adequately performing the duties set forth for the position in this Order, the Commission may, upon notice to Applicant and the public liaison officer, take action to

remove the public liaison officer. The public liaison's services shall terminate 90 days after the Project commences commercial operations, unless the appointment is extended by order of the Commission.

43. Prior to the construction of the Project, Applicant will notify public safety agencies by providing a schedule and the location of work to be performed within their jurisdiction. The agencies contacted will include the South Dakota Department of Public Safety, the sheriffs of Codington County and Grant County, and the Codington County and Grant County Offices of Emergency Management.
44. Within 90 days after the Project's commercial operation date, Applicant shall submit a report to the Commission that provides the following information:
 - a) as-built location of structures and facilities, including drawings clearly showing compliance with the setbacks required by state and local governments set forth in Table 13.1.2 of the Application;
 - b) ArcGIS shapefiles of the final turbine and facility layout;
 - c) the status of remedial activities for road damage, landowner property damage, crop damage, environmental damage, or any other damage resulting from Project construction activities; and,
 - d) a summary of known landowner complaints and Applicant's plan for resolving those complaints.
45. Applicant will undertake a minimum of two years of independently-conducted post-construction grouse lek monitoring of known leks that are located less than 1 mile from a wind turbine. Known leks are SDGFP confirmed lek locations and leks documented during any wildlife surveys conducted by Applicant for Project development. Applicant shall file with the Commission its proposed independent third-party's credentials and survey methodology for approval by the Commission 60 days prior to the commencement of Project operation. The study shall be conducted on the ground. Applicant shall consult with SDGFP and USFWS on the proposed survey methodology for the post-construction lek monitoring. Results of the post-construction lek monitoring shall be reported to the SDGFP and USFWS after the first year of monitoring and a final report should be compiled and submitted to the SDGFP and USFWS at the end of the second year of monitoring. Within 90 days of the issuance of this Final Order, Applicant and Staff shall work together to develop a mitigation plan that will be incorporated into Applicant's Wildlife Conservation Strategy in case impacts to prairie grouse leks are found.