

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

**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**

EL 17-055

**CROCKER WIND FARM, LLC'S
PROPOSED FINDINGS OF FACT,
CONCLUSIONS OF LAW AND ORDER**

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APPEARANCES

Commissioners Kristie Fiegen, Gary Hanson, and Chris Nelson.

Mollie Smith and Lisa Agrimonti, Fredrikson & Byron, P.A., 200 South Sixth Street, Minneapolis, Minnesota 55402, and Brett Koenecke, May, Adam, Gerdes & Thompson LLP, 503 South Pierre Street, P.O. Box 160, Pierre, South Dakota 57501, appeared on behalf of the Applicant, Crocker Wind Farm, LLC.

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

Reece Almond, Davenport, Evans, Hurwitz & Smith, LLP, 206 West 14th Street, Sioux Falls, South Dakota, 57101, appeared on behalf of Intervenors Shad Stevens and Gale Paulson.

PROCEDURAL HISTORY

On December 15, 2017, Crocker Wind Farm, LLC (“Applicant” or “Crocker”) filed with the South Dakota Public Utilities Commission (“Commission”) an Application for Energy Facility Permits (“Application”) for the Crocker Wind Farm and a 345 kilovolt (“kV”) transmission line (collectively, the “Project”). The Project includes a wind energy facility located on approximately 29,331 acres of privately owned land in Clark County, South Dakota, approximately 8 miles north of Clark, South Dakota. The proposed Project includes up to 120 wind turbines, associated access roads, a new collector substation, an operations and maintenance facility, permanent meteorological towers, and an associated approximately 5.2-mile 345 kV transmission line in Clark County, South Dakota. The transmission line will extend from the Project substation in Section 30 of Township 119N, Range 58W to the point-of-interconnect, which is located approximately 2 miles north of the town of Crocker in Section 9 of Township 119N, Range 58W.

On December 15, 2017, Crocker filed the pre-filed direct testimony of Brie Anderson, Barry Fladeboe, Rob Copouls, Eddie Duncan, Elizabeth Engelking, Michael Morris, and Mark Thayer.

On December 20, 2017, the Commission issued a Notice of Application, Order For and Notice of Public Input Hearing, and Notice of Opportunity to Apply For Party Status (“Order”). The Order scheduled a public input hearing for February 5, 2018 at 5:00 p.m., at Clark American Legion Hall, 103 North Commercial Street, Clark, South Dakota. The Order also set an intervention deadline of February 13, 2018. On December 21, 2017, the Commission served the Order on the governing bodies of all counties and municipalities in the Project Area, and notices of the public hearing were published in Project area newspapers as provided in SDCL 49-41B-5.2. On December 27, 2017, Applicants mailed a copy of the public hearing notice via certified mail to all landowners within a half mile of the Project. Applicant also published notice of the public hearing in the *Clark County Courier* and the *Watertown Public Opinion* on January 10, 2018 and January 31, 2018. On January 4, 2018, the Commission issued an Order Assessing Filing Fee assessing a filing fee not to exceed \$500,000 with a minimum filing fee of \$8,000.

On February 5, 2018, the public input hearing was held as scheduled.

On February 9, 2018, Crocker filed additional information requested by Commissioner Nelson regarding the height and marking of the Project’s permanent meteorological towers.

On February 9, 2018, an Application for Party Status was submitted by a law firm representing 64 individuals, each seeking party status. On February 21, 2018, Crocker filed a Response to Application for Party Status and Motion for Procedural and Scheduling Orders. On February 26, 2018, the Commission issued a procedural schedule and granted party status to the 64 individuals. On March 28, 2018, 62 individuals moved to withdraw their party status. On April 9, 2018, the Commission issued an Order Granting Withdrawal of Party Status for the 62 persons requesting withdrawal, leaving only Shad Stevens and Gale Paulson as remaining intervenors (“Intervenors”).

On March 21, 2018, Crocker filed updated pre-filed testimony of Elizabeth Engelking. On March 23, 2018, Crocker filed the stipulation and order for dismissal of Crocker’s action against the Clark County Commission and Clark County Board of Adjustment.

On March 28, 2018, Intervenors Gale Paulson and Shad Stevens filed pre-filed testimony. Also on March 28, 2018, South Dakota Public Utilities Commission Staff (“Staff”) filed the pre-filed rebuttal testimony of Darren Kearney, Paige Olson, Tom Kirschenmann, David Hessler, and David Lawrence.

On April 11, 2018, the Commission issued an Order For and Notice of Evidentiary Hearing, scheduling an evidentiary hearing for May 9-11, 2018 in the Matthew Training Center, Foss Building, 523 East Capitol Avenue, Pierre, South Dakota.

On April 13, 2018, Crocker filed the pre-filed rebuttal testimony of Melissa Schmit, Eddie Duncan, Michael Morris, Brie Anderson, Joyce Pickle, Adam Holven, Mike MaRous, Jody Obermeier, and Wendy Christman. On April 17, 2018, Crocker filed a corrected exhibit to the pre-filed rebuttal testimony of Joyce Pickle.

On May 2, 2018, Staff filed the pre-filed surrebuttal testimony of David Lawrence. On May 10, 2018, Crocker filed the pre-filed sur-surrebuttal testimony of Mike MaRous.

On May 2, 2018, Staff filed its witness and exhibit lists and exhibits for hearing. Intervenor also filed their witness and exhibit lists and exhibits for hearing. Crocker also filed its witness and exhibit lists and exhibits for hearing on May 2, 2018, and filed an updated exhibit list on May 7, 2018.

On May 4, 2018, Crocker filed a Motion to Exclude certain proposed hearing exhibits of Intervenor. On May 7, 2018, Staff filed a response to Crocker's Motion to Exclude. On May 9, 2018, Crocker withdrew its Motion to Exclude.

The evidentiary hearing was held as scheduled before the Commission on May 9, 10, and 11, 2018 in Pierre, South Dakota.

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 Order:

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. Crocker Wind Farm, LLC, is a wholly owned subsidiary of Geronimo Energy, LLC ("Geronimo").¹ Crocker will be the sole owner and operator of the Project.²

3. Geronimo is a North American utility-scale renewable energy development company headquartered in Edina, Minnesota and is a privately held Delaware limited liability company. At the time of the Application, approximately 1,400 megawatts ("MW") of wind projects and 200 MW of solar projects developed by Geronimo were either currently under construction or operational. Geronimo has a multi-gigawatt development pipeline of wind and solar projects in various stages of development throughout the United States.³

4. Gale Paulson is a landowner near the Project.⁴

5. Shad Stevens is a landowner near the Project.⁵

6. Staff fully participated as a party in this matter, in accordance with SDCL 49-41B-17(1).

¹ Ex. A1 at 1.

² Ex. A1 at 3.

³ Ex. A1 at 1.

⁴ Evid. Hrg. Tr. (May 10, 2018) at 483 (Paulson).

⁵ Evid. Hrg. Tr. (May 10, 2018) at 498 (Stevens).

III. PROJECT DESCRIPTION.

7. The proposed Project is an up to 400 MW wind energy conversation facility (“Wind Farm Facility”) and an associated 345 kV transmission facility (“Transmission Facility”) located in Clark County, South Dakota (collectively, the “Project”). The Wind Farm Facility includes up to 120 wind turbines,⁶ up to 4 meteorological towers, associated access roads, improvements to existing public and private roads, temporary crane paths, temporary laydown/staging area, an operations and maintenance (“O&M”) facility, collector and communication systems, and a new Project electrical substation. The Transmission Facility includes a 345-kV transmission line, temporary staging area, temporary access roads, and a switchyard with permanent access road.⁷ The Project would generate up to 400 MW.⁸

8. The turbines Crocker is considering for the Project span the energy production range of 2.0 MW to 4.0 MW. Crocker will identify a specific turbine model prior to construction. Any turbine model selected will utilize the turbine locations specified in the Application, and will meet all applicable local, state, and federal requirements and commitments.⁹

9. The 5.2 miles of overhead transmission line will extend from the Project substation in Section 30 of Township 119N, Range 58W to the switchyard, which is located approximately 2 miles north of the town of Crocker in Section 9 of Township 119N, Range 58W, in Clark County, South Dakota. At the switchyard, the power will transfer to the Basin Electric Groton-to-Watertown 345 kV transmission line, part of the Southwest Power Pool, Inc. (“SPP”)/Western Area Power Administration (“Western”) transmission line portfolio.¹⁰

10. The Project is located on approximately 29,331 acres of privately owned land in Clark County, South Dakota (“Project Area”), approximately 8 miles north of Clark, South Dakota.¹¹

11. The total installed capital costs for the Wind Farm Facility are estimated to be approximately \$1.5 million per MW with project cost depending on project size and other variables, including wind turbine selection, associated electrical and communication systems, and access roads. Ongoing operations and maintenance costs and administrative costs are estimated to be approximately \$13 to \$14 million per year when including direct landowner agreement payments and annual capacity and production taxes due for the wind farm.¹²

12. The total installed capital costs for the Transmission Facility are estimated to be approximately \$5 million. Ongoing operations and maintenance costs and administrative costs are estimated to be approximately \$100,000 per year, including payments to landowners for easement rights.¹³

⁶ Ex. A1 at 20.

⁷ Ex. A1 at 1; Ex. A5 at 3-4.

⁸ Ex. A1 at 13.

⁹ Ex. A1 at 20.

¹⁰ Ex. A1 at 1.

¹¹ Ex. A1 at 1.

¹² Ex. A1 at 18.

¹³ Ex. A1 at 18.

13. Crocker presented evidence of consumer demand and need for the Project.¹⁴ The Project would install up to 400 MW of wind generating capacity in South Dakota that would contribute to satisfying utilities', commercial and industrial customers', and consumers' demands for renewable energy, and meet utility renewable requirements or individual sustainability goals.¹⁵

14. Crocker recently executed a Power Purchase Agreement ("PPA") for 150 MW of the Project's output.¹⁶ In addition, at the time of hearing, Crocker was in the final stages of active discussions for an additional 50 MW with another large commercial entity, but had not yet executed an offtake agreement. This agreement is anticipated to be finalized by the end of the Second Quarter or beginning of the Third Quarter of 2018, which would bring the total output under contract to 200 MW.¹⁷ Crocker continues to market the second up to 200 MW.¹⁸

15. Because 200 MW of the Project currently has or is expected to shortly have offtake agreements with large commercial entities, Crocker plans to construct 200 MW of the up to 400 MW Project as soon as all requisite permits and approvals have been secured.¹⁹ Construction of the remaining up to 200 MW of the Project will be dependent on the final turbine model selected for the initial 200 MW constructed, and securing additional offtake agreements.

16. Regardless of the timing of construction, all turbines will be constructed within the Project Area consistent with the configuration presented in the Application, and subject to all commitments, conditions, and requirements of this Order.²⁰

17. Crocker provided evidence to support the need for turbine and associated facility flexibility.²¹ With respect to turbine flexibility, Crocker and Staff agreed to the turbine flexibility and "material change" provisions set forth in Condition 23, attached hereto. With respect to the access roads, collector system, and temporary facilities, Crocker requested the ability to shift those facilities, as needed, so long as they are located on leased land, cultural resources are avoided, sensitive species habitat is avoided, wetland impacts are avoided to the extent practicable, and all other applicable regulations and requirements are met.²² Crocker and Staff agreed to Condition 24, attached hereto.

18. With respect to the Transmission Facility, Crocker requested the ability to shift structures so long as they remain within the easement acquired, impacts to cultural resources and sensitive habitat are avoided, and wetland impacts are avoided to the extent practicable. For "material changes," the review process outlined for "material changes" to turbine locations

¹⁴ See Ex. A1 at Ch. 2.0; *see also* Ex. A4B.

¹⁵ Ex. A1 at 1, 13; *see also* Ex. A4B at 4-5.

¹⁶ Ex. A4B at 5; Evid. Hrg. Tr. (May 9, 2018) at 17 (Engelking).

¹⁷ Ex. A4B at 5; Evid. Hrg. Tr. (May 9, 2018) at 17-19 (Engelking).

¹⁸ Evid. Hrg. Tr. (May 9, 2018) at 19 (Engelking).

¹⁹ Ex. A4B at 5; *see also* Ex. A1 at Ch. 6.0.

²⁰ Ex. A1 at 19, 46.

²¹ See Ex. A15 at 7-9; *see also* Ex. A15-7; Ex. A1 at 19-20.

²² Ex. A1 at 20; *see also* Crocker's Recommended Permit Condition 24.

would apply.²³ With respect to the Transmission Facility, Crocker and Staff agreed to Condition 25, attached hereto.

19. The record demonstrates that Crocker has made appropriate and reasonable plans for decommissioning.²⁴ With respect to financial security for decommissioning, Crocker and Staff agreed to Condition 39, which is attached hereto.

20. The record demonstrates that Crocker has provided adequate information on potential cumulative impacts and that the Project will not have a significant impact.²⁵

IV. FACTORS FOR AN ENERGY FACILITY PERMIT.

21. Under the SDCL 49-41B-22, the Commission must find:

(1) The proposed facility will comply with all applicable laws and rules;

(2) 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;

(3) The facility will not substantially impair the health, safety or welfare of the inhabitants; and

(4) 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.

22. In addition, 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.

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

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

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

24. The evidence submitted by Crocker demonstrates that the Project will comply with applicable laws and rules.²⁶ Neither Staff nor Intervenors have asserted otherwise or submitted evidence to the contrary.

²³ Ex. A1 at 26; *see also* Crocker's Recommended Permit Condition 25.

²⁴ Ex. A1 at Ch. 5.0.

²⁵ *See* Ex. A1 at Ch. 9.0; *see also* Evid. Hrg. Tr. (May 11, 2018) at 660 (Kearney).

²⁶ *See, e.g.*, Ex. A1 at 46-47 and Ch. 8.0 and 9.0.

25. Construction of the Project meets all of the requirements of Chapter 49-41B.

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.

26. The evidence demonstrates that the Project does not pose a threat of serious injury to the environment in the Project Area, and that Crocker has adopted reasonable avoidance and minimization measures, as well as commitments, to further limit potential environmental impacts.

27. Construction of the Project would result in negligible impacts on geological resources.²⁷ The risk of seismic activity in the vicinity of the Project Area is extremely low to negligible, according to data from the U.S. Geological Survey (“USGS”).²⁸

28. Crocker has demonstrated that it will minimize and/or avoid impacts to soil resources.²⁹ The majority of impacts will be temporary and related to construction activities. Permanent impacts associated with aboveground facilities will be up to 157 acres, which is less than one percent of the Project Area. Crocker will implement various best management practices (“BMPs”) during construction and restoration to minimize impacts to the physical environment, including separating topsoil and subsoil, installing temporary erosion control devices, and decompacting soil after construction is complete.³⁰

29. The Project is not anticipated to have material impacts on existing air and water quality.³¹

30. Crocker has demonstrated that it will minimize and/or avoid impacts to hydrology.³² The record demonstrates that Crocker has minimized impacts to wetlands and wetland basins.³³ The Project is not anticipated to have long-term impacts on groundwater resources.³⁴ Any potential impacts to floodplains would be temporary in nature, and existing contours and elevations would be restored upon Project completion.³⁵ Project impacts on hydrologic resources are anticipated to be temporary and/or minor. The Project is anticipated to permanently impact only approximately 0.2 acres of wetlands and will avoid permanent impacts to USFWS wetland basins.³⁶

²⁷ See Ex. A1 at 51 and § 9.1.1.

²⁸ Ex. A11 at 5.

²⁹ See Ex. A1 at § 9.1.2.

³⁰ Ex. A11 at 6.

³¹ See Ex. A1 at §§ 9.2 and 9.6.

³² See Ex. A1 at § 9.2.

³³ See Ex. A1 at 67 and § 9.2.

³⁴ See Ex. A1 at 62-63 and § 9.2.2.

³⁵ See Ex. A1 at 66.

³⁶ Ex. A11 at 7; see also Evid. Hrg. Tr. (May 9, 2018) at 182-83 (Anderson).

31. Crocker has demonstrated that it will minimize and/or avoid impacts to vegetation.³⁷ Permanent impacts associated with aboveground facilities would be up to 157 acres, which is less than one percent of the Project Area.³⁸ Overall, 80 percent of the Project's construction and operations-related impacts would occur in vegetation types that have experienced prior disturbance or alteration.³⁹

32. Crocker has worked with the U.S. Fish and Wildlife Service ("USFWS") and the South Dakota Game Fish and Parks Department ("GFP") to redesign the site layout to avoid impacts to high quality prairie communities, and to realign linear corridors, such as the access roads, collector system, crane pathways, and transmission line, to follow existing disturbed corridors (e.g., roads, transmission lines, fence rows) in an effort to reduce fragmentation. In response to input from USFWS and GFP, Crocker shifted turbines closer to the edges of potentially undisturbed grassland ("PUDL") to minimize the associated access road lengths, and sited access roads to avoid and minimize fragmentation.⁴⁰ The Project will not permanently impact high quality PUDL and will temporarily impact only 0.1 acres of high quality PUDL.⁴¹ The record demonstrates that the Project will not have a significant or negative impact on habitat, and will not substantially increase habitat fragmentation in the area.⁴²

33. Crocker will restore areas of disturbed soil using weed-free native grasses, forbs, and shrubs, in consultation with landowners, land managers, and appropriate agencies.⁴³

34. Crocker has demonstrated that it will minimize and/or avoid impacts to wildlife.⁴⁴ Crocker consulted with the USFWS and GFP to identify which species and/or habitat surveys were needed and to design the survey protocols, in accordance with the USFWS Land-Based Wind Energy Guidelines ("WEG") (USFWS, 2012).⁴⁵ Crocker conducted habitat assessments that informed the turbine siting process to minimize impacts to quality habitats. Turbines will not be sited in the Game Production Areas ("GPAs") or Waterfowl Productions Areas ("WPAs"). In addition, Crocker has implemented or will implement appropriate measures to avoid or minimize potential impacts to wildlife in the Project Area during Project construction, operation, and decommissioning.⁴⁶

35. Crocker has conducted numerous wildlife studies and surveys for the Project to assess existing use, identify potential impacts, and incorporate appropriate avoidance and minimization measures.⁴⁷ In addition, Crocker has prepared a Bird and Bat Conservation

³⁷ See Ex. A1 at § 9.3.1.

³⁸ Ex. A1 at 27.

³⁹ Ex. A1 at 70.

⁴⁰ See Ex. A12 at 3, 6; Ex. A11 at 4; Ex. A1 at 72.

⁴¹ Ex. A12 at 3; *see also* Ex. A12-1 and Ex. A12-2; Ex. A1 at Table 9-11.

⁴² Ex. A12 at 4.

⁴³ Ex. A1 at 73.

⁴⁴ See Ex. A1 at §§ 9.3.2, 9.3.3, 9.3.4.

⁴⁵ Ex. A1 at 74.

⁴⁶ See Ex. A1 at 83-85.

⁴⁷ See Ex. A1 at § 9.3.2 and Ex. A13, Ex. A13-2, Ex. A13-3, Ex. A13-4, Ex. A13-5, Ex. A13-6, Ex. A13-7, Ex. A13-8, Ex. A13-9, Ex. A13-10, Ex. A13-11.

Strategy (“BBCS”), which includes strategies for mitigating risks to birds and bats during construction and operation of the Project.⁴⁸

36. Construction of the Project may have impacts on wildlife species primarily as a result of habitat disturbance. However, following construction, all temporary construction workspaces will be reseeded, except for actively cultivated croplands, unless approved in writing by the landowner. Wildlife may avoid areas during Project construction, but it is anticipated that displaced wildlife would return to these areas following restoration.⁴⁹ Some grassland bird species may avoid habitat around wind turbines; however, these species would be expected to move to adjacent grassland areas (which exist both within and adjacent to the Project Area) during the breeding season.⁵⁰

37. The record demonstrates that, while the Project may directly impact birds and bats, avian fatalities due to the Project are anticipated to be localized and to not have population level impacts.⁵¹ Bat activity at Crocker was lower than the average rate of bat activity at most Midwest projects, and bat impacts are expected to be low.⁵²

38. Crocker conducted three years of pre-construction avian surveys.⁵³ Those surveys indicate that avian impacts from the Project will be similar to other wind projects in Minnesota and South Dakota.⁵⁴ Applicable studies have shown little impact on waterfowl behavior as a result of wind projects.⁵⁵ Further, the record demonstrates that just because an area may have high avian use, it does not necessarily follow that a wind project would result in high avian mortality.⁵⁶ Further, Crocker has committed to two years of post-construction avian mortality monitoring and has developed a BBCS.⁵⁷ The BBCS was developed consistent with the USFWS Land-Based WEG and contains detailed discussions of minimization measures that will be used to limit impacts to avian and bat species during construction and operation of the Project. If the results of the post-construction mortality monitoring show unexpectedly high avian impacts, Crocker has committed to coordinating with applicable agencies to determine what additional mitigation or operational changes are appropriate.⁵⁸

39. Crocker has demonstrated that it will minimize and/or avoid impacts to federally- and state-listed species.⁵⁹ No designated critical habitat for federally-listed species is present within the Project Area.⁶⁰ Impacts on Federally threatened and endangered species due to Project

⁴⁸ Ex. A13 at 2-3 and Ex. A13-2, Ex. A13-3, Ex. A13-4, Ex. A13-5, Ex. A13-6, Ex. A13-7, Ex. A13-8, Ex. A13-9, Ex. A13-10, Ex. A13-11.

⁴⁹ Ex. A11 at 9.

⁵⁰ Ex. A13 at 7.

⁵¹ Ex. A11 at 9-10.

⁵² Ex. A11 at 9-10.

⁵³ See Ex. A13 at 3-4.

⁵⁴ Ex. A13-11 at 31.

⁵⁵ See Ex. A13 at 7-8; Evid. Hrg. Tr. (May 10, 2018) at 300-303 (Pickle).

⁵⁶ See Ex. A13 at 7-8.

⁵⁷ See Evid. Hrg. Tr. (May 10, 2018) at 294 and 328-333 (Pickle); Ex. A13-11 at 39; and Crocker’s Recommended Permit Condition 37.

⁵⁸ See Ex. A13-11 at 39-40.

⁵⁹ See Ex. A1 at § 9.3.3.

⁶⁰ Ex. A11 at 8.

construction and operations are anticipated to be minimal due to the low likelihood or frequency of species presence in the Project Area and implementation of appropriate species-specific conservation measures.⁶¹ No State-listed species have been documented in the Project Area.⁶²

40. Overall, there is a low level of risk for potential bald eagle impacts at the site. Crocker conducted eagle nest surveys within and within ten miles of the Project Area during multiple years.⁶³ No eagle nests were identified within the Project Area, and the closest eagle nest is approximately 2.2 miles from the Project Area.⁶⁴ In addition, Crocker has committed to implementing a number of avian-related monitoring and mitigation measures, including: conducting post-construction avian mortality monitoring for at least two years; utilizing an Aircraft Detection Lighting System (“ADLS”) in which unnecessary lighting will be turned off at night; and following applicable USFWS Land-Based WEG lighting guidelines.⁶⁵

41. Crocker has demonstrated that it will minimize and/or avoid impacts to aquatic ecosystems.⁶⁶ No federally-listed aquatic species are present in the Project Area, and the Project is not anticipated to have long-term impacts to aquatic ecosystems.⁶⁷

42. Crocker has demonstrated that it will minimize and/or avoid impacts to land use.⁶⁸ All Project impacts are on private land; the Project will not impact any publicly owned land.⁶⁹ The Project will not displace existing residences or businesses. With the exception of permanent above-ground facilities, the land impacted during construction will be restored and could return to its prior agricultural use. Crocker will work with landowners and employ various BMPs to avoid and/or minimize disruption to agricultural operations.⁷⁰

43. Crocker has demonstrated that it will minimize and/or avoid impacts to recreation.⁷¹ The Project will avoid direct impacts to all GPAs, WPAs, Reid Lake State Waterfowl Refuge, and School and Public Lands. There is one turbine and associated access road and collector line proposed on the Walk-In Area (“WIA”) parcel located in the northern portion of the Project Area. Access on this parcel would be temporarily restricted during construction; however no long-term impacts to use are expected.⁷²

44. Intervenor Gale Paulson proposed a three-mile setback from Reid Lake.⁷³ Neither GFP nor USFWS have supported such a setback. Further, Mr. Paulson did not present any evidence in support of the three-mile setback,⁷⁴ and did not request a three-mile setback from

⁶¹ See Ex. A1 at § 9.3.3.2.

⁶² See Ex. A1 at § 9.3.4.3.

⁶³ See Ex. A13 at 3-4, 7; Ex. A1 at 77; *see also* Evid. Hrg. Tr. (May 10, 2018) at 326-327 (Pickle).

⁶⁴ See Evid. Hrg. Tr. (May 10, 2018) at 274 (Pickle); Ex. A1 at 77.

⁶⁵ Ex. A11 at 9; Ex. A1 at §§ 9.3.2.2 and 9.3.2.3.

⁶⁶ See Ex. A1 at § 9.4.

⁶⁷ Ex. A11 at 8.

⁶⁸ See Ex. A1 at § 9.5.1.

⁶⁹ Ex. A1 at 94.

⁷⁰ Ex. A11 at 5 and Ex. A1 at §§ 9.5.1.2 and 9.5.1.3; Ex. A1 at 141.

⁷¹ See Ex. A1 at § 9.5.2.

⁷² See Ex. A1 at § 9.5.2.2.

⁷³ Ex. I-53 at line 134.

⁷⁴ See Evid. Hrg. Tr. (May 10, 2018) at 496 (Paulson).

Clark County during the conditional use permit process for the Project.⁷⁵ Nothing in the record supports Mr. Paulson's proposed three-mile setback from Reid Lake.

45. Crocker has demonstrated that it will minimize and/or avoid impacts to conservation easements.⁷⁶ Crocker proposes to construct and operate some of the facilities on USFWS easement land. Therefore, the USFWS prepared a Draft Environmental Assessment ("EA") for the Project in accordance with the applicable requirements and standards of the National Environmental Policy Act ("NEPA").⁷⁷ The Project avoids permanent impacts to USFWS wetland basins.⁷⁸ There are 14 turbines and associated access roads sited on USFWS grassland easements.⁷⁹ The Project will permanently impact 15.1 acres, which is less than one percent of the grassland easements in the Project Area.⁸⁰ USFWS must approve use of USFWS grassland easement areas for wind farm facilities and has a policy requiring 1:1 mitigation for acres permanently impacted. Crocker has voluntarily agreed to 2:1 mitigation for federal easement grasslands.⁸¹

46. The record does not support a permit condition requiring Crocker to make compensatory mitigation for potential impacts to undisturbed grasslands. No evidence was introduced to support such a permit condition. As Staff witness Mr. Kirschenmann testified, South Dakota does not have such a policy and GFP has not endorsed any particular method for calculating such impacts. The land at issue is private property where GFP does not have a property interest.⁸² Participating landowners voiced their support for the Project and asserted their right to use their private property as they see fit. For example, Ms. Obermeier testified that the turbine on her property will be sited on grasslands.⁸³

47. Crocker has made a voluntary commitment to donate \$25,000 to a third-party for conservation efforts in the Project Area.⁸⁴

48. Crocker has demonstrated that it will minimize and/or avoid impacts to visual resources.⁸⁵ For example, consistent with the South Dakota Bat Working Group's and GFP's Siting Guidelines for Wind Power Projects in South Dakota for reducing impacts to visual resources, Crocker has collocated linear Project features such as access roads, crane paths, and collector and communication systems with existing disturbances to the extent practicable.⁸⁶ Due to the presence of existing wind farms in the vicinity of the Project Area, significant adverse

⁷⁵ Evid. Hrg. Tr. (May 10, 2018) at 492 (Paulson).

⁷⁶ See Ex. A1 at § 9.5.3.

⁷⁷ See Ex. A1 at 99.

⁷⁸ See Ex. A1 at 99.

⁷⁹ See Ex. A1 at 99.

⁸⁰ See Ex. A1 at 99-100.

⁸¹ See Ex. A11 at 13 and Ex. A15 at 7 and Ex. A12 at 4.

⁸² Evid. Hrg. Tr. (May 10, 2018) at 533-534 (Kirschenmann).

⁸³ Evid. Hrg. Tr. (May 10, 2018) at 461-462 (Obermeier).

⁸⁴ Evid. Hrg. Tr. (May 10, 2018) at 394 (Schmit).

⁸⁵ See Ex. A1 at § 9.5.5.

⁸⁶ See Ex. A1 at 105.

impacts to visual resources are not anticipated.⁸⁷ Additionally, Crocker will install and use ADLS, thereby reducing visual impacts.⁸⁸

49. With respect to cultural and historical architectural resources, Ms. Olson made three recommendations. First, she recommended that an official record search be conducted for the Project. Crocker satisfied this recommendation when it conducted the Level I cultural resource file search in October 2016 and updated in April 2018.⁸⁹ Second, SHPO recommended that a Level III Intensive Survey be completed for the Project Area. As of the evidentiary hearing, Crocker had completed a Level III Intensive Survey of nearly all areas to be impacted by construction of the Project, including both areas of temporary and permanent impacts.⁹⁰ As of the evidentiary hearing, only a small portion remained to be surveyed, as Crocker was asked to delay survey until spring calving was complete.⁹¹ That survey will be completed once landowner clearance is given.⁹² Third, SHPO recommended that Crocker analyze the visual effects to architectural resources located within one mile of the Project, which Crocker completed. Crocker used a recent Clark County survey to identify structures and assess potential impacts. SHPO recommended that a one-mile buffer from proposed turbines be used to assess impacts; Crocker also included a one-mile buffer around the proposed permanent meteorological towers.⁹³

50. Where Crocker determined that additional investigation (beyond pedestrian surveys) should be conducted to assess the presence or absence of archaeological materials, Crocker has conducted or will conduct shovel testing. Crocker is conducting shovel tests throughout the Project Area, as appropriate, to identify and avoid cultural resources. Crocker anticipates that shovel testing will be completed in early summer 2018.⁹⁴

51. Crocker has demonstrated that it will minimize and/or avoid impacts to cultural resources.⁹⁵ Crocker conducted multiple cultural resource surveys to identified cultural resources within the Project Area.⁹⁶ Crocker has committed to avoiding cultural resources with Project infrastructure.⁹⁷ Further, consistent with best practices, Crocker is developing an Unanticipated Discoveries Plan that will govern the process for addressing any additional resources encountered during construction.⁹⁸

52. Ms. Olson also recommended that Tribal Historic Preservation Officers (“THPOs”) in South Dakota be contacted. Tribal consultation is being conducted by USFWS as part of its obligation under Section 106 of the National Historic Preservation Act (“NHPA”) in connection with the USFWS easement exchange process. Section 106 includes a specified

⁸⁷ See Ex. A1 at 105.

⁸⁸ Evid. Hrg. Tr. (May 9, 2018) at 27 (Engelking), 98-99 (Fladeboe).

⁸⁹ Ex. A14 at 5.

⁹⁰ Evid. Hrg. Tr. (May 10, 2018) at 352 (Holven).

⁹¹ Evid. Hrg. Tr. (May 10, 2018) at 352 (Holven).

⁹² Evid. Hrg. Tr. (May 10, 2018) at 352 (Holven); *see also* Ex. A14 at 2.

⁹³ Ex. A14 at 6.

⁹⁴ Ex. A14 at 3.

⁹⁵ See Ex. A1 at § 9.7.4.

⁹⁶ See Ex. A1 at § 9.7.4; Ex. A11 at 11-12; Ex. A14 at 2-3.

⁹⁷ Ex. A14 at 5; Ex. A1 at 128.

⁹⁸ Ex. A14 at 5.

process for consultation, identification of resources, and treatment of those resources, and a mechanism for resolving any disputes concerning identification and treatment.⁹⁹ Neither the SHPO nor Crocker can consult directly with the tribes in the Section 106 process unless there is an agreement between the USFWS and the tribe delegating USFWS's consultation authority to another party.¹⁰⁰ Unlike the federal Section 106 process, there is no State-level requirement for tribal consultation, and no state-level process for tribal consultation.¹⁰¹

53. Staff and Crocker have agreed upon Conditions 12 through 14 regarding cultural resources, which are attached.¹⁰²

2. Social and Economic.

54. Crocker initially identified a site in Clark County for development of the Project because a group of local landowners contacted Geronimo regarding potentially developing a wind energy facility on their land. The identification of the Project Area was primarily driven by: (1) the robustness of the available wind energy resource; (2) ready access to transmission interconnection; (3) land use and environmental compatibility with wind development; and (4) landowner support for wind energy development.¹⁰³

55. Participating landowners, Ms. Obermeier and Ms. Christman, testified regarding their support for the Project.¹⁰⁴ The Project will provide an additional stable source of income and a way for landowners to maximize the use of their land.¹⁰⁵ Ms. Obermeier and Ms. Christman also testified to their good working relationships with Crocker and their belief that Crocker has shown "a commitment not only to the landowners, but to the community as well."¹⁰⁶

56. The Project will also benefit local organizations in the community through the Project's community fund.¹⁰⁷ Crocker will create an independently directed community fund and provide that fund with \$200 per MW installed capacity per year for 20 years.¹⁰⁸

57. Crocker has demonstrated that construction and operation of the Project will result in substantial benefits to South Dakota and local economies.¹⁰⁹ The Project will create temporary job opportunities during construction, and permanent operations and maintenance job opportunities.¹¹⁰ Additionally, local expenditures are anticipated to be made for equipment, fuel, operating supplies, and other products and services, which will benefit area businesses.¹¹¹

⁹⁹ Ex. A14 at 7.

¹⁰⁰ Evid. Hrg. Tr. (May 10, 2018) at 514-515 (Olson).

¹⁰¹ Evid. Hrg. Tr. (May 10, 2018) at 516 (Olson).

¹⁰² Crocker's Recommended Permit Conditions 12 through 14.

¹⁰³ Ex. A5 at 5; *see also* Ex. A1 at Ch. 7.0.

¹⁰⁴ *See* Ex. A17 and Ex. A18; *see also* Evid. Hrg. Tr. (May 10, 2018) at 452-460 (Christman); Evid. Hrg. Tr. (May 10, 2018) at 460-465 (Obermeier).

¹⁰⁵ Ex. A17 at 2; Ex. A18 at 3.

¹⁰⁶ Ex. A18 at 2; *see also* Ex. A17 at 2.

¹⁰⁷ Ex. A17 at 3.

¹⁰⁸ Ex. A1 at 16.

¹⁰⁹ *See* Ex. A1 at §§ 9.7.1.2.

¹¹⁰ Ex. A6 at 8.

¹¹¹ Ex. A5 at 13.

The Project will provide participating landowners with lease payments, and will provide long-term benefits to the state and local tax base.¹¹²

58. Crocker has demonstrated that the Project will not adversely impact property values.¹¹³ Mr. MaRous, a South Dakota State Certified General Appraiser and a certified Member Appraisal Institute appraiser with extensive 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 credible data indicating property values will be adversely impacted due to proximity to the Project.¹¹⁴

59. Staff's witness, Mr. Lawrence, acknowledged that he had not conducted a study for the Project and could not offer an opinion regarding the potential impact of the Project on property values.¹¹⁵

60. There is no basis in the record to require a property value guarantee. First, there is no record evidence that property values will be adversely affected. Further, Mr. MaRous and Mr. Lawrence both testified that a property value guarantee is unworkable due to difficulties associated with effectively, consistently, and efficiently administering such a requirement.¹¹⁶

61. The record demonstrates that Crocker has avoided and/or minimized impacts to telecommunications.¹¹⁷ Crocker reached an agreement with Interstate Telecommunications Cooperative, Inc., which has telecommunications lines in the areas.¹¹⁸

62. The record demonstrates that the Project is not anticipated to adversely impact communications systems.¹¹⁹ Mr. Stevens alleged potential interference with the Aberdeen weather radar, but the National Oceanic and Atmospheric Administration ("NOAA") stated that it would not request mitigation of impacts for the Project configuration.¹²⁰ If television reception interference is reported to Crocker, Crocker has in place reasonable mitigation measures to adequately address the issue.¹²¹

63. The record demonstrates that Crocker has avoided and/or minimized impacts to transportation.¹²² Crocker will coordinate with applicable local road authorities to establish road use agreements, as needed, to minimize and mitigate Project impacts to haul roads.¹²³ The Project will utilize the One-Call program to locate underground infrastructure prior to

¹¹² See Ex. A1 at 114.

¹¹³ See Ex. A1 at § 9.7.

¹¹⁴ See Ex. A16 at 7; *see also* Ex. A22 at 2.

¹¹⁵ Evid. Hrg. Tr. (May 11, 2018) at 632 (Lawrence).

¹¹⁶ Evid. Hrg. Tr. (May 11, 2018) at 614-617 (MaRous) and 648-649 (Lawrence).

¹¹⁷ Ex. A1 at § 9.5.7.

¹¹⁸ Evid. Hrg. Tr. (May 10, 2018) at 362 (Schmit).

¹¹⁹ Ex. A15 at 3-4.

¹²⁰ Ex. A15 at 5.

¹²¹ Ex. A15 at 4-5.

¹²² See Ex. A1 at § 9.7.3.

¹²³ Ex. A6 at 11.

construction. In addition, once construction is completed, the Project will register its facilities with the One-Call program.¹²⁴

64. One private airstrip, owned by Intervenor Shad Stevens, is located outside of the Project boundary in Township 118N, Range 58W, Section 18. Mr. Stevens initially expressed concerns regarding the impact of the Project on his private air strip.¹²⁵ However, Mr. Stevens testified that his concerns regarding his airstrip had been addressed when Crocker voluntarily removed two turbines.¹²⁶

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

65. The record demonstrates Crocker has minimized impacts from noise.¹²⁷ Staff and Crocker agreed to Condition 29, which is attached hereto.¹²⁸

66. Section 4.21.03(13) of the Clark County Zoning Ordinance imposes the following noise limit on wind energy facilities: “Noise shall not exceed 50 dBA, average A-weighted Sound pressure including constructive interference effects at the perimeter of the principal and accessory structures of existing off-site residences, businesses, and buildings owned and/or maintained by a governmental entity.” Crocker conducted a Sound Level Assessment to measure the Project’s anticipated sound level in order to determine whether the Project will comply with Clark County’s noise limit of 50 dBA. The projected sound levels from the Project are 50 dBA or less at all participating residences, and 41 dBA or less at all non-participating residences. Thus, the Project will comply with the Clark County sound level requirement and the agreed-upon noise condition.¹²⁹

67. The record demonstrates that Crocker has minimized and/or avoided impacts from shadow flicker.¹³⁰ Crocker has committed to 30 hours of shadow flicker per year or less at existing nonparticipating and participating occupied residences.¹³¹

68. There is no record evidence that the proposed Project will have any impacts on human health. The construction corridors and placement of facilities meet or exceed industry standards established for protection of the health and welfare of residences and businesses in and around the Project.¹³² Further, the South Dakota Department of Health provided Staff with a letter stating that the Department of Health has not taken a formal position on the issue of wind turbines and human health. Further, they referenced the Massachusetts Department of Public

¹²⁴ Ex. A6 at 11.

¹²⁵ Ex. I-54 at 3.

¹²⁶ Evid. Hrg. Tr. (May 10, 2018) at 506-507 (Stevens); *see also* Ex. A1 at 124. Crocker voluntarily eliminated a turbine location in the southeast quarter of Township 118N, Range 59W, Section 13 and shifted another turbine in the southwest quarter of the same section (which has subsequently been removed) following discussions with Mr. Stevens. Ex. A1 at 124.

¹²⁷ Ex. A1 at § 9.5.4.

¹²⁸ Crocker’s Recommended Permit Condition 29.

¹²⁹ Ex. A7 at 7; *see also* Ex. A1 at Appendix E; Crocker’s Recommended Permit Condition 29.

¹³⁰ Ex. A1 at § 9.5.6.

¹³¹ Ex. A9 at 4 and Evid. Hrg. Tr. (May 9, 2018) at 172-173 (Morris).

¹³² Ex. A1 at 95.

Health and Minnesota Department of Health studies and identified those studies generally conclude that there is insufficient evidence to establish significant risk to human health.¹³³

69. No impacts due to electromagnetic fields (“EMF”) are anticipated. Project facilities will be set back from residences in excess of state standards, where EMF will be at background levels. In addition, Crocker conducted an EMF study for the Transmission Facility, and the results of that study show that EMF levels are well within industry standards. As a result, EMF-related issues are not anticipated.¹³⁴

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.

70. The record demonstrates that the Project will not unduly interfere with the orderly development of the region, as demonstrated by Clark County’s granting of a conditional use permit for the Project.¹³⁵

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 South Dakota Codified Law Chapter 49-41B.

2. The wind energy conversion facility proposed by Crocker is a wind energy facility as defined under South Dakota Codified Law 49-41B-2(13) and an associated transmission facility as defined under South Dakota Codified Law 49-41B-2.1.

3. The Application submitted by Crocker meets the criteria required by South Dakota Codified Law 49-41B-25, and construction of the Project meets the requirements of South Dakota Codified Law 49-41B.

4. The Commission satisfied the hearing and notice requirement in South Dakota Codified Law Chapter 49-41B.

5. Applicant satisfied the applicable notice requirements in South Dakota Codified Law Chapter 49-41B.

6. Applicant has demonstrated that the proposed facility will comply with all applicable laws and rules.

7. 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.

¹³³ Ex. S1 at 6.

¹³⁴ Ex. A6 at 11.

¹³⁵ Ex. A1 at 92-93 and 141.

8. Applicant has demonstrated that the facility will not substantially impair the health, safety or welfare of the inhabitants.

9. 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.

10. All other applicable procedural requirements in South Dakota Codified Law Chapter 49-41B have been satisfied.

11. No party has provided evidence sufficient for the Commission to impose a property value guarantee.

12. No party has provided evidence sufficient for the Commission to impose a three-mile setback from the Reid Lake Complex.

13. No party has provided evidence sufficient for the Commission to require further engagement or consultation with Native American Tribes.

14. No party has provided evidence sufficient for the Commission to impose mitigation for grassland impacts above and beyond the mitigation committed to by Applicant in the record.

15. To the extent that any Finding of Fact set forth above is more appropriately a conclusion of law, that Finding of Fact is incorporated by reference as a Conclusion of Law.

ORDER

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

ORDERED, that an energy facility permit is issued to Crocker Wind Farm, LLC for the Crocker Wind Farm.

ORDERED, that an energy facility permit is issued to Crocker Wind Farm, LLC for the associated 345 kV transmission line.

ORDERED, that Applicant shall comply with the attached Permit Conditions, which are hereby incorporated into and made a part of this Order.

Dated on _____