

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

<b>IN THE MATTER OF THE</b>	)	
<b>APPLICATION OF CROWNED</b>	)	<b>CROWNED RIDGE WIND II, LLC</b>
<b>RIDGE WIND II, LLC FOR A</b>	)	<b>POST-HEARING BRIEF</b>
<b>PERMIT OF A WIND ENERGY</b>	)	<b>AND PROPOSED FINDINGS OF</b>
<b>FACILITY IN DEUEL, GRANT</b>	)	<b>FACT AND CONCLUSIONS OF LAW</b>
<b>AND CODINGTON COUNTIES</b>	)	
		<b>EL-19-027</b>

**I. Introduction**

Crowned Ridge Wind II, LLC (“CRW II”) respectfully requests that the Public Utilities Commission of the State of South Dakota (“Commission”) grant an Energy Facility Permit (“Permit”) for CRW II’s up to 300.6 megawatt (“MW”) proposed wind facility to be located in Deuel, Grant, and Codington counties, South Dakota (the “Project”). CRW II will be transferred, along with the Permit, to Northern States Power Company prior to the commercial operations date.

On July 9, 2019, CRW II submitted an Application for a Permit to construct, operate, and maintain the proposed Project. The Project includes up to 132 wind turbine generators, access roads to turbines, underground 34.5-kilovolt (“kV”) electrical collector lines, underground fiber-optic cable, a 34.5-kV to 230-kV collection substation, one permanent meteorological tower, and an operations and maintenance facility. In support of its Application, CRW II submitted pre-filed testimony and exhibits that demonstrate it has satisfied the burden of proof requirements of South Dakota Codified Law (“SDCL”) 49-41B-22. No substantial evidence to the contrary has been submitted in this proceeding. Accordingly, CRW II respectfully requests the Commission issue a Permit for the Project.

In Appendix A to this Brief, CRW II has set forth proposed findings of fact and conclusions of law, including permit conditions (“Conditions”) that have been agreed on by Commission Staff and CRW II in support of the Commission issuing the Permit.<sup>1</sup>

## **II. Legal Standard**

In order to obtain a Permit for the proposed Project, SDCL 49-41B-22 requires that CRW II show:

- (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. An applicant for an electric transmission line, a solar energy facility, or a wind energy facility that holds a conditional use permit from the applicable local units of government is determined not to threaten 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. An applicant for an electric transmission line, a solar energy facility, or a wind energy facility that holds a conditional use permit from the applicable local units of government is in compliance with this subdivision.

Further, pursuant to SDCL 49-41B-25, the Project must meet the applicable requirements of SDCL Ch. 49-41B.<sup>2</sup>

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<sup>1</sup> Ex. S7 (Stipulated Conditions). Attachment A also includes Condition No. 47 related to Whooping Cranes that CRW II agreed to during the evidentiary hearing. Evid. Hrg. Tr. at 406 (February 5, 2020).

<sup>2</sup> The substantive project-related requirements of SDCL Ch. 49-41B are set forth in SDCL 49-41B-11, which CRW II included in its Application. Ex. S1 at 8-9 (Kearney Direct Testimony).

### **III. Argument**

The record demonstrates that CRW II has met the burden of proof on each of the four statutory elements of SDCL 49-41B-22 and the other applicable requirements of SDCL Ch. 49-41B.

#### **A. The Project will comply with all applicable laws and rules**

The record shows that the Project will comply with all applicable laws and rules, including the county setbacks required in Deuel, Grant, and Codington counties.<sup>3</sup> Further, CRW II has agreed to Condition No. 1, which requires it to obtain all applicable and required governmental permits which reasonably may be required by any applicable township, county, state agency, federal agency, or any other governmental unit.<sup>4</sup> Condition No. 1 also requires CRW II to file an affidavit attesting it obtained all applicable permits prior to commercial operations. There is no evidence that the Project will not comply with all applicable laws and rules.<sup>5</sup> Accordingly, CRW II has met its burden of proof that it will comply with all applicable laws and rules.

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<sup>3</sup> Ex. A1 at 72-76, 111-112 (Application) and Ex. A5 at 8-11 (Wilhelm Direct Testimony).

<sup>4</sup> Attachment A to Proposed Findings of Facts and Conclusions of Law, Condition No. 1.

<sup>5</sup> CRW II needs to move turbine CRW II-Alt2 120 feet to comply with Deuel County's setback from a non-participant's resident. The move of CRW II-Alt2 will be shown in CRW II's preconstruction submittal required by Condition No. 43 set forth in Attachment A to Proposed Findings of Facts and Conclusions of Law. In the preconstruction filing, CRW II will show that the move of CRW II-Alt2 complies with all applicable setbacks, as well as the sound and shadow flicker thresholds set forth in Condition Nos. 26 and 35.

Separately, at the evidentiary hearing, Intervenor Christenson questioned whether CRW II is in compliance with the Grant County Ordinance in effect at the time Grant County voted to approve the Project or the Ordinance made effective after the vote to approve the Project. CRW II testified that Grant County has indicated it intends to apply the Ordinance made effective shortly after approval of the CUP for the Project. Evid. Hrg. Tr. at 47-49 (Wilhelm) (February 4, 2020). The record in this proceeding shows that CRW II complies with both versions of the Grant County Ordinance – the one in effect at the time of the approval of the Project by Grant County, and the one made effective shortly after the vote. Evid. Hrg. Tr. at 217-218, 233-234, 237-239 (Haley) (February 4, 2020); Exs. A2; A14; A21 (Haley Direct, Supplemental and Rebuttal Testimony); Ex. A14-1 through Ex. A14-4 (Supplemental Testimony Sound and Shadow Flicker Studies); Ex. A21-1 through Ex. A21-3; and Ex. A28 and Ex. 29 (Rebuttal

**B. The Project 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**

The Project 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, which is demonstrated, pursuant to SDCL 49-41B-22, by CRW II being granted conditional use permits (“CUP”) by Grant County and Codington County and a special exemption permit (“SPE”) by Deuel County for those portions of the Project located in the respective counties.<sup>6</sup> Therefore, CRW II has met its burden pursuant to SDCL 49-41B-22(2), because it has obtained the requisite county permits.

Further, the record additionally shows that the proposed Project will not pose a threat of serious injury to the environment,<sup>7</sup> including geological resources,<sup>8</sup> soil resources,<sup>9</sup> hydrological resources,<sup>10</sup> terrestrial ecosystems,<sup>11</sup> wildlife,<sup>12</sup> aquatic systems,<sup>13</sup> land use,<sup>14</sup> and air and water

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Testimony Sound and Shadow Flicker Results); and Ex. AC-19. Therefore, the record shows that CRW II will be in compliance with applicable laws, including the Grant County Ordinance.

<sup>6</sup> Ex. A1-K (Copies of County Permits).

<sup>7</sup> Ex. A1 at 28-90 (Application); Ex. A3 at 3-14 (Sappington Direct Testimony); Ex. A18 at 3-5 (Sappington Supplemental Testimony); Ex. A24 at 3-5 (Sappington Rebuttal Testimony); Evid. Hrg. Tr. at 376-378 (Sappington) (February 5, 2020).

<sup>8</sup> Ex. A1 at 31-35 (Application) and Ex. A1-A, Figures 9a, 9b, and 10 (Maps).

<sup>9</sup> Ex. A1 at 31-35 (Application) and Ex. A1-A, Figures 9a, 9b, and 10 (Maps).

<sup>10</sup> Ex. A-1 at 38-44 (Application); Ex. A1-A, Figure 12.

<sup>11</sup> Ex. A1 at 44-70 (Application); Ex. A1-F (Dakota Skipper and Poweshiek Skipperrling Survey); Ex. A1-G (2017-2018 Raptor Nest Survey Report); Ex. A1-H (Avian Use Survey Report); Ex. A1-E (Bat Habitat Assessment Report); and Ex. A1-D (Bat Acoustic Survey Report).

<sup>12</sup> Ex. A1 at 50-67 (Application).

<sup>13</sup> *Id.* at 70.

<sup>14</sup> Ex. A1 at 71-86 (Application); Ex. A1-A (Figures); Ex. A5 at 7-13 (Wilhelm Direct Testimony); Exs. A2; A14; A21 (Haley Direct, Supplemental and Rebuttal Testimony); Ex. A14-1 through Ex. A14-4 (Supplemental Testimony)

quality.<sup>15</sup> CRW II has committed to implement reasonable avoidance and mitigation measures to minimize the impact on the environment.<sup>16</sup> In addition, CRW II has conducted surveys in consultation with applicable tribes<sup>17</sup> and the South Dakota State Historical Preservation Office<sup>18</sup> to identify historical and cultural items of significance in the Project area. In support of protecting the environmental and cultural resources, CRW II has also agreed to a number of Permit conditions.<sup>19</sup> Therefore, the Project will not pose a threat of serious injury to environmental and cultural resources.

In addition, the record demonstrates that the proposed Project will not pose a threat of serious injury to the social and economic condition of inhabitants or expected inhabitants.<sup>20</sup> Over a 10 year period, the Project has been developed through an iterative process to identify the Project area.<sup>21</sup> During this time, CRW II worked closely with federal and state agencies,

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Sound and Shadow Flicker Studies); Ex. A21-1 through Ex. A21-3; and Ex. A28 and Ex. 29 (Rebuttal Testimony Sound and Shadow Flicker Results). CRW II has an easement option that is scheduled to expire prior to the start of construction. CRW II is actively seeking to renew the option, and expects that the option will be renewed prior to a decisional vote on the Permit. If the easement option is not renewed, turbine location CRWII-85 will be eliminated.

<sup>15</sup> Ex. A1 at 86-90 (Application).

<sup>16</sup> Ex. A1 at 28-90 (Application); Ex. A3 at 3-14 (Sappington Direct Testimony); Ex. A18 at 3-5 (Sappington Supplemental Testimony); Ex. A24 at 3-5 (Sappington Rebuttal Testimony).

<sup>17</sup> Ex. A1 at 100-105 (Application); Ex. A3 14-16 (Sappington Direct Testimony); Evid. Hrg. Tr. at 377 (Sappington) (February 5, 2020); Evid. Hrg. Tr. at 535, 537-538 (Olson) (February 5, 2020).

<sup>18</sup> Evid. Hrg. Tr. at 377 (Sappington) (February 5, 2020); Evid. Hrg. Tr. at 535-536, 538 (Olson) (February 5, 2020).

<sup>19</sup> See Attachment A to Proposed Findings of Facts and Conclusions of Law, Condition Nos. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22, 23, 29, 30, 31, 32, 33, 38 and 47. On Condition No. 29, CRW II understand that South Dakota Game, Fish & Parks supports a modification to only require CRW II to conduct 1 year of post construction mortality monitoring to assess predictions of wildlife fatality risk at CRW II, and for the funds set aside for the second year of post-construction mortality monitoring to be reallocated to fund a three-year raptor study at CRW I and CRW II.

<sup>20</sup> Ex. A1 at 90-100, 105-108 (Application); Ex. A1-L (Property Value Effects Studies); Ex. A1-M (Telecommunication Studies); Ex. A14 (Marous Supplemental Testimony); Ex. A14-1 (Market Impact Analysis) Ex. A22 (Marous Rebuttal Testimony); Ex. S5 and Ex. S6 (Direct and Supplemental Testimony of Lawrence).

<sup>21</sup> Ex. A1 at 2, 26-28 (Application).

landowners, and tribal and local governments to design and site the infrastructure for the Project.<sup>22</sup> To protect the social and economic characteristics of the area, CRW II has also agreed to conditions that address impacts on local communication and transportation systems.<sup>23</sup> Further, in support of the local economy, the Project will produce benefits to the community, including the payment of property taxes, lease payments, temporary jobs for 250 construction workers, and 7-12 permanent workers stationed in South Dakota.<sup>24</sup> CRW II will use lighting required by the Federal Aviation Administration (“FAA”),<sup>25</sup> and has also committed to equip the Project with a FAA-approved Aircraft Detection Lighting System to minimize visual impact of the Project starting at commercial operations.<sup>26</sup> Accordingly, the Project will not pose a threat of serious injury to the social and economic condition of inhabitants or expected inhabitants.

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

The record demonstrates that the proposed Project will not substantially impair the health, safety, or welfare of inhabitants. Specifically, CRW II has committed that the Project will produce: (1) no more than 45 dBA of sound at any non-participant’s residence; and (2) no more than 50 dBA sound at any participant’s residence.<sup>27</sup> Similarly, CRW II has committed that

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<sup>22</sup> Ex. A1 at 2, 26-28, 86; A5 at 4-12 (Wilhelm Direct Testimony).

<sup>23</sup> See Attachment A to Proposed Findings of Facts and Conclusions of Law, Condition Nos. 7, 8, 9, and 24.

<sup>24</sup> Ex. A1 at 106 (Application); Ex. A4 at 8-9 (Thompson Direct Testimony).

<sup>25</sup> Ex. A1 at 14, 21, 85.

<sup>26</sup> Ex. A-1 at 21, 85 (Application); Attachment A to Proposed Findings of Facts and Conclusions of Law, Condition No. 34.

<sup>27</sup> Exs. A2; A14; A21 (Haley Direct, Supplemental and Rebuttal Testimony); Ex. A1-I (Sound Modeling Report); Ex. A14-1 and Ex. A14-3 (Supplemental Testimony Sound Studies); Ex. A21-1; Ex. A21-3; Ex. A28 and Ex. 29 (Updated Rebuttal Sound Results); Attachment A to Proposed Findings of Facts and Conclusions of Law, Condition No. 26.

the Project will produce no than 30 hours of shadow-flicker annually at all residences,<sup>28</sup> with the understanding it will need to curtail Turbine No. CRWII Alt-3 for approximately 8 hours and 20 minutes a year to ensure CR1-C10-P does not receive more than 30 hours of shadow flicker annually.<sup>29</sup>

To support the accuracy of the sound and shadow-flicker results, CRW II used a number of conservative modeling assumptions, such as:

#### Sound<sup>30</sup>

- The wind turbines were assumed to be operating at their maximum sound emission levels;
- A 2 dBA adder was applied to the turbines' sound emission levels;
- The turbines were assumed to be downwind of the receptor at all times; and
- The atmospheric conditions were assumed to be the most favorable for sound to be transmitted.

#### Shadow-Flicker<sup>31</sup>

- All residences were modeled as if they were built entirely out of windows;
- No credit was applied for any blockage from trees; and

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<sup>28</sup> Exs. A2; A14; A21 (Haley Direct, Supplemental and Rebuttal Testimony); Ex. A1-J (Shadow Flicker Modeling Report); Ex. A14-2 and Ex. A14-4 (Supplemental Testimony Shadow Flicker Studies); Ex. A21-2; Ex. A21-3; Ex. A28 (Updated Rebuttal Shadow Flicker Results); Attachment A to Proposed Findings of Facts and Conclusions of Law, Condition No. 35.

<sup>29</sup> Evid. Hrg. Tr. at 220 (Haley) (February 4, 2020); Ex. A13 at 5 (Hart Supplemental Testimony).

<sup>30</sup> Ex. A1-I at 1 (Sound Modelling Results); Evid. Hrg. Tr. at 217-218 (Haley) (February 4, 2020).

<sup>31</sup> Ex. A1-J at 1, 6 (Shadow Flicker Modelling Results); Evid. Hrg. Tr. at 218-220 (Haley) (February 4, 2020).

- It was assumed that the wind turbines were operating 100% of the time.

CRW II witnesses Drs. Ollson and McCunney testified that, based on the design of the Project, including its modeled levels of sound and shadow-flicker, the Project will not substantially impair the health or welfare of non-participants and participants.<sup>32</sup> There is no substantial evidence that contradicts the testimony provided by Drs. Ollson and McCunney, and, therefore, the record demonstrates that the Project will not substantially impair the health or welfare of non-participants and participants.

To mitigate sound further, CRW II has agreed to Condition No. 27 in order to reduce certain non-participant sound levels, consistent with the proposal advocated by Staff witness Hessler.<sup>33</sup> In addition, CRW II has committed to use low noise trailing edge blade attachments on all turbine blades<sup>34</sup> and General Electric's Enhanced Power Curve Operation software to mitigate sound during operation.<sup>35</sup>

Based on CRW II's commitments, including implementing Condition No. 27, the following is the expected sound and shadow flicker impacts to the Intervenors:<sup>36</sup>

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<sup>32</sup> Ex. A10, and Ex. A10-2 through A10-16 (Ollson Supplemental Testimony and Exhibits); Ex. A15, and Ex. A15-2 through A15-8 (McCunney Supplemental Testimony); Ex. A20 (Ollson Rebuttal Testimony); Evid. Hrg. Tr. at 322-323, 329-330 (McCunney) (February 5, 2020); Evid. Hrg. Tr. at 335-337, 368-369 (Ollson) (February 5, 2020).

<sup>33</sup> Attachment A to Proposed Findings of Facts and Conclusions of Law, Condition No. 27; Ex. S2 (Hessler Direct Testimony).

<sup>34</sup> Ex. A13 at 4 (Hart Supplemental Testimony).

<sup>35</sup> Ex. A25 at 2-3 (Thompson Rebuttal Testimony).

<sup>36</sup> Ex. A28.



<b>Intervenor</b>	<b>Sound Level (dBA)</b>	<b>Shadow-Flicker (Hours Annually)</b>
Christenson	41.2	6:54
Robish	30.0	0:00
Mogen	28.8	0:00
Ehlebracht	42.2	3:14
Greber	41.8	14:22
Rall	40.5	13:27
Kranz	41.2	3:04

The record also demonstrates that the proposed Project will not substantially impair the safety of inhabitants. CRW II has committed to meet or exceed the required setbacks established for safety reasons.<sup>37</sup> CRW II will also implement safety practices during the construction, operation, and maintenance of the Project, including grounding the wind turbines in accordance with National Electrical Safety Code standards.<sup>38</sup> The Project will be monitored twenty-four hours a day, seven days a week through the Supervisory Control and Data Acquisition system.<sup>39</sup> CRW II will implement a Storm Water Pollution Prevention Plan and a Spill Prevention, Control, and Countermeasures Plan, both of which will ensure that coordination with state and local disaster services occurs in the event of the accidental release of contaminants.<sup>40</sup> Further, CRW II, pursuant to Condition No. 36, also agrees to use two methods to detect icing conditions on

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<sup>37</sup> Ex. A1 at 73-76 (Application) and A5 at 8-10 (Wilhelm Direct Testimony).

<sup>38</sup> Ex. A1 at 21, 108 (Application) and Ex. A4 at 3, 5, 7 (Thompson Direct Testimony).

<sup>39</sup> Ex. A1 at 24-25 (Application) and A4 at 5, 8 (Thompson Direct Testimony).

<sup>40</sup> Ex. A1 at 13, 14, 25, 37, 39, 43, 88, 95, 98 (Application).

turbine blades to shut down turbines when they are accumulating ice.<sup>41</sup> Accordingly, the Project will not substantially impair the safety of inhabitants.

**D. The Project will not unduly interfere with the orderly development of the region**

The record demonstrates that the proposed Project will not unduly interfere with the orderly development of the region, which is demonstrated by the granting of CUPs by Grant County and Codrington County and a SPE by Deuel County for the applicable portions of the Project in the respective counties.<sup>42</sup> CRW II 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.<sup>43</sup> In support of decommissioning, CRW II has agreed to fund decommission as required by Condition No. 33.<sup>44</sup> Thus, the Project will not unduly interfere with the orderly development of the region.

**IV. Conclusion**

For the reasons set forth herein, the Commission should grant CRW II an Energy Facility Permit.

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<sup>41</sup> See Attachment A to Proposed Findings of Facts and Conclusions of Law, Condition No. 36.

<sup>42</sup> Ex. A5 at 7-10 (Wilhelm Direct Testimony); Ex. A1-K (County Conditional Use Permits).

<sup>43</sup> Ex. A1 at 107 (Application); Ex. A1-N (Decommission Plan).

<sup>44</sup> See Attachment A to Proposed Findings of Facts and Conclusions of Law, Condition No. 33.

March 2, 2020

Sincerely,

/s/ Miles Schumacher

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**APPENDIX A**

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<b>IN THE MATTER OF THE</b>	)	
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<b>PERMIT OF A WIND ENERGY</b>	)	<b>PROPOSED FINDINGS OF FACT AND</b>
<b>FACILITY IN DEUEL, GRANT</b>	)	<b>CONCLUSIONS OF LAW</b>
<b>AND CODINGTON COUNTIES</b>	)	

**EL-19-027**

**APPEARANCES**

Commissioners Gary Hanson, Chris Nelson, and Kristie Fiegen.

Miles Schumacher of Lynn, Jackson, Shultz & Lebrun, P.C. 110 N. Minnesota Ave., Suite 400 Sioux Falls, SD 57104 and Brian J. Murphy, NextEra Energy Resources, LLC, 700 Universe Blvd, Juno Beach, FL 33408, appeared on behalf of Crowned Ridge Wind II, 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 (Staff).

A.J. Swanson, 27452 482<sup>nd</sup> Ave., Canton, SD 57013, appeared on behalf of Intervenors Garry Ehlebracht, Steven Greber, Mary Greber, Richard Rall, Amy Rall and Laretta Kranz (collectively Ehlebracht et el. Intervenors), while Amber Christenson, Allen Robish, and Kristi Mogen appeared during the proceeding as individual *pro se* Intervenors, with Kristi Mogen not attending the evidentiary hearings.

**PROCEDURAL HISTORY**

On July 9, 2019, the Public Utilities Commission of the State of South Dakota (Commission) received an Application for an Energy Facility Permit (Application) from Crowned Ridge Wind II, LLC (Crowned Ridge II or Applicant), a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC. Crowned Ridge II proposes to construct a wind energy conversion facility to be located in Deuel County, Grant County, and Codington County, South Dakota (Project). The Project would be situated on approximately 60,996 acres in the townships of Waverly, Kranzburg North, Kranzburg South, Troy, Rome, Goodwin, and Havana South Dakota (Project Area). The total installed capacity of the Project would not exceed 300.6 megawatts (MW) of nameplate capacity. The proposed Project includes up to 132 wind turbine generators, access roads to turbines and associated facilities, underground 34.5-kilovolt (kV) electrical collector lines, underground fiber-optic cable, a 34.5-kV to 230-kV collection

substation, one permanent meteorological tower, and an operations and maintenance facility. Crowned Ridge II will use the Crowned Ridge II 5-mile 230-kV generation tie line and the Crowned Ridge II collector substation to transmit the generation to the dead-end transmission structure adjacent to the Crowned Ridge Wind, LLC (CRW I) project's collector substation. Using a breaker position at the CRW I project collector substation, the 300.6 MW from Crowned Ridge II Project will be aggregated with the up to 300 MW from the CRW I project collector substation and conjoined to the CRW I 230-kV transmission line, which is to be interconnected to the Big Stone South 230-kV Substation which is owned by Otter Tail Power Company. The Applicant has entered into a purchase and sale agreement under which it will permit and construct this Project, and, thereafter, transfer the Project, along with its Facility Permit, to Northern States Power Company (NSP) prior to the commercial operations date (COD). The Project is expected to be completed in the fourth quarter of 2020. Applicant estimates the construction cost of the Project to be \$425 million.

On July 9, 2019, the Applicant filed the pre-filed testimony of Sarah Sappington, Mark Thompson, Jay Haley, Richard Lampeter, Tyler Wilhelm, and Daryl Hart.

On July 11, 2019, the Commission issued the Notice of Application; Order for and Notice of Public Input Hearing; Notice for Opportunity to Apply for Party Status. Pursuant to SDCL 49-41B-15 and 49-41B-16, the Commission in that order scheduled a public input hearing on the Application on Monday, August 26, 2019, at 5:30 p.m., CDT, at the Whitewood Room, Watertown Event Center, 1901 9<sup>th</sup> Ave. SW, Watertown, South Dakota. The order also set a deadline for party status applications to be filed on or before 5:00 p.m., CDT, September 9, 2019.

On July 29, 2019, the Applicant filed affidavits of landowner notices and newspaper publications.

The Commission had the notice of the public input hearing published in the following publications: Milbank/Grant County Review, July 24, 2019, August 7 and 21, 2019 editions; Watertown Public Opinion, July 24, 2019, August 7 and 21 2019 editions; Clear Lake Courier July 24, 2019, August 7 and 21, 2019 editions; and South Shore Gazette, July 25, August 8 and 22, 2019 editions.

On July 31, 2019, the Commission issued an order assessing the Applicant a filing fee not to exceed \$412,500 with an initial deposit of \$8,000. This order also granted party status to Amber Christenson, Allen Robish, and Kristi Mogen. On August 26, 2019, the Commission also issued an order granting party status to Garry Ehlebracht, Steven Greber, Mary Greber, Richard Rall, Amy Rall, and Laretta Kranz.

On August 26, 2019 the public input hearing was held at the Whitewood Room, Watertown Event Center, 1901 9<sup>th</sup> Ave. SW, Watertown, South Dakota.

On September 20, 2019, the Commission issued an order establishing the procedural schedule, including scheduling evidentiary hearings on February 4-7, 2020.

On September 20, 2019, the Applicant filed supplemental testimony of Chris Ollson, Robert McCunney, Jay Haley, Mark Thompson, Tyler Wilhelm, Daryl Hart, Michael Marous, and Sarah Sappington.

On October 1, 2019, the Commission issued an order and notice of evidentiary hearing for February 4-7, 2020 to be conducted at the Matthew Training Center, Foss Building, 523 E. Capital Ave., Pierre, South Dakota.

On December 9, 2019, Staff filed testimony from Darren Kearney, David Hessler, Hilary Meyer, David Lawrence, and Paige Olson. On December 12, 2019, the Ehlebracht et al. Intervenor filed the testimony of Garry Ehlebracht, Steven Greber, Amy Rall, and Laretta Kranz

On January 8, 2020, the Applicant filed Rebuttal testimony of Sarah Sappington, Dr. Chris Ollson, Jay Haley, Richard Lampeter, Mark Thompson, Michael Marous, and Tyler Wilhelm.

On January 23, 2020, Staff filed supplemental testimony of David Lawrence.

On February 4, 5, and 6, 2020 the Commission held evidentiary hearings.<sup>1</sup>

On March 2, 2020, post hearing briefs were filed by Crowned Ridge, Staff, and Intervenor.

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.

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<sup>1</sup> The Commission granted, in part, Crowned Ridge II's motion to strike certain portions of Ehlebracht *et al.* Intervenor's testimony. Order Granting, In Part, Motion to Strike (February 14, 2020).

## **II. PARTIES.**

2. Crowned Ridge Wind II, LLC (Applicant or Crowned Ridge II) is a wholly-owned, indirect subsidiary of NextEra Energy Resources, LLC (NextEra).<sup>2</sup> 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.<sup>3</sup>

3. Garry Ehlebracht, Steven Greber, Mary Greber, Richard Rall, Amy Rall and Laretta Kranz (also referred to as the Ehlebracht et el. Intervenors), as well as Amber Christenson, Allen Robish, and Kristi Morgan were granted party status.

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

## **III. APPLICABLE STATUTES AND REGULATIONS FOR A WIND ENERGY FACILITY PERMIT.**

5. The following South Dakota statutes are applicable: SDCL 49-41B-1 through 49-41B-2.1, 49-41B-4, 49-41B-5.2, 49-41B-11 through 49-41B-19, 49-41B-22, 49-41B-25, 49-41B-26 through 49-41B-37 and applicable provisions of SDCL Chapters 1-26 and 15-6.

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

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

(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. An applicant for an electric transmission line, a solar energy facility, or a wind energy facility that holds a conditional use permit from the applicable local units of government is determined not to threaten 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. An applicant for an electric transmission line, a solar energy facility, or a wind energy facility that holds a conditional use permit from the applicable local units of government is in compliance with this subdivision.

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<sup>2</sup> Ex. A1 at 1 (Application).

<sup>3</sup> Ex. A5 at 1 (Wilhelm Direct Testimony).

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

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

#### IV. PROJECT DESCRIPTION

10. The proposed Project is an up to 300.6 MW wind facility to be located in Deuel County, Codington County, and Grant County, South Dakota.<sup>4</sup> The Project is situated within an approximately 60,996 acre Project Area and will include the following: (i) up to 132 wind turbine generators with 117 General Electric (GE) 2.3 turbines and 15 GE 2.1 turbines; (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 230-kV collection substation; (vi) two permanent meteorological tower; (vii) an operations and maintenance facility; and (viii) temporary construction areas, including laydown and batch plant areas.<sup>5</sup> The estimated construction cost associated with the wind facility is approximately \$425 million.<sup>6</sup> Fluctuations in Project costs could be as much as 20% percent, dependent on final micro-siting and MISO interconnection costs.<sup>7</sup> The Project will utilize the Crowned Ridge II 5-mile generation tie line and the CRW I's 34-mile 230 kV generation tie line and a new reactive power compensation substation<sup>8</sup> 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.<sup>9</sup> The Applicant has no plans for future expansion of the Project.<sup>10</sup>

11. As a result of demand for the facility, the Applicant has executed a purchase and sales agreement (PSA) with Northern States Power Company (NSP) and will transfer the Project, including this Permit, to NPS prior to commercial operations.<sup>11</sup> Also, 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 PSA with NSP. On December 6, 2018, North Dakota Public Service Commission issued an order granting an advance determination of prudence for the PSA between NSP and the Applicant.<sup>12</sup> The commercial operation date for the Project is projected to in the fourth quarter of 2020.<sup>13</sup>

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<sup>4</sup> Ex. A1 at 1 (Application); Ex A1-A (Figures) and Ex. A11-2 (Maps of 200 MW and 100 MW Deferral); Ex A27-2 (Updated Land Status Map for 200 MW and 100 MW Deferral).

<sup>5</sup> Ex. A1 at 1, 18-26 (Application); Ex. A1-A (Figures 4a, 4b, and 5); Ex. A27-2 (Updated Land Status Map for 200 MW and 100 MW Deferral).

<sup>6</sup> Ex. A1 at 18 (Application).

<sup>7</sup> *Id.* at 19.

<sup>8</sup> The 5-mile generation tie line was approved in Docket No. EL18-018, while the 34-mile transmission gen tie line and reactive compensation substation were approved in Docket No. EL17-050.

<sup>9</sup> Ex. A1 at 1 (Application).

<sup>10</sup> *Id.* at 106.

<sup>11</sup> *Id.* at 1-2, 15; Ex. A6 at 3 (Hart Direct Testimony).

<sup>12</sup> Ex. A1 at 2 (Application).

<sup>13</sup> *Id.* at 1, 90.



12. The Applicant submitted testimony explaining that it may defer the construction of 100 MWs based on the results of MISO and SPP interconnection studies and costs.<sup>14</sup> The Applicant may defer the 100 MWs up to four years, with the understanding that it will need certification from the Commission that the 100 MW array continues to comply with the conditions of the Facility Permit.<sup>15</sup>

13. The Applicant has entered into lease and easement agreements with private landowners within the Project Area for the placement of Project infrastructure.<sup>16</sup> The Applicant anticipates that the life of the Project will be approximately 25 years, which is consistent with the Project's contracted term.<sup>17</sup> 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.<sup>18</sup> In the event the Project's contracted life is not extended, the record demonstrates that the Applicant has appropriate and reasonable plans for decommissioning.<sup>19</sup> The Project will be decommissioned in accordance with applicable state and county regulations.<sup>20</sup> The Applicant has agreed to Condition No. 33 for purposes of decommissioning the Project.

14. The record demonstrates that Crowned Ridge II submitted substantial evidence on the potential cumulative impacts of the Project, and that the Project will not have a significant impact.<sup>21</sup>

## **VI. SATISFACTION OF REQUIREMENTS FOR ISSUANCE OF AN ENERGY FACILITY PERMIT.**

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

15. The evidence submitted by Crowned Ridge II demonstrates that the Project will comply with applicable laws and rules.<sup>22</sup> Pursuant to Condition No. 1, the Applicant also commits to obtain all governmental permits which reasonably may be required by any applicable township, county, state agency, federal agency, or any other governmental unit for the

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<sup>14</sup> Ex. A13 at 2-4 (Hart Supplemental Testimony); Ex. A13-2 (Maps of 200 MW and 100 MW Deferral); Ex A27-2 (Updated Land Status Map for 200 MW and 100 MW Deferral); Evid. Hrg. Tr. at 112-113, 128-130 (Hart) (February 4, 2020).

<sup>15</sup> Ex. A13 at 3 (Hart Supplemental Testimony); Ex A27-2 (Updated Land Status Map for 200 MW and 100 MW Deferral).

<sup>16</sup> Ex. A1 at 27, 107 (Application) and Ex. A17 at 7 (Wilhelm Supplemental Testimony).

<sup>17</sup> Ex. A1 at 107 (Application).

<sup>18</sup> *Id.*

<sup>19</sup> *Id.* at Appendix N and Ex. A4 at 9-10 (Thompson Direct Testimony).

<sup>20</sup> Ex. A1 at 107 (Application).

<sup>21</sup> Ex. A1-I (Sound Modeling Report) and Ex. A1-J (Shadow Flicker Modeling Report); Exs. A2; A14; A21 (Haley Direct, Supplemental and Rebuttal Testimony); Ex. A12-2 (Updated Sound Study); Ex. A12-3 (Updated Shadow Flicker Study); Ex. A12-1 through Ex. A12-4 (Supplemental Testimony Sound and Shadow Flicker Studies); Ex. A21-1 through Ex. A21-3; and Ex. A28 and Ex. 29 (Rebuttal Testimony Sound and Shadow Flicker Results).

<sup>22</sup> Ex. A1 at 72-76, 111-112 (Application) and Ex. A5 at 8-11 (Wilhelm Direct Testimony).

construction and operation of the Project prior to engaging in the particular activity covered by the permit.<sup>23</sup>

16. Subject to the Permit conditions, the Project meets all applicable requirements of SDCL Chapter 49-41B and ARSD Chapter 20:10:22.<sup>24</sup>

**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.**

17. The Applicant holds a Conditional Use Permit (CUP) from both Grant County and Codrington County, and a Special Exception Permit (SEP) from Deuel County,<sup>25</sup> which pursuant to SDCL 49-41B-22(2), demonstrates that the Project does not threaten serious injury to environment or the social and economic condition of inhabitants or expected inhabitants in the siting area. The following, therefore, is additional evidence that the Project does not threaten serious injury to environment or the social and economic condition of inhabitants or expected inhabitants in the siting area

*1. Environment.*

18. The evidence demonstrates that the Project does not pose a threat of serious injury to the environment.<sup>26</sup> The evidence also shows that Crowned Ridge II will implement reasonable avoidance and mitigation measures to limit potential environmental impacts.<sup>27</sup> With respect to geological resources, the evidence shows that the project will not pose a threat of serious injury to these resources.<sup>28</sup> The evidence further shows that the impact to geological resources from the Project will be minimal.<sup>29</sup>

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<sup>23</sup> At the evidentiary hearing, Intervenor Christenson questioned whether the Applicant was in compliance with the Grant County Ordinance in effect at the time Grant County voted to approve the Project or the Ordinance that was made effective after the County's vote to approve the Project. The Applicant testified that Grant County has indicated it intends to apply the Ordinance made effective shortly after approval of the CUP for the Project. Evid. Hrg. Tr. at 47-49 (Wilhelm) (February 4, 2020). The record in this proceeding shows that Crowned Ridge II complies with both versions of the Grant County Ordinance – the one in effect at the time of the approval of the Project by Grant County, and the one made effective shortly after the vote. Evid. Hrg. Tr. at 217-218, 233-234, 237-239 (Haley) (February 4, 2020); Exs. A2; A14; A21 (Haley Direct, Supplemental and Rebuttal Testimony); Ex. A14-1 through Ex. A14-4 (Supplemental Testimony Sound and Shadow Flicker Studies); Ex. A21-1 through Ex. A21-3; and Ex. A28 and Ex. 29 (Rebuttal Testimony Sound and Shadow Flicker Results); and Ex. AC-19. Therefore, the record shows that the Crowned Ridge II will be in compliance with applicable laws, including the Grant County Ordinance.

<sup>24</sup> Ex. A1 through Ex. A29 (Application, Testimony, Exhibits); Ex. S1 (Direct Testimony of Kearney) and Ex. S7 (Stipulated Conditions).

<sup>25</sup> Ex. A5 at 7-10 (Wilhelm Direct Testimony) Ex. A1-K (County Use Permits).

<sup>26</sup> Ex. A1 at 28-90 (Application); Ex. A3 at 3-14 (Sappington Direct Testimony); Ex. A18 at 3-5 (Sappington Supplemental Testimony); Ex. A24 at 3-5 (Sappington Rebuttal Testimony); Ex. S7 (Stipulated Conditions); Evid. Hrg. Tr. at 376-378 (Sappington) (February 5, 2020).

<sup>27</sup> *Id.*

<sup>28</sup> Ex. A1 at 31-35 (Application) and Ex. A1-A, Figures 9a, 9b, and 10 (Maps).

<sup>29</sup> Ex. A1 at 34-35 (Application).

19. The evidence demonstrates that the Project does not pose a threat of serious injury to soil resources, including prime farmland.<sup>30</sup> The Project during construction will only impact approximately 1,940.2 acres of the 60,995 acre Project Area during construction, and only approximately 76.2 acres on a permanent basis.<sup>31</sup> Table 11.3 of the Application sets forth additional detail on the temporary and permanent impacts from the Project, broken down by land cover type.<sup>32</sup> 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.<sup>33</sup> For example, during construction, the Applicant has committed “. . . to 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.”<sup>34</sup>

20. The evidence also demonstrates that the Project does not pose a threat of serious injury to hydrological resources.<sup>35</sup> 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.<sup>36</sup> To minimize impacts, the Applicant has committed to implement BMPs, a SWPPP, and SPCC to mitigate impacts to hydrology resources.<sup>37</sup> The evidence also shows there will be no impact to flood storage areas.<sup>38</sup> The 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.<sup>39</sup>

21. The evidence demonstrates that the Project does not pose a threat of serious injury to terrestrial ecosystems.<sup>40</sup> Specifically, there are no anticipated impacts to federally or state-listed plants.<sup>41</sup> The Project will not involve any significant tree-clearing.<sup>42</sup> Also, Crowned Ridge II has designed the Project so to minimize, or, if possible, avoid infrastructure being site in wetlands.<sup>43</sup> To minimize temporary impacts to vegetation due to construction, the Applicant has also committed to implement BMP, a SWPPP, and SPCCP.<sup>44</sup> While the Project Area contains U.S. Fish and Wildlife Service (USFWS) wetland and wetland/grassland combination easements, the Project has been designed to avoid protected basins such that no surface impacts to protected basins are expected.<sup>45</sup> The Applicant will avoid impacts to USFWS grasslands and grassland-

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<sup>30</sup> Ex. A1 at 36-39 (Application) and Ex. A1-A, Figure 11 (Maps).

<sup>31</sup> Ex. A1 at 36-37 and 46-47 (Application).

<sup>32</sup> *Id.* at 46-47.

<sup>33</sup> *Id.* at 37, 88.

<sup>34</sup> *Id.* at 37.

<sup>35</sup> *Id.* at 38-44; Ex. A1-A, Figure 12.

<sup>36</sup> Ex. A1 at 38-44 (Application).

<sup>37</sup> *Id.*

<sup>38</sup> *Id.* at 43.

<sup>39</sup> *Id.* at 39, 40, 41, 44.

<sup>40</sup> Ex. A1 at 44-70 (Application); Ex. A1-F (Dakota Skipper and Poweshiek Skipperling Survey); Ex. A1-G (2017-2018 Raptor Nest Survey Report); Ex. A1-H (Avian Use Survey Report); Ex. A1-E (Bat Habitat Assessment Report); and Ex. A1-D (Bat Acoustic Survey Report).

<sup>41</sup> Ex. A1 at 47 (Application).

<sup>42</sup> *Id.* at 50.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.* at 87-89.

<sup>45</sup> *Id.* at 43.

wetland combination easements, as well as avoid impacts to native grassland to the extent practicable.<sup>46</sup> The BMPs will include re-vegetation practices and erosion control devices.<sup>47</sup> The Applicant has also agreed to compensate landowners for crop damage.<sup>48</sup> Pursuant to Condition No. 16, the Applicant will develop and implement a plan to control noxious weeds.

22. The evidence demonstrates that Crowned Ridge II does not pose a threat of serious injury to wildlife.<sup>49</sup> The Applicant has conducted extensive studies and consulted relevant studies to understand the potential impact to wildlife.<sup>50</sup> The Applicant will implement an avoidance, minimization, and mitigation approach to lessen the impact the Project has on wildlife, including mammals and avian species.<sup>51</sup> Crowned Ridge II also agreed to Staff's condition on the monitoring and mitigation of impacts to Whooping Cranes, which is included as Condition No. 47.<sup>52</sup> There will be no turbines or other infrastructure sited on Waterfowl Production Areas, Game Production Areas, walk-in areas, grassland, wetland/grassland combination easements, or on Farmers Home Administration Easements.<sup>53</sup> Pursuant to Condition No. 30, the Applicant will file a Bird and Bat Conservation Strategy prior to the start of construction. Also, Staff witness Morey-Meyer testified that the Applicant had appropriately coordinated with the South Dakota Department of Game, Fish, & Parks on the impact of the Project on wildlife.<sup>54</sup>

23. The evidence demonstrates that the Project does not pose a threat of serious injury to aquatic ecosystems.<sup>55</sup> Similarly, the evidence demonstrates that the Project does not pose a threat of serious injury to land use and will comply with local controls.<sup>56</sup> The Applicant has coordinated with landowners to locate infrastructure in a manner that minimizes the impact to their land uses.<sup>57</sup> 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.<sup>58</sup> The Applicant also committed to implement a number of BMPs to mitigate the impact of the Project on air and water quality.<sup>59</sup>

24. The Applicant will use lighting required by the Federal Aviation Administration (FAA).<sup>60</sup> The Applicant has also committed to equip the Project with a FAA-approved Aircraft

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<sup>46</sup> *Id.* at 14.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.* at 47; Ex. A3 at 6 (Sappington Direct Testimony).

<sup>49</sup> Ex. A1 at 50-67 (Application).

<sup>50</sup> Ex. A1 at 50-67 (Application); Ex. A1-F (Dakota Skipper and Poweshiek Skipperling Survey); Ex. A1-G (2017-2018 Raptor Nest Survey Report); Ex. A1-H (Avian Use Survey Report); Ex. A1-E (Bat Habitat Assessment Report); and Ex. A1-D (Bat Acoustic Survey Report); Ex. A3 at 3-5 (Sappington Direct Testimony).

<sup>51</sup> Ex. A1 at 63-64, 66-67 (Application).

<sup>52</sup> Evid. Hrg. Tr. at 406 (February 5, 2020).

<sup>53</sup> Ex. A1 at 77 (Application).

<sup>54</sup> Evid. Hrg. Tr. at 540-541, 544 (Morey-Meyer) (February 6, 2020).

<sup>55</sup> Ex. A1 at 70 (Application).

<sup>56</sup> Ex. A1 at 71-86 (Application); Ex. A1-A (Figures); Ex. A5 at 7-13 (Wilhelm Direct Testimony); Exs. A2; A14; A21 (Haley Direct, Supplemental and Rebuttal Testimony); Ex. A14-1 through Ex. A14-4 (Supplemental Testimony Sound and Shadow Flicker Studies); Ex. A21-1 through Ex. A21-3; and Ex. A28 and Ex. 29 (Rebuttal Testimony Sound and Shadow Flicker Results).

<sup>57</sup> Ex. A5 at 13 (Wilhelm Direct Testimony).

<sup>58</sup> Ex. A1 at 86-90 (Application).

<sup>59</sup> *Id.* at 87-90.

<sup>60</sup> *Id.* at 14, 21, 85.

Detection Lighting System (ADLS) to minimize visual impact of the Project starting at commercial operations.<sup>61</sup>

25. The Applicant has undertaken extensive study, surveys, and consultation with applicable tribes to identify and avoid sites of cultural, archaeological, and historical importance.<sup>62</sup> For example, the Applicant's Records Search per the South Dakota State Historic Preservation Office (SD SHPO) guidance identified 22 previously documented archaeological sites, 12 previously documented historic bridges, 54 previously documented standing historic structures, and 3 previously documented cemeteries have been recorded inside and within 1 mile of the Project Area.<sup>63</sup> As a mitigation measure, the Applicant will avoid direct physical impacts to National Register of Historic Places listed sites.<sup>64</sup>

26. The Applicant also consulted with the tribal members from the Sisseton Wahpeton Oyate, Yankton Sioux, and Spirit Lake Nation tribes (who were selected to represent those all applicable tribes) to identify significant tribal resources, and the Applicant included them as part of the survey field team.<sup>65</sup> The Applicant further consulted with the SD SPHO on the type and content of surveys.<sup>66</sup> Under Condition No. 11, the 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. Under Condition No. 12, the Applicant will also develop a plan to address any anticipated discovery of cultural resources, consistent with SDCL 34-27-25, 34-27-26, and 34-27-28. Pursuant to Condition No. 13, the Applicant will file with the Commission any amendments to the Level III Archaeological survey for prior to commercial operation. Further, pursuant to Condition No. 38, the Applicant will implement specific avoidance, minimization, and mitigation measures for Traditional Cultural Properties. Based on the record in this proceeding and the above Conditions, the Applicant has demonstrated that it will minimize or avoid impacts to cultural resources.

## 2. Social and Economic.

27. The Applicant has been developing the Project for 10 years through an iterative process to identify the Project Area.<sup>67</sup> During this time, the Applicant worked closely with federal and state agencies, landowners, and tribal and local governments to properly design and site the infrastructure for the Project.<sup>68</sup> The Applicant has all land rights needed to construct and operate the Project.<sup>69</sup>

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<sup>61</sup> *Id.* at 21, 85.

<sup>62</sup> Ex. A1 at 100-105 (Application); Ex. A3 14-16 (Sappington Direct Testimony); Evid. Hrg. Tr. at 377 (Sappington) (February 5, 2020); Evid. Hrg. Tr. at 535, 537-538 (Olson) (February 5, 2020).

<sup>63</sup> Ex. A1 at 101 (Application); Ex. A1-0 (Cultural Confidential).

<sup>64</sup> Ex. A1 at 104 (Application).

<sup>65</sup> Ex. A1 at 103 (Application); Ex. A3 at 15-16 (Sappington Direct Testimony).

<sup>66</sup> Ex. A1 at 109-108 (Application); Ex. A3 at 16 (Sappington Direct Testimony); Ex. A1-B (Agency Coordination).

<sup>67</sup> Ex. A1 at 2, 26-28 (Application).

<sup>68</sup> Ex. A1 at 2, 26-28, 86; A5 at 4-12 (Wilhelm Direct Testimony).

<sup>69</sup> Ex. A17 at 7 (Wilhelm Supplemental Testimony); Ex. A27-2 (Updated Land Status Map for 200 MW and 100 MW Deferral).

28. The Applicant has demonstrated that the Project does not pose a threat of serious injury to the community.<sup>70</sup> The Project will only permanently impact approximately 76 acres of land, with approximately 57 acres of prime farmland.<sup>71</sup> The Project is expected to have a negligible effect, if any, on the assessed values of private property and, therefore, on property taxes.<sup>72</sup> The Applicant has committed to coordinate with first responders and provide them with the Applicant's safety plan.<sup>73</sup> Further, the Applicant has 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.<sup>74</sup> Also, there will be approximately 250 temporary workers used during the construction of the Project, and 7-12 permanent workers in South Dakota to conduct operation and maintenance activities, including 10 wind technicians, 1 lead wind technician, and 1 site manager.<sup>75</sup>

29. 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.<sup>76</sup> Also, pursuant to Condition No. 24, the Applicant has agreed to take action to minimize interference the Project causes to radio, television, and other licensed communication transmitting or receiving equipment.

30. The record demonstrates that the Applicant will avoid and/or minimize impacts to transportation.<sup>77</sup> The Applicant has committed to coordinate with the South Dakota Department of Transportation (SDDOT), Deuel County, 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. The 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 the Applicant from Deuel County, Codington County and Grant County prior to beginning construction activities for which the permit is required.<sup>78</sup> Condition Nos. 7 and 8 also require Crowned Ridge II to obtain applicable road use agreements and implement specific road protection practices. Accordingly, based on the record, the Project does not pose a threat of serious injury to the community.

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<sup>70</sup> Ex. A1 at 90-100, 105-108 (Application); Ex. A1-L (Property Value Effects Studies); Ex. A1-M (Telecommunication Studies); Ex. A14 (Marous Supplemental Testimony); Ex. A14-1 (Market Impact Analysis) Ex. A22 (Marous Rebuttal Testimony); Ex. S5 and Ex. S6 (Direct and Supplemental Testimony of Lawrence).

<sup>71</sup> Ex. A1 at 37 (Application).

<sup>72</sup> Ex. A1 at 95 (Application) and Ex. A1-L (Property Value Effects Studies); Ex. A14 (Marous Supplemental Testimony); Ex. A14-1 (Market Impact Analysis); Ex. A22 (Marous Rebuttal Testimony); Ex. S5 and Ex. S6 (Direct and Supplemental Testimony of Lawrence).

<sup>73</sup> Ex. A1 at 98 (Application).

<sup>74</sup> Ex. A1 at 17, 93 (Application); Ex. A5 at 12-13 (Wilhelm Direct Testimony); and Ex. A6 at 3 (Hart Direct Testimony); Ex A6-2 (Allocation of Tax Revenues).

<sup>75</sup> Ex. A1 at 106 (Application); Ex. A4 at 8-9 (Thompson Direct Testimony).

<sup>76</sup> Ex. A1 at 99-100 (Application) and A1-M (Telecommunication Study).

<sup>77</sup> Ex. A1 at 98-99 (Application).

<sup>78</sup> *Id.* at 24.

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

31. The record demonstrates that the 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.<sup>79</sup> 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 at all times; and (4) the atmospheric conditions were assumed to be the most favorable for sound to be transmitted.<sup>80</sup> The Project will also not result in sound above 50 dBA at any non-participants property boundaries for those residences in Codington County.<sup>81</sup> The Applicant modelled sound levels with consideration the communicative sound impacts from Deuel Harvest and CRW I wind projects.<sup>82</sup> Further, the Applicant agreed to Condition No. 27 in order to further reduce certain non-participant sound levels, consistent with the proposal advocated by Staff witness Hessler.<sup>83</sup> Pursuant to Condition No. 26, the Applicant agreed to a post construction sound protocol to be used in the event the Commission orders post construction sound monitoring.

32. Similarly, the record also demonstrates that the Applicant has appropriately minimized the shadow and flicker for the Project to no more than 30 hours for all participants and non-participants inclusive of cumulative impacts from Deuel Harvest and CRW I, with the understanding that wind turbine CR-Alt-3 will need to be curtailed to ensure the shadow and flicker is no more than 30 hours at receptor CR1-C10-P.<sup>84</sup> The Applicant also used conservative assumptions, such as the greenhouse-mode, no credit for blockage due to tree and assumed the wind turbines were operating 100% of the time to model shadow and flicker, which, in turn, produces conservative results.<sup>85</sup>

33. There is no record evidence that the Project will substantially impair human health or welfare. To the contrary, Crowned Ridge II witnesses McCunney and Ollson submitted evidence that demonstrates that there is no human health or welfare concern associated with the Project as designed and proposed by the Applicant.<sup>86</sup> Both Crowned Ridge II witnesses analyzed the scientific peer-reviewed literature in the context of the proposed Project, and witness

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<sup>79</sup> Exs. A2; A14; A21 (Haley Direct, Supplemental and Rebuttal Testimony); Ex. A1-I (Sound Modeling Report); Ex. A14-1 and Ex. A14-3 (Supplemental Testimony Sound Studies); Ex. A21-1; Ex. A21-3; Ex. A28 and Ex. 29 (Updated Rebuttal Sound Results).

<sup>80</sup> Ex. A1-I at 1 (Sound Modelling Results); Evid. Hrg. Tr. at 217-218 (Haley) (February 4, 2020).

<sup>81</sup> *Id.* at 2.

<sup>82</sup> Ex. A1-I at 8-9 (Sound Modelling Results).

<sup>83</sup> Ex. S2 (Hessler Direct Testimony).

<sup>84</sup> Ex. A13 at 5 (Hart Supplemental Testimony); Exs. A2; A14; A21 (Haley Direct, Supplemental and Rebuttal Testimony); Ex. A1-J (Shadow Flicker Modeling Report); Ex. A14-2 and Ex. A14-4 (Supplemental Testimony Shadow Flicker Studies); Ex. A21-2; Ex. A21-3; Ex. A28 (Updated Rebuttal Shadow Flicker Results); Evid. Hrg. Tr. at 220 (Haley) (February 4, 2020).

<sup>85</sup> Ex. A2 at 7 (Haley Direct Testimony); Ex. A1-J at 1, 6; Evid. Hrg. Tr. at 218-220 (Haley) (February 4, 2020).

<sup>86</sup> Ex. A10, and Ex. A10-2 through A10-16 (Ollson Supplemental Testimony and Exhibits); Ex. A15, and Ex. A15-2 through A15-8 (McCunney Supplemental Testimony); Ex. A20 (Ollson Rebuttal Testimony); Evid. Hrg. Tr. at 322-323, 329-330 (McCunney) (February 5, 2020); Evid. Hrg. Tr. at 335-337, 368-369 (Ollson) (February 5, 2020).

McCunney testified based on his experience and training as a medical doctor specializing in occupational health and the impact of sound and shadow flicker on humans.<sup>87</sup>

34. There is no record evidence that the Project will substantially impair safety. The Applicant will meet or exceed required setbacks established for safety,<sup>88</sup> and, also, implement safety practices during construction, operation, and maintenance, including grounding wind turbines in accordance with National Electrical Safety Code standards.<sup>89</sup> The Project will be monitored twenty-four hours a day, seven days a week through the Supervisory Control and Data Acquisition system.<sup>90</sup> Also, the Applicant will implement a SWPPP and SPCC, part of which will ensure that state and local disaster services are coordinated with in the event of the accidental release of contaminants.<sup>91</sup> The Applicant will illuminate the wind turbines as required by the FAA,<sup>92</sup> with the understanding the Applicant has also agreed under Condition No. 34 to equip the Project with an ADLS. Condition No. 36 also requires the Applicant to use two methods to detect icing conditions on turbine blades to shut down turbines when they are accumulating ice. Condition No. 9 additionally requires that the Applicant develop and file a Temporary Traffic Control Plan. Further, Condition No. 4 requires the Applicant to mail to participant and non-participating landowners detailed safety information, including safety precautions, 14 days prior to the commencement of construction. Therefore, based on the record, the Project will not substantially impair safety.

**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.**

35. The Applicant holds CUPs from Grant County and Codington County, and a SEP from Deuel County.<sup>93</sup> Given that the Applicant holds these permits from the applicable local units of government, the Applicant has demonstrated, consistent with SDCL 49-41B-22(4), that the Project will not unduly interfere with the orderly development of the region.

In addition, Crowned Ridge II has 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.<sup>94</sup>

36. The Applicant has also committed to fund decommissioning consistent with Condition No. 33.

#### **IV. GENERAL**

37. 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

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<sup>87</sup> *Id.*

<sup>88</sup> Ex. A1 at 73-76 (Application) and Ex. A5 at 8-10 (Wilhelm Direct Testimony).

<sup>89</sup> Ex. A1 at 21, 108 (Application) and Ex. A4 at 3, 5, 7 (Thompson Direct Testimony).

<sup>90</sup> Ex. A1 at 24-25 (Application) and Ex. A4 at 5, 8 (Thompson Direct Testimony).

<sup>91</sup> Ex. A1 at 13, 14, 25, 37, 39, 43, 88, 95, 98 (Application).

<sup>92</sup> *Id.* at 14.

<sup>93</sup> Ex. A5 at 7-10 (Wilhelm Direct Testimony); Ex. A1-K (County Use Permits).

<sup>94</sup> Ex. A1 at 107 (Application); Ex. A1-N (Decommission Plan).



SDCL Chapter 49-41B and ARSD Chapter 20:10:22. SDCL 49-41B-13(2). 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 in Commission practice.

38. 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. SDCL 49-41B-13(1). The Commission finds that the application and its accompanying statements and studies did not contain any deliberate misstatements of material facts.

39. The Commission finds that the Permit Conditions attached hereto as Attachment A 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 and should be adopted.

40. The Commission finds that the Project, if constructed in accordance with the terms and 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.

41. The Commission finds that the Project, if constructed in accordance with the terms and 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.

42. The Commission finds that the Project, if constructed in accordance with the terms and conditions of this decision, will not substantially impair the health, safety or welfare of the inhabitants in the siting area.

43. The Commission finds that the Project, if constructed in accordance with the terms and conditions of this decision, 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.

44. The Commission finds that a permit to construct the Project should be granted subject to the Permit Conditions set forth in Attachment A.

45. 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.

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

## CONCLUSIONS OF LAW

1. The Commission has jurisdiction to consider the Application under SDCL Chapter 49-41B.
2. The Crowned Ridge Wind II Project proposed by Applicant is a wind energy facility as defined in SDCL 49-41B-2(13).
3. Applicant's permit Application, as amended and supplemented through the proceedings in this matter, complies with the applicable requirements of SDCL Chapter 49-41 B 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 needs no other information to assess the impact of the proposed facility or to determine if Crowned Ridge II has met its burden of proof.
6. The Commission satisfied the hearing and notice requirement in SDCL 49-41B.
7. Applicant satisfied the applicable notice requirements in SDCL 49-41B.
8. All other applicable procedural requirements in South Dakota Codified Law 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. Applicant must comply with the applicable Deuel County, Grant County, and Codington County ordinances.

14. 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.

15. 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.

16. The transfer of the Facility Permit to Northern States Power Company (NSP) prior to the commercial operations is hereby approved. Crowned Ridge II shall file a notice within 5 business days after the transfer to NSP.

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, and the Stipulation.

It is therefore

ORDERED, that a permit to construct the Crowned Ridge Wind II Project is granted to Crowned Ridge Wind II, 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.

## PROPOSED 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. Applicant shall file an affidavit with the Commission attesting that all permits were properly obtained prior to commercial operation.
2. Applicant shall (1) construct, operate, and maintain the Project in a manner consistent with descriptions in the Application, (2) Application supplements and corrections, (3) commitments made by Applicant in the Application and responses to data requests, (4) the Final Decision and Order Granting Permit to Construct Facility, and attached Permit Conditions (the "Permit"), (5) all applicable permits issued by a federal, state, or local agency with jurisdiction over the Project, and (6) 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 may 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 Permit;
  - 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 shall be made aware of the terms and conditions of this Permit prior to the start of construction.
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 Deuel, Codington, 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 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 develop a Temporary Traffic Control Plan and provide signage, vehicle lighting, and/or flagging that identifies road closures and disturbances resulting from the Project in accordance with the most recent edition of the Manual on Uniform Traffic Control Devices as published by the Federal Highway Administration. The Temporary Traffic Control Plan shall be filed with the Commission prior to the start of construction.

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 prior to excavation of the area 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 any amendments to the Level III Archaeological survey with the Commission and provide a copy of the survey to the 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 additional surveys, 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 for such plans. 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 shall be given a copy of the SWPPP and the requirements shall be reviewed with them by Applicant 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 location adjustments of 250 feet or less from the turbine locations identified at the time the 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 location adjustment, Applicant will file in the docket an affidavit demonstrating compliance with the limitations set forth above. Any turbine location adjustment that does not comply with the aforesaid limitations, or turbine model change, shall 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 location adjustment, the reason for the location adjustment, the reason the location 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 location adjustment (in different colors).
  - Once received, Commission Staff shall have 10 calendar days within which to request further Commission review of the request
  - If no further review is requested, Applicant may proceed with the location adjustment.
  - If further review is requested, the Commission will issue a decision on 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 locations and details of access roads, the collector and communications systems, meteorological tower(s), 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 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 Crowned Ridge Wind II Project (CRW II), exclusive of all unrelated background noise except for that associated with the pre-existing Crowned Ridge Wind I Project (CRW I), 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 act in accordance with prudent operating practice 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 both the CRW II and CRW I Projects are operating at full power production irrespective of the ground level wind speed. For the on/off tests, all units owned by CRW II and CRW I within at least 1 mile of the measurement position 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.) with the understanding that the Applicant may request Commission Staff to facilitate the curtailment of any CRW I turbines, and Commission Staff shall facilitate the coordination between CRW II and CRW I on any curtailment. 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. At least 6 measurement locations total shall 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 associated with the CRW II and CRW I Projects 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. The background sound level shall be measured with all turbines within at least 1 mile of the measurement location temporarily shut down. This would include turbines that are part of the CRW I Project for measurement positions in the northern part of the CRW II Project, with the understanding that the Applicant may request Commission Staff to facilitate the curtailment of any CRW I turbines, and Commission Staff shall facilitate the

coordination between CRW II and CRW I on any curtailment. 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 turbine locations CRII-94, CRII-97, CRII-134, and CRII-Alt 6 as primary turbines and relegate turbine locations CRII-13, CRII-72, CRII-77, and CRII-Alt 5 to alternative status. 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 & Parks (SD GF&P), 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. At least 60 days prior to construction on property enrolled as a SD GF&P walk-in area, Applicant shall contact the SD GF&P to coordinate public access to the walk-in area that will be temporarily disrupted due to construction activities.
  32. If the Project is decommissioned, Applicant shall comply with Section 21 of the Application and the decommissioning plan set forth in Appendix N of the Application. The Commission shall be notified prior to the commencement of any decommissioning activities at the project.
  33. If Applicant is purchased by Northern States Power Company, doing business as Xcel Energy, as stated in Sections 1.0 and 3.0 of the Application, Xcel Energy will assume financial responsibility for decommissioning and provide funding for the decommissioning and removal of the Project. As a regulated electric utility, the projected financial cost of decommissioning will be reviewed when Xcel Energy requests recovery of the Project

investment and associated decommissioning cost from customers in a rate proceeding. The Commission may review and adjust the Project decommissioning cost recovered from customers in subsequent Xcel Energy rate proceedings using the most current information available regarding decommissioning.

In the event Xcel Energy does not purchase CRW II, 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 "Decommissioning Funding Account"). The escrow agreement shall incorporate the following requirements:

- a) The escrow account shall be funded by the Applicant 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 Applicant may request and 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 Decommissioning Funding Account shall remain in the Decommissioning Account until such funds are used for decommissioning of the facility or are returned pursuant to Permit Condition 33(i) or Condition 33(j).
- d) A statement of the Decommissioning Funding Account shall be provided annually to the Commission and become a public record in this docket.
- e) The escrow account obligations will be those of CRW II and the escrow agreement shall include terms providing that the agreement binds CRW II'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 subject to venue 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 following factors:
  - i. That CRW II agreed to the creation of the escrow account;
  - ii. CRW II 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 deposited into the escrow account;

- v. The recipient of its remainder following the completion of decommissioning activities (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, and shall 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 shall be payable to the landowner who owns the land on which associated Project facilities are located as the landowner incurs and pays decommissioning costs.
34. The Project shall be equipped with an operating Aircraft Detection Lighting System approved by the Federal Aviation Administration (FAA) that will be operated in accordance with the applicable FAA requirements starting with the commercial operation date and for the life of the Project, subject to normal maintenance and forced outage.
35. 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 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.
36. 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 tower(s), 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 property damage caused by ice thrown from a turbine.
37. 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.
38. 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.
39. 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.
40. Applicant shall construct and operate the Project in accordance with the terms and conditions of the Permit and in accordance with applicable laws. Failure to do so may lead to the revocation or suspension of the Permit pursuant to SDCL 49-41B-33. If an individual turbine is constructed or operated in a materially different manner than what is approved in the terms and conditions of the Permit then removal of the turbine may be ordered by the Commission unless an exemption is obtained from the Commission pursuant to Condition 41.
41. 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 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.
42. 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.
43. 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;
  - 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.
44. 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 among 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 regular 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 after the Project completes final reclamation of disturbed land, unless the appointment is terminated earlier than set forth above, or extended, by order of the Commission.
45. 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, Deuel County, and Grant County, and the Codington County, Deuel County, and Grant County Offices of Emergency Management.
46. 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 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 any known landowner complaints and Applicant's plan for resolving those complaints.
47. Applicant shall establish a procedure for preventing whooping crane collisions with turbines during operations by establishing and implementing formal plans for monitoring

the project site and surrounding area for whooping cranes during spring and fall migration periods throughout the operational life of the project and shutting down turbines and/or construction activities within 2 miles of whooping crane sightings. The SD GF&P will be consulted on the procedure to minimize impacts to whooping cranes.