

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

**IN THE MATTER OF THE
APPLICATION BY CROCKER WIND
FARM, LLC FOR A PERMIT OF A
WIND ENERGY FACILITY AND A 345
KV TRANSMISSION LINE IN CLARK
COUNTY, SOUTH DAKOTA, FOR
CROCKER WIND FARM**

* **STAFF’S FIRST SET OF DATA**
* **REQUESTS TO CROCKER WIND**
* **FARM, LLC**
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* **EL17-055**
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Below, please find Staff’s First Set of Data Requests to Crocker Wind Farm, LLC. Please submit responses within 10 business days, or promptly contact Staff to discuss an alternative arrangement. In addition, please specify the responder when answering each interrogatory. Should any response have subparts answered by more than one individual, identify the respondent by subpart.

1-1) Provide copies of all data requests submitted by other parties to Crocker Wind Farm, LLC in this proceeding and copies of all responses provided to those data requests. Provide this information to date and on an ongoing basis.

Melissa Schmit: No data requests have been received to date. Crocker will provide this information to the PUC as they are received.

1-2) Refer to Page 135 of the Application, Table 12-1, and ARSD 20:10:22:05. Does the column labeled “Status” on Table 12-1 refer to when the permit will be filed? Please explain.

Melissa Schmit: This column refers to the timeframe an approval/permit is anticipated to be obtained.

1-3) Refer to Page 2 of the Application. When does the Applicant anticipate receiving approval from the USFWS to use the 14 USFWS grassland easements? Please explain.

Melissa Schmit: The USFWS would issue the permits to allow construction and operation on grassland and wetland easements shortly after the completion of the NEPA process. These permits are anticipated to be received in the second quarter of 2018. This process is further described in Section 9.5.3 of the Application.

1-4) Refer to Page 16 of the Application. The applicant states, “At 400 MW, the Project would benefit landowners in the Project Area with average annual lease payments of approximately \$2.3 million for the first 20 years totaling approximately \$46

million.” Please provide a detailed calculation to support the claim of approximately \$2.3 million in annual lease payments to landowners.

Jay Hesse: The wind lease landowner payments are summarized in the table below. Crocker requests the detailed information provided regarding landowner payments remains confidential and only for the use of the SD PUC. During the construction and operational phases of the wind farm, signed wind leases will be paid primarily through calculating wind turbine rent based on the megawatts (MWs) of turbine capacity installed on the property and acreage rent calculated based on the signed acres in the operational wind lease. Landowners are also paid for the permanent met towers installed as listed in the table below.

*Please note the wind lease table has been redacted from this version.

1-5) Refer to Page 16 of the Application. The applicant states, “wind energy infrastructure will also provide an additional source of revenue in to the State, school districts, county and townships in which the Project is sited. This same size project is estimated to pay approximately \$1.8 million per year in wind farm capacity and production taxes, totaling approximately \$36 million over 20 years.”

a) Please provide a detailed calculation to support the claim of approximately \$1.8 million per year in wind farm capacity and production taxes.

Melissa Schmit/Jay Hesse/Mollie Smith: The yearly tax projection is based on the Wind Farm Production and Capacity tax defined in SD Codified Law (SDCL) Chapter 10-35. The taxes are calculated as follows:

- Nameplate Capacity Tax – An annual tax equal to \$3.00 multiplied by the nameplate capacity (in kilowatts) of the wind farm. SDCL § 10-35-18 (2017).
- Electricity Production Tax – An annual tax of \$.00045 per kilowatt hour of electricity produced by the wind farm. SDCL § 10-35-19.1 (2017).

Both taxes are deposited in a renewable facility tax fund. SDCL § 10-35-20 (2017). All of the nameplate capacity tax, and 20% of the electricity production tax, deposited in the renewable facility tax fund are distributed to the county treasurer where the wind farm is located. SDCL § 10-35-21 (2017). Upon receipt of the taxes, the county auditor apportions the taxes as follows:

- 50% to the school district where each wind tower is located;
- 15% to the organized township where each wind tower is located (if there is not an organized township, this amount goes to the county); and
- 35% to the county.

SDCL § 10-35-21 (2017). All remaining revenue (the other 80% of the electricity production tax) in the renewable facility tax fund is deposited in the state general fund. SDCL § 10-35-21 (2017).

The estimates in the Application are based on Crocker operating 400 MW's of nameplate capacity and conservative production numbers.

- Nameplate Capacity Tax – $\$3.00 \times 400,000 \text{ kW} = \$1,200,000$ annually.
- Electricity Production Tax – $\$.00045 \times \sim 1,334,000,000 \text{ kilowatt hours} = \sim \$600,000$ annually.

The actual amount paid will be based on current law and real operations of the year in question.

Of these amounts, allocations to taxing jurisdictions based on the percentages in SDCL § 10-35-21 (80% of roughly \$600,000 in production tax will go to the State, with the remainder distributed to the County in the proportions noted above) are projected below with conservative production measures:

- State of South Dakota: Approximately \$480,000 per year totaling \$9.6 million over 20 years
- Clark County: Approximately \$462,000 per year totaling \$9.24 million over 20 years
- Townships: Approximately \$198,000 per year totaling \$3.96 million over 20 years
- School Districts: Approximately \$660,000 per year totaling \$13.2 million over 20 years
 - NOTE: Per SDCL Chapter 13-13, after the fifth year of wind farm production, the amount of the wind energy tax revenue that is considered “local effort” in the State school funding formula will increase by 20 percent each year until year 10 of production. After year 10, all wind energy tax revenue will be considered “local effort” in the State school funding formula, which may decrease the amount of State aid needed to meet the districts’ calculated total need. However, 100 percent of the wind tax revenue allocated to the school districts will still be received by the school districts in all years the Project is operational.

Details are also provided on pages 114-115 of the Application (Section 9.7.1.2).

1-6) Refer to Pages 19-20 of the Application. The applicant states, “To accommodate this final micro-siting, Crocker requests that the permit allow turbines to be shifted within 1,000 feet of their current proposed location, so long as specified noise and shadow flicker thresholds at occupied residences are not exceeded, cultural resources and sensitive species habitat are avoided, and wetland impacts are avoided to the extent practicable. If turbine shifts are greater than 1,000 feet, exceed the noted thresholds, or do not meet the other limitations specified, Crocker would either not use the turbine location or obtain Commission approval of a proposed turbine location change.”

- a) **Please provide a detailed and thorough explanation as to why 1,000 feet was selected as the appropriate distance a turbine could be shifted without obtaining Commission approval.**

Melissa Schmit/Mollie Smith: Based on the results of Class III cultural resource field surveys obtained in late November 2017, Crocker determined that turbine shifts of up to 1,000 feet would be required to avoid impacts to identified cultural resources. Therefore, in its Application Crocker requested the ability to shift turbines 1,000 feet to allow sufficient flexibility to avoid unanticipated cultural resources identified during construction, as well as to account for the other factors noted in Section 4.2 of the Application (e.g., geotechnical survey results).

- b) **Refer to Docket EL17-028, the Applicant’s Motion to Reconsider filed on November 9, 2017, Argument 2, the revised layout. The Applicant stated “Applicant intends to introduce evidence at hearing intended to lead to the Commission granting a condition allowing non-material shifts in turbine locations of less than 325' without further Commission action.” Please explain why the Applicant changed its proposed criteria for triggering further Commission action regarding turbine location changes from 325 feet to 1,000 feet. Please include specific evidence in your explanation.**

Melissa Schmit/Mollie Smith: At the time the Motion to Reconsider was filed, Crocker believed 325 feet would allow sufficient flexibility to shift turbines to avoid later-identified cultural resources. However, after the Motion to Reconsider was filed, Crocker received the results of the Class III cultural resource field surveys and determined that 325 feet was insufficient to enable avoidance of cultural resources; instead, up to 1,000 feet was needed. As a result, in its current Application, Crocker requested the ability to shift turbine locations up to 1,000 feet to ensure sufficient flexibility to avoid unanticipated discoveries during construction, as well as to account for the other factors noted in Section 4.2 of the Application (e.g., geotechnical survey results).

- c) **Please describe what the Applicant envisions as the process to obtain Commission approval of a proposed turbine location change.**

Mollie Smith: With respect to the approval of a turbine location change, Crocker proposes the following process:

- Crocker would file with the Commission a request for approval of the change that includes:
 1. An affidavit describing the proposed change, the reason for the change, the reason the change does not comply with one or more turbine flexibility proposal limitations set forth in the Application, and the documentation referenced below;
 2. A map showing both the approved location and the proposed change (in different colors);

3. Documentation demonstrating compliance with local zoning requirements, including setbacks from existing off-site residences, non-participating property lines, and cemeteries, and the noise requirement at existing off-site residences;
 4. Documentation demonstrating compliance with voluntary commitments regarding cultural resources, wetlands, and sensitive species habitat;
 5. Documentation of compliance with, or a waiver by participating landowners of, voluntary commitments regarding noise and shadow flicker.
- Once received, the information would be reviewed by Commission Staff, and a recommendation regarding the request provided to the Commission.
 - The Commission would then issue a decision regarding Crocker's request at its next regularly scheduled Commission meeting.

It should be noted that for any turbine location shifts that comply with the turbine flexibility parameters set forth in the Application, Crocker would provide similar documentation describing the shift and demonstrating compliance with the noted limitations prior to implementing the turbine change. The only difference would be that approval of the change would not be required.

- 1-7) Refer to Page 24 of the Application. The applicant states, "Crocker is in the process of identifying the best haul route to the Project site and where existing road improvements may be required. Crocker will work with the appropriate Federal, State, and/or local agencies to obtain the permits required for these improvements."**
- a) When does the Applicant anticipate finishing the process of identifying the best haul route to the Project?**

Melissa Schmit: Identifying the best haul routes will occur in conjunction with road agreements through coordination with road authorities. Crocker expects to have road agreements executed by the second quarter of 2018.

- b) Please provide the best haul route when finalized.**

Melissa Schmit: Planned haul routes will be provided when finalized.

- 1-8) Refer to Page 38 of the Application. The applicant states, "The sale of the electricity may take the form of a power purchase agreement or a sale of the Project to a utility. Crocker's target completion for the initial phases of this sale is in the first quarter of 2018. This sale will drive the timelines for many of the major financial commitments such as equipment procurement and construction contracting improvements." Since the time schedule may be modified based on the sale of the electricity, please provide updates on the sale of the electricity and modifications to the time schedule as information becomes available.**

Melissa Schmit: Updates on the sale of electricity and modifications to the time schedule will be provided as requested. At this time, Crocker's target completion for the initial phases of the sale remains the first quarter of 2018.

1-9) Refer to Page 46 of the Application regarding the Clark County Conditional Use Permit.

a) Provide the Clark County Conditional Use Permit obtained in April 2017.

Melissa Schmit: See attached.

b) Please summarize the permit terms that the Applicant is seeking clarification in Circuit Court.

Melissa Schmit: Crocker has requested the Clark County Board of Adjustment clarify terms of the following conditions (numbers 1, 2, 6) to accurately represent the intent of the Board. The condition and summary of amendment requested follows.

Condition #1: The setback distance from existing off-site, non-participating residences shall be ¾ mile measured from the wall line of the neighboring principal building to base of the WES tower, unless otherwise negotiated pursuant to the zoning ordinance.

- Certain terms in this condition are not defined in the Clark County Zoning Ordinance for a Wind Energy System or in the CUP. As a result, Crocker has requested clarification from the County as to those residences intended to be included within the setback.

Condition #2: The construction and operation of the WES shall be done in a manner so as to not interfere with the maintenance and operation of other utility and telecommunications lines, specifically incorporating and terms and conditions contained in the Resolution proposed by Interstate Telecommunications Cooperative which resolution is part of the file in this matter.

- The Resolution provided by the ITC at the hearing on March 7, 2017 contains provisions that require further negotiation. Crocker is working with the ITC to reach agreeable terms and has requested that the Board accept the revised Resolution once these negotiations are finalized.

Condition #6: The applicant shall, at a minimum, meet all standards in the zoning ordinance or proposed in its application if more stringent than the zoning ordinance, including but not limited to the following categories: Mitigation measures; Roads, Setbacks, Electromagnetic Interference; Lighting; Turbine Spacing; Footprint Minimization; Collector Lines; Feeder Lines; Decommissioning; Abandoned Turbines; Height from Ground Surface; Tower Design; Noise; Permit Expiration Limitation of three years; and any other conditions the Board of Adjustment deems necessary.

- As directed by the First District Association of Local Governments in Watertown (which advises regarding matters of local government within the First District), Crocker requested in its CUP application immediate approval of the CUP with the condition that the three-year term commence once all conditions in the permit were met. Given this request and the wording of Condition #6, the intent regarding whether the Project must commence on-site construction within three years of issuance is unclear. Therefore,

Crocker has requested clarification that the Permit Expiration Limitation of three years will commence once all conditions have been met.

- c) Provide the status and timeline of the pending litigation in Circuit Court regarding the Clark County Conditional Use Permit. Please consider this an ongoing request and provide updates as information becomes available.**

Brett Koenecke: The Clark County litigation is pending and on hold. The Project has advised the County that the setbacks are no longer at issue. The parties continue dialogue between them in order to finally resolve the remaining issues. There is no timeline at present.

- 1-10) Refer to ARSD 20:10:22:13 regarding environmental information. Please identify any irreversible changes which are anticipated to remain beyond the operating lifetime of the facility.**

Melissa Schmit: No irreversible changes are anticipated to remain beyond the operating lifetime of the Project. At the end of commercial operation, the Project will be decommissioned and restored as detailed in Section 5.0 of the Application.

- 1-11) Refer to ARSD 20:10:22:33 regarding decommissioning. Please provide the estimated amount of land irretrievably committed.**

Melissa Schmit: No land will be irretrievably committed. While some project facilities will be removed to a depth of 48 inches and left in place (foundation or collection), the excavation will be filled with clean subgrade material of quality comparable to the immediate surrounding area. A four-foot depth of removal ensures foundation or collection will not interfere with farming, root zones of crops typically grown within the Project Area, or the construction of roads and the installation of utilities.

- 1-12) Refer to SDCL 49-41B-5.2 regarding the notification of area landowners by mail. Specifically, “The applicant shall notify, in writing, the owner of record of any land that is located within one-half mile of the proposed site where the facility is to be constructed. For purposes of this section, the owner of record is limited to the owner designated to receive the property tax bill sent by the county treasurer. The notice shall be mailed by certified mail. The notice shall contain a description of the nature and location of the facility. Any notification required by this section shall state the date, time, and location of the public hearing and shall be made no later than thirty days prior to the date of the public hearing.”**

- a) Provide a proof of mailing that the public hearing notice was mailed via certified mail to the individuals within one-half mile of the proposed site no later than 30 days prior to the date of the public hearing.**

Brett Koenecke: Proof of mailing is or soon will be filed in the docket by Project counsel.

b) Provide a list of the individuals provided the mailed notice.

Brett Koenecke: A list is attached. It is the same list which was used for the prior Crocker docket.

c) Confirm or deny that all individuals provide in 4-1b received the mailing via certified return receipts.

Brett Koenecke: The mailing went by certified mail, return receipt requested, pursuant to law. It was sent to all on the list. Some accepted it, some rejected it, some were forwarded, and some returned.

d) Provide a copy of the letter sent to landowners.

Brett Koenecke: A copy is attached.

1-13) Provide the status of the study required by Clark County on the feasibility of installing an aircraft detection lighting system (ADLS) on the Crocker Wind Farm. Provide the study when completed.

Melissa Schmit: To determine the feasibility of implementing ADLS, Crocker was required to refile the Project turbine locations with the FAA to ensure implementation of the technology at the site will satisfy the FAA requirements for ADLS as described in the Advisory Circular 70/7460-1L Chapter 14: Aircraft Detection Lighting Systems.¹ On December 15, 2017, Crocker received “Determinations of No Hazard” responses for proposed turbine locations up to 499 feet with ADLS technology. Crocker has been working with vendors and a study has been prepared. The study will be provided to Clark County by the end of January and Crocker will provide the study to the PUC once it has been transmitted to the county.

1-14) In Section 2.3.2, Applicant asserts that 250 jobs are anticipated at peak. When is peak construction anticipated to occur, and what is the anticipated duration of peak construction?

Jay Hesse: Crocker anticipates peak construction jobs to occur when construction is in process simultaneously for the various wind farm and transmission facilities. Peak construction jobs are anticipated through June, July, and August of 2019. The timing of peak construction would be subject to change based on the final construction schedule, the turbine selected, weather, procurement schedule or other factors.

1-15) Clark County hosts natural gas transmission facilities that may require regular flyovers. Has Applicant coordinated with the operator of those facilities, Northern Border Pipeline Company, to ensure this can be done in a safe manner?

¹ Technical requirements for radar activated control of obstruction lighting are described in FAA Advisory Circular AC/70/7460-1L, Chapter 14 at: https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_70_7460-1L_.pdf.

Jay Hesse: Crocker has coordinated with Northern Border Pipeline Company. Due to the setback from the pipeline they do not anticipate any problems with fly-overs. The Project design includes wind farm facility setbacks from the pipeline that are consistent with other projects developed by Geronimo Energy that are now successfully operating with Northern Border Pipeline facilities going through the project.

1-16) How will Applicant ensure that field tile is protected during construction and/or any damage corrected after construction?

Jay Hesse: Crocker has been coordinating with project landowners on the location of their field tile and, overall, the Crocker Project Area has very limited field drain tile. Crocker will continue coordination with landowners, including field visits with landowners as needed, ahead of construction activities to identify tile locations. The Project will use commercially reasonable efforts to avoid impacts when possible and Crocker will ensure that tile is repaired if impacted by construction or operation. Crocker will have a qualified contractor undertake all tile repair work.

Melissa Schmit: Updated agency correspondence from Western Area Power Administration and the National Telecommunications and Information Administration are also attached to this Data Request.

Dated this 17th day of January 2018.



Melissa Schmit

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

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APPLICATION BY CROCKER WIND
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**CROCKER WIND FARM, LLC'S
RESPONSES TO STAFF'S SECOND
SET OF DATA REQUESTS**

EL17-055

Below please find Crocker Wind Farm, LLC's Responses to Staff's Second Set of Data Requests.

2-1) Pursuant to ARSD 20:10:22:15(4), please provide the estimated recharge rate of the aquifer to be used for the O&M facility's potable water supply.

Brie Anderson: Potable water for the O&M facility would be supplied by one of the two aquifers within the Project Area: the Prairie Coteau 1 and Altamont 2 aquifers. According to Hamilton (1986), the average annual recharge rate for the Prairie Coteau 1 and Altamont 2 aquifers are 16,000 and 54,000 acre-feet, respectively. As discussed in Section 9.2.2.1 of the Application, shallow groundwater aquifers like those within the Project Area generally recharge quickly because they are receptive to recharge from precipitation and surface water flow; thus, the Project is not anticipated to affect groundwater resources.

2-2) On Page 70 of the Application it is identified that "All temporary impact acreages identified in Table 9-10 will be restored following construction, and allowed to naturally revegetate." Please explain what is meant by the phrase "allowed to naturally revegetate."

Melissa Schmit: Following construction, temporary impacts will be restored by seeding the disturbed soil with weed-free native grasses, forbs, and shrubs, in consultation with land managers and appropriate agencies. On grassland easements, the seed mix will be USFWS-approved. The phrase "allowed to naturally revegetate" refers to the act of loosening soil as necessary and laying the seed mix.

2-3) Referring to the last paragraph of section 9.5.5.2, what distance is being referred to where the project "would not be noticeably visible, if visible at all?"

Brie Anderson: The Region of Influence for cumulative impacts for visual resources is 25 miles. This distance is consistent with the USFWS Upper Great Plains Programmatic Environmental Impact Statement ("PEIS").

2-4) Referring to section 9.5.7.3, has Crocker already aligned turbine rows so that they point towards/away from the radar since Crocker does not anticipate mitigation will include moving turbines?

Melissa Schmit: Crocker has not aligned turbine rows so that they point towards/away from the radar. On March 16, 2016, Crocker sent a Project notification letter to the National Telecommunications and Information Administration (“NTIA”). The response included an Impact Analysis from the Department of Commerce National Oceanic and Atmospheric Administration (“NOAA”), located in Appendix H of the Application. The NOAA response indicated that while a portion of the Project falls within the Notification Zone, they “will not request mitigation of impacts for this project configuration.” Thus, while the letter goes on to outline potential mitigation strategies, the NOAA indicated they would not be required.

Crocker submitted an updated request to the NTIA based on the expanded Project boundary on November 16, 2017. A response was received on January 11, 2018, which was filed to the Project Docket on January 25, 2018. The response stated input was received from the Department of Agriculture, Department of Commerce, Department of Justice, and Department of Navy. No agencies had issues with turbine placement in the Project Area and, the response stated No Harmful Interference Anticipated (“NHIA”).

The language in Section 9.5.7.3 is inaccurate and should state: “The NOAA determined impacts to critical tornado detection from the Project are not anticipated and mitigation measures to reduce impacts to radar will not be required per the DOC/NOAA’s report dated April 4, 2016. Therefore, aligning turbines so rows of turbines point towards/away from the radar or moving turbines will not be required. Crocker will provide a final layout to the agencies for review as requested and implement other forms of mitigation, if necessary. Potential mitigation to ensure accurate rainfall measurements could include installing rain gauges or additional weather stations in the northern portion of the Project Area where precipitation estimates may be impacted. Additionally, the FAA review circulates to the weather radar operators allowing them to map the layout on their radar system to create a mask that then allows them to screen the interference from their forecasting.”

2-5) Referring to section 9.7.1.2, pursuant to ARSD 20:10:22:24 please provide a description of job classifications for each of the 18 full time jobs to be created by the project.

Jay Hesse: The JEDI model calculates that a 400 MW project will require approximately 18 full time jobs during operation and they are broken down into the following job classifications.

Field Technicians:	14.4
Administrative:	2.1
Management:	1.6

Total: Approximately 18

Field Technicians: These positions are responsible for the onsite operations, maintenance, repairs and replacement of equipment for the Project and lead in all areas of operations as directed by the onsite manager.

Administrative: These positions are primarily responsible for supporting the operation and management team of the Project by maintaining records and administration of personnel activities for the Project.

Management: These positions are responsible for managing the day to day operations and maintenance of the Project. Duties include development and compliance with an operating budget, outage coordination and scheduling with the interconnect entity, scheduling coordinator and trading desk, and oversight of operations and maintenance.

2-6) Please provide a breakdown of the cost estimate for turbine decommissioning by cost category, including: labor, equipment (e.g. crane costs), shipping, disposal, salvage value, and site restoration. Further, please provide a separate calculation for the expected cost values at the end of the wind farm's operational life.

Rob Copouls: As stated in Section 5.2 of the Application, the actual cost to decommission will be based on the various costs and scrap material prices at the time of decommissioning. The cost estimate of \$100,000 to \$150,000 per turbine provided in the Application was based on labor costs and material prices from Geronimo's operating projects' decommissioning plans. An estimated breakdown per turbine follows:

Labor (removal of turbine, foundation and access road): ~\$53,500

Equipment Cost (including crane): ~\$84,000

Site Restoration: ~\$6,000

Removal Cost Per Turbine: ~\$143,500

Scrap Value of Tower Steel/Generator Components: ~\$55,000

Shipping/Disposal: 200 tons at ~\$100/ton (~\$20,000)

Total Salvage Value: ~\$35,000

A breakdown of equipment costs required per turbine follows:

Crawler Crane: ~\$40,000

Hydraulic Crane (required for processing scrap): ~\$10,000

Clamshell Attachment: ~\$50.00

Dump Truck: ~\$11,000

Hydraulic Excavator: ~\$800.00

Hydraulic Ram: ~\$400.00

Truck Tractor/Dump Trailer/Flatbed Trailer: ~\$1,500.00

Dozer: ~\$200.00

Skid Steer Loader: ~\$200.00

Hydroseeder: ~\$40.00

Mobilization/Demobilizing Equipment: ~\$20,000

A separate calculation for the expected cost values at the end of the wind farm's operational life cannot be provided at this time due to the difficulty in predicting inflation over the next 30+ years. Because an accurate estimate cannot be determined, industry standard is to reevaluate decommissioning costs every five years and provide an estimated cost with inflation 5 years out. The estimates provided above are in current dollars and an estimate for 7 years from now (assuming 2 years for development/construction) is provided below, assuming 1.70% Consumer Price Index inflation.

Labor (removal of turbine, foundation and access road): ~\$60,000

Equipment Cost (including crane): ~\$95,000

Site Restoration: ~\$7,000

Removal Cost Per Turbine: ~\$161,500

Scrap Value of Tower Steel/Generator Components: ~\$62,000

Shipping/Disposal: 200 tons at ~\$112/ton (~\$22,500)

Total Salvage Value: ~\$40,000

2-7) Please provide the GIS shapefiles for the proposed project layout.

Melissa Schmit: GIS shapefiles are attached.

2-8) Referring to Figure 2b please identify if easements are required from the non-participating landowners for the portion of the preliminary collector line that runs between turbines 228 and 151. If easements are required, please provide the status of the easements.

Mollie Smith: The preliminary collector line that extends between turbines 228 and 151 is located within the statutory public highway located thirty-three feet on either side of a section line (*see* S.D.C.L. 31-18-1 and 31-18-2). Pursuant to S.D.C.L. 31-26-1, a board of county commissioners “may grant to any person engaged in the manufacture or sale of electric light and power . . . the right to erect and maintain poles and wires or to bury underground cable for the purpose of conducting electricity. . . in and along any public highway in its county” upon submittal of a written application. In accordance with S.D.C.L. 31-26-1, and 31-26-10 through 31-26-14, Crocker will submit an application to the Clark County Board of County Commissioners requesting authorization to install the collector line in the section line public highway.

2-9) Refer to the response to Staff Data Request 1-5. In the NOTE under School Districts, the Applicant states “After year 10, all wind energy tax revenue will be considered “local effort” in the State school funding formula ...”. Per SDCL Chapter 13-13-10.1(6B), shouldn’t that statement state after year 9 or starting in year 10, all wind energy tax revenue will be considered local effort? If no, please explain.

Mollie Smith: The referenced sentence in the response to Staff Data Request 1-5 should read: “Beginning in the 10th year of producing power, all wind energy tax revenue will be considered “local effort” in the State school funding formula, which may decrease the amount of State aid needed to meet the districts’ calculated total need.”

2-10) Refer to the response to Staff Data Request 1-6.

a) Refer to the response to Staff Data Request 1-6(a).

i. Provide the results of the Class III cultural resource field surveys obtained in late November 2017, and specifically identify the documentation that supports specific turbines will need to be moved.

Melissa Schmit: When the Class III cultural resource field survey data was received in late November 2017, Crocker’s Motion for Reconsideration to Docket EL17-028 had been filed and a hearing was pending on a revised configuration containing 132 turbine locations. The Motion for Reconsideration requested non-material shifts in turbine locations of less than 325’ without further Commission action. Upon evaluation of the November survey data, turbine shifts beyond 325’ were required to avoid both cultural resources and suitable Dakota skipper habitat.

During the same timeframe in late November, Crocker was working with the USFWS to revise the Project configuration to further avoid and minimize impacts to easement land and initiate tribal consultation under Section 106 of the National Historic Preservation Act (“NHPA”) as part of the federal permitting process for siting facilities on grassland easements. Once letters and maps are sent to tribal representatives, any modifications to the Project configuration would require an updated mailing and, subsequently, the comment period would be extended. To ensure

the Project timeline was not impacted by numerous configuration revisions, Crocker elected to remove 10 turbines that could not be shifted within 325' prior to a decision on the pending Motion for Reconsideration. If the Motion for Reconsideration had been granted, Crocker intended to re-file a revised application with those 10 locations removed to provided consistency with the configuration under evaluation with the USFWS.

In the current Project configuration provided in the Application, Crocker has omitted the 10 turbines referenced above in order to maintain consistency between the Project configuration provided for tribal consultation in the federal permitting process and the Project configuration provided in the PUC process. As a result, all survey results to date have been incorporated into the current Project configuration; however, cultural resource avoidance area shapefiles are attached as requested. Please note the cultural resource data is confidential.

- ii. Provide the number associated with each turbine that will need to be moved because of the cultural survey, and identify the number of feet the turbine will need to be moved.**

Melissa Schmit: All survey results to date have been incorporated into the Project configuration. As detailed above in 2-10(a)(i), the current Project configuration accounts for Crocker's removal of 10 turbines in November 2017 that would have required shifts of more than 325' to avoid environmentally sensitive areas, while complying with other required setbacks. The turbine numbers of those removed include 24, 26, 27, 40, 42, 80, 83, 85, 141, and 200, which would have required shifts between 392 and 1,260 feet. In the current Application, Crocker has requested the ability to shift turbines 1,000 feet to ensure future turbine locations can be shifted appropriately to account for additional Project-specific data received, and the distance requested is supported by the prior Project-specific data discussed above.

- iii. Will the Applicant have the cultural resource studies and surveys completed before the hearing scheduled in May 2018? Please explain.**

Melissa Schmit: Cultural resource surveys are approximately 78% complete and will be completed in the spring once field conditions allow (when the snow is melted and the ground is visible). Thus, the timing of completion of the cultural resource studies and surveys is weather-dependent, and it is uncertain at this time if the results will be available by the time of the evidentiary hearing.

- b) Refer to the response to Staff Data Request 1-6(c). Explain how individuals granted intervention or party status could participate in a request to change turbine location.**

Mollie Smith: Individuals granted intervention or party status in Docket EL 17-055 will have the opportunity to present testimony and evidence regarding Crocker's proposed process for Commission approval of turbine location changes described in response to Staff Data Request 1-6(c) at the evidentiary hearing. Further, given Crocker's commitment that any turbine shifts will meet all local and state setback requirements, including noise and shadow flicker requirements

for non-participating landowner residences, and that specified sensitive areas will be avoided, potential turbine changes are not anticipated to impact nonparticipating landowners. That said, the proposed request for approval of a turbine change described in response to DR 1-6(c) could be submitted by Crocker as a motion, which would be filed with the Commission and served on individuals included on the docket's official Service List. This approach has been used in the past for a permittee to seek Commission approval pursuant to the terms of a permit (*see, e.g.*, Motion for Approval of Third Party Compliance Monitor, In the Matter of the Application of Dakota Access, LLC for an Energy Facility Permit to construct the Dakota Access Pipeline Project, HP 14-002).

2-11) Please provide the estimated useful life of the wind project, and the estimated useful life for the 345 kV transmission line. If the wind project's useful life is shorter than the associated transmission line, will the transmission line be decommissioned at the same time as the wind project? Please explain.

Jay Hesse: The useful life of the wind project will be determined over time based on the overall demand for power in the future and some of the other factors listed below.

The estimated useful life of a wind turbine is typically 20-30 years; however, Crocker wind farm agreements with landowners allow for up to 50 years of operation, which would enable Crocker to install new turbines or repower the facility to operate beyond the useful life of the initial set of turbines, with the appropriate permits and approvals. It is also possible to renegotiate new agreements with landowners to continue the Project beyond 50 years.

The estimated service life of the transmission line is approximately forty years, however high-voltage transmission lines are seldom completely retired and the useful life could be extended well beyond this timeline with regular maintenance (up to 80 years). The transmission line will be decommissioned when there is no longer a projected need for it within the larger electrical grid and, therefore, no longer a need to transmit power from this area to the transmission system. Crocker will coordinate with the Commission and impacted landowners on the details around the timing of decommissioning.

2-12) At the February 5, 2018, public input hearing, a commenter requested that Crocker provide a property value guarantee to non-participating residents adjacent to the wind project. What is the Company's position on this request?

Betsy Engelking: Crocker does not intend to provide any guarantees to property values of non-participating residents. There are a number of factors that can influence rural property values, including but not limited to the demand for land in the area, crop prices and productivity, the condition of buildings and structures, as well as the general economy, all of which can vary significantly over time. As such, it would be very difficult (if not impossible) to isolate any portion of a change in property value as attributable to the existence of a wind farm on adjacent land. Provision of property guarantees is not a common practice among renewable developers or project developers in general. Geronimo has never proposed nor been asked by a state regulatory

body to provide property value guarantees with respect to its projects in any of the states where we have permitted a wind farm.

2-13) How has Crocker mitigated the risk of ice throw from wind turbines through project planning and wind turbine operation?

Melissa Schmit: Crocker will install ice detection technology that mitigates risk of ice throw. This technology measures bending of the blade as it rotates. If ice builds up on the blade, the monitoring system will detect they are rotating off balance and the turbine will be automatically shut down. The monitoring system will detect when the ice has been shed and the turbine will commence operation. Additionally, turbines are setback 500 feet from roads and a minimum of 1,000 feet from residences. The combination of ice detection technology and turbine setbacks address the potential concern of ice throw for the Project.

2-14) Regarding the wind project and aerial sprays:

a) Please explain how the wind turbines will impact aerial spraying in the project area.

Patrick Smith/Melissa Schmit: The Federal Aviation Administration's rules and regulations govern safety for commercial and private aviation, including pilot licensing, air traffic control, and lighting for the wind turbines. All of these are regulations that increase air safety and create a consistent system for owners and operators of towers and other tall structures, as well as the aviation community. Private pilots fly at their own discretion and must make their own safety determinations with regards to the things they are flying around, atmospheric conditions, and their own skills. Aerial spraying can continue around wind turbines, as acknowledged by a pilot that spoke at the Public Input Hearing. Additionally, when concerns are raised, Geronimo discusses the potential impact/limitations on aerial spraying with potential Project participants. Thus, the Crocker participating landowners are able to make an informed decision as to how to use their property.

b) Has the wind project been planned to allow aerial spraying in the project area? Please explain.

Jay Hesse: Typical wind farm design in this region does allow for aerial spraying because the turbines are constructed in strings and the typical spacing between turbines allows aerial sprayers to access between turbines. The preferred spacing between turbines north to south is around ½ mile and spacing east to west is typically around ¼ mile.

c) How are met towers marked so that aerial sprayers can avoid the obstruction?

Melissa Schmit: The permanent met towers proposed in the Application that would be constructed during Project construction will be marked consistent with SDCL 50-9-13 and the

FAA's requirements, including alternating orange and white paint, obstruction lighting, or both. At this time, we expect the towers will be free standing and not require guy wires.

**d) Will the wind project affect aerial spraying for any non-participating residents?
Please explain.**

Jay Hesse: While any above ground structure on neighboring property can impact how some aerial sprayers will approach spraying a field, we have found that pilots approach this topic differently based on their comfort flying in wind farms. However, it is typical that areas surrounding wind farms continue to be serviced by aerial spraying as stated above in the response to question 2-14 (a). Turbines are spaced so aerial sprayers could fly between the turbines and the turbines are also setback from unsigned neighboring property at least 550' throughout the Project.

Additionally, property owners retain airspace rights up to 500 feet and aerial applicators must regularly make adjustments based on the various conditions and structures in the area including existing residences, bee hives, transmission lines, various towers, grain bins, wind turbines, and other structures.

Dated this 22nd day of February 2018.



Melissa Schmit

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

**IN THE MATTER OF THE
APPLICATION BY CROCKER WIND
FARM, LLC FOR A PERMIT OF A
WIND ENERGY FACILITY AND A 345
KV TRANSMISSION LINE IN CLARK
COUNTY, SOUTH DAKOTA, FOR
CROCKER WIND FARM**

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**CROCKER WIND FARM, LLC'S
RESPONSES TO STAFF'S THIRD SET
OF DATA REQUESTS**

EL17-055

Below, please find Crocker Wind Farm, LLC's Responses to Staff's Third Set of Data Requests.

3-1) Please provide a final and complete report of Tetra Tech's Vegetation Community Quality Classification as referenced in the Application. Further, if not documented in the final report, please provide:

Melissa Schmit: As outlined in table 7-1 of the Application, the Natural Community Inventory is approximately 78% complete and will be completed this spring once field conditions allow. Therefore, a final report is not available and results of the ongoing survey are outlined below.

i) How the vegetation and plant species were sampled (i.e. study method);

Apryl Jennrich: The relative abundance of plant species observed within the survey corridor was estimated based on the percent aerial cover within the survey corridor. Dominant/common plant species (those with at least 20% aerial cover) were identified and recorded. Many low aerial cover (less than 20%) species were also identified and recorded; however, not all plant species within the survey corridor were documented.

ii) A detailed map of the study area;

Apryl Jennrich: The vegetation community survey was conducted within the environmental survey corridor. Refer to the attached map, which shows the survey corridor, areas where surveys are complete, and areas that will be surveyed in Spring 2018.

iii) When the classification was conducted;

Apryl Jennrich: The Applicant completed the majority of the survey in early October 2016 and early September 2017; a small survey effort for re-routes/minor shifts was also conducted in early December 2017.

iv) How grazing intensity was assessed;

Apryl Jennrich: Gazing intensity was based on the estimated percentage of vegetated area with noticeable/significant grazing (i.e., vegetation grazed close to the ground). Areas were identified as heavily grazed if more than 50 percent of the vegetation was significantly grazed. Moderately

grazed areas were areas where between 25 percent and 50 percent of the vegetation was significantly grazed. In lightly grazed areas less than 25 percent of the vegetation was significantly grazed.

v) **What constituted high, medium, and low plant diversity; and**

Apryl Jennrich: Low plant diversity was defined as an area that had less than 10 species observed; medium diversity had between 10 and 20 species observed; high diversity had more than 20 species observed. However, not all species observed were identified or recorded.

vi) **What plant species were found.**

Apryl Jennrich:

<u>Scientific Name</u>	<u>Common Name</u>
Acer negundo	ash-leaf maple
Achillea millefolium	common yarrow
Ambrosia artemisiifolia	annual ragweed
Andropogon gerardii	big bluestem
Apocynum cannabinum	indianhemp
Artemisia absinthium	common wormwood
Artemisia biennis	biannual wormwood
Artemisia ludoviciana	white sagebrush
Asclepias incarnata	swamp milkweed
Asclepias syriaca	common milkweed
Bouteloua curtipendula	Sideoats grama
Bromus inermis	smooth brome
Carex sp.	sedges
Cirsium arvense	Canada thistle
Conyza Canadensis	Canadian horseweed
Eleocharis sp.	spikerush
Elymus repens	quackgrass
Euphorbia virgate	leafy spurge
Glycyrrhiza lepidota	American licorice
Grindelia suarrosa	curlycup gumweed
Hesperostipa spartea	porcupinegrass
Hordeum jubatum	foxtail barely
Juncus sp.	rush
Juniperus virginiana	eastern red cedar
Medicago lupulina	black medic
Medicago sativa	alfalfa
Melilotus officinalis	sweet clover
Nassella viridula	green needlegrass
Onosmodium molle	false gromwell
Panicum virgatum	switchgrass
Pascopyrum smithii	western wheatgrass
Persicaria sp.	smartweed

<u>Scientific Name</u>	<u>Common Name</u>
Phalaris arundinacea	reed canary grass
Phleum pretense	timothy
Pinus resinosa	red pine
Poa compressa	flat-stem bluegrass
Populus deltoides	eastern cottonwood
Prunus sp.	plum
Quercus sp.	oak
Ratibida columnifera	upright prairie coneflower
Rudbeckia hirta	black-eye Susan
Rumex crispus	curly dock
Salix sp.	willows
Schizachyrium scoparium	little bluestem
Schoenoplectus tabernaemontani	soft stem bulrush
Scirpus atrovirens	green bulrush
Setaria pumila	yellow foxtail
Solidago canadensis	Canada goldenrod
Solidago gigantea	giant goldenrod
Sonchus oleraceus	common sowthistle
Sorghastrum nutans	Indiangrass
Spartina pectinata	prairie cordgrass
Sporobolus heterolepis	prairie dropseed
Symphoricarpos occidentalis	western snowberry
Symphyotrichum pilosum	hairy white oldfield aster
Taraxacum officinale	common dandelion
Trifolium pratense	red clover
Trifolium repens	white clover
Typha sp.	cattail
Ulmus pumila	Siberian elm
Urtica dioica	stinging nettle
Verbena stricta	hoary vervain
Xanthium strumarium	rough cocklebur

3-2) Referring to page 128 of the Application, when does the Applicant plan on completing the assessment of the 10 Native American isolated finds?

Adam Holven: The Applicant anticipates completing shovel testing at these 10 Native American isolated finds in the spring of 2018.

Further, please explain how each of these 10 sites were determined to be an “isolated find” given that no further testing has been conducted.

Adam Holven: The use of “isolated find” is a temporary assignment used for planning purposes. The Applicant has committed to avoidance of all confirmed archaeological sites. The 10 “isolated finds” are isolated surface finds, mostly within agricultural cropland, that will be shovel tested in spring 2018 to determine if additional archaeological material is present in the

subsurface. If no additional archaeological material is recorded during shovel testing, then the location will be formally recommended as an isolated find. If additional archaeological material is recorded during shovel testing, then the location will be formally recommended as a site.

3-3) Will any portion of 39CK0048 be located within the permanent utility right-of-way? If so, what measures will be taken to ensure the site is not negatively impacted by construction and/or on-going maintenance activities?

Adam Holven: Yes, the eastern 75 feet of Site 39CK0048 will be located in the transmission line right-of-way. Site 39CK0048 is a former farmstead with the former farmhouse being located west of the transmission line right-of-way. At this time, the Applicant does not plan to locate transmission line poles within the known extent of Site 39CK0048; therefore, permanent impacts to the site will be avoided. The Applicant also plans to drive around the site within the 49th Avenue right-of-way; therefore, temporary impacts to the site will also be avoided.

3-4) Have efforts been made to consult with the Tribal Historic Preservation Officers (THPO) or local American Indian tribes? If so, please explain the extent of those consultations.

Melissa Schmit: The USFWS initiated consultation under Section 106 of the National Historic Preservation Act (NHPA) with federally-recognized tribes for the Project. Consultation letters were sent to tribes and THPOs on January 24, 2018 requesting responses by April 2, 2018.

3-5) A number of pre-contact sites have been identified in the study area, but not the survey area. Have the THPOs or local American Indian tribes been given an opportunity to identify areas that may be sensitive their tribe?

Melissa Schmit: As outlined in Section 9.5.3 of the Application, Crocker has proposed Project infrastructure on USFWS easements, which will require an easement exchange if approved by the USFWS. This is Federal Action under the National Environmental Policy Act (NEPA) and Crocker has prepared an Environmental Assessment (EA) that tiers from the Upper Great Plains Programmatic Environmental Impact Statement (PEIS). As outlined in the PEIS, the USFWS scope of review is limited to easement land within the Project. Therefore, Section 106 consultation is also limited to survey corridor with the USFWS grassland easement land and any portion of the survey corridor that intersects a protected basin within USFWS wetland easement land. The Level III Cultural Resources report for the entire Project will be submitted to SHPO once surveys are complete and will be accessible to interested tribes. Also, please see response to Data Request 3-4.

3-6) If sensitive areas have been identified, what measures will be taken to avoid or minimize potential direct and indirect effects?

Melissa Schmit: The layout presented in the Application reflects avoidance of known environmentally sensitive areas identified through field surveys, such as cultural resources and sensitive species habitat. Following the completion of field surveys, Crocker has requested the

ability to shift turbines within 1,000 feet in order to adequately avoid and minimize impacts to any new resources identified.

3-7) When does Crocker anticipate submitting the Level III Intensive Survey to SHPO for review?

Adam Holven: At this point, the Applicant plans on submitting the Level III Intensive Survey for USFWS and SHPO review in late summer/early fall 2018.

Dated this 15th day of March, 2018.



Melissa Schmit