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 SECOND SET OF DATA REQUESTS TO CROCKER WIND FARM, LLC** **EL17-028**

Below, please find Answers to Staff's Second Set of Data Requests to Crocker Wind Farm, LLC (Applicant).

2-1) Provide the name and business address of the person answering these questions.

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2-2) Is the Applicant installing an aircraft detection lighting system (ADLS) on the Crocker Wind Farm? If not, please explain.

Number 19 of the Written Finding of the Clark County Board of Adjustment Hearing for Conditional Use Permit – Crocker Wind Farm, LLC requested a study to determine the feasibility of installing an ADLS. Crocker is in the process of consulting with vendors and the FAA regarding suitability and cost requirements and an analysis will be provided to Clark County.

2-3) Provide all orders issued by the circuit court in any pending litigation to which Applicant is a party in the state of South Dakota. This request is ongoing. Staff requests orders be shared with Staff within ten days of issuance by the court.

Documentation to date on pending litigation are included in the letter to the Commission dated Sept 5, 2017.

2-4) Regarding the Clark County Conditional Use Permit for the Crocker Wind Farm discussed on Page 16-1:

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

The Crocker Wind Farm Conditional Use Permit Application and written findings are included in the letter to the Commission dated Sept. 5, 2017.

b. Identify all sections of the Application that are not in compliance with the Clark County Conditional Use Permit.

The application is in substantial compliance with the Conditional Use Permit. Crocker has appealed the Clark County Board of Adjustment's decision to determine if the actions and setbacks imposed are legal.

c. Discuss the impact on the Crocker Wind Farm if the relief sought is not granted in Circuit Court.

If relief sought is not granted in Circuit Court the Project will suffer impacts to production and construction efficiencies resulting in an increase to the price of energy produced. Further coordination and evaluation will be required to ensure the Project meets the market demand and is economically viable.

d. Explain how interested parties can evaluate the Crocker Wind Farm project when not all of the project information provided meets the requirement set forth in the Conditional Use Permit.

The Application as filed complies with all applicable state rules and statues. If the setbacks imposed by Clark County are upheld, the overall project impacts will decrease. Potential impacts are presented in the Application and associated studies in the appendices. Any outcome from the Conditional Use Permit appeal process will not materially impact the analysis presented in the Application.

2-5) Please identify the current status on securing a buyer for the project's power.

Refer to the response of question 1-3 of the PUC staff's first set of data requests to Crocker Wind Farm, LLC.

2-6) Referring to section 6.1 of the Application, please identify where South Dakota's commitment to growing the renewable energy portfolio of both the State and Country is codified.

Section 6.2 of the application references Renewable Energy Standards (RES) policies that encourage the development of wind energy projects. In February of 2008, South Dakota enacted legislation establishing an objective that 10 percent of all retail electricity sales in the state be obtained from renewable and recycled energy by 2015 with reporting required through 2017 (SDCL 49-34A-101). In 2009, the policy was amended to allow conserved energy as a component and it was reported in 2016 that a majority of the electricity providers in the state met

this goal.[1] South Dakota has additional regulatory policies, financial incentives, and technical resources aimed at encouraging energy efficiency and the expanded use of renewable sources for electricity generation in the state such as property tax incentives and alternative taxation calculation A list of these programs and policies can be viewed here: http://programs.dsireusa.org/system/program?fromSir=0&state=SD&.

2-7) Referring to section 6.1 of the Application, please identify how the project will meet the state's renewable, recycled, and conserved energy objective if the power is purchased by an out of state buyer.

Electricity generated by Crocker will enter the South Dakota grid and will follow the path of least resistance in terms of where it is used. If the power is purchased by an out of state buyer the electricity will remain near the Project and will continue to contribute to South Dakota's renewable, recycled, and conserved energy objective.

2-8) Referring to the second paragraph in section 7.1 of the Application, please confirm that landowners with an easement for the transmission line will in fact receive reoccurring annual payments for that easement.

Landowners had the option to select reoccurring or one-time payments under the terms of the lease.

2-9) Pursuant to ARSD 20:10:22:10, please provide a statement on "… the relative contribution to any power or energy distribution network or pool that the proposed facility is projected to supply and a statement on the consequences of delay or termination of the construction of the facility."

As stated in the response of question 1-2 of the PUC staff's first set of data requests to Crocker Wind Farm, LLC, Crocker has received 14 power supply proposal requests. If the Project is not constructed or delayed, potential power purchaser's efforts to obtain renewable energy in a cost-effective and reliable manner would be in jeopardy. In addition, both the Production Tax Credit (PTC) and Investment Tax Credit (ITC) started to phase down starting at the end of 2016, meaning that an extended delay could result in increased costs. Additionally, project costs are subject to commodity flux and rise. Therefore, if the Project is delayed, the greater the probability of commodity price increase.

2-10) Referring to section 8.1 of the Application, please explain how environmental impacts are lower for the selected project area when compared with other potentially developable projects in the region. Further please reconcile the

[1] South Dakota Public Utilities Commission. "South Dakota's Renewable, Recycled and Conserved Energy Objective." Viewed Aug. 16, 2017. https://puc.sd.gov/commission/Energy/REO/20161230rrceoreport.pdf

statement in section 8.1 with the USFWS's concerns regarding the projects impact to grassland and wetland easements identified in Appendix G.

Crocker is utilizing the Upper Great Plains (UGP) Wind Energy Final Programmatic Environmental Impact Statement (PEIS) to navigate use of USFWS easement land. The PEIS was jointly prepared by Western Area Power Administration and the USFWS to identify environmental impacts associated with various environmental review processes that could be implemented to evaluate requests for land exchanges to accommodate wind energy facilities that may affect wetland and grassland easements managed by the USFWS in the Upper Great Plains Region. The processes and management practices identified in the PEIS are intended to expedite site specific National Environmental Policy Act of 1969 (NEPA) evaluations by providing a framework document from which other NEPA documents could tier. The PEIS holds Crocker to a higher standard of environmental responsibility than typically required through the implementation of best management practices (BMPs) and conservation measures.

2-11) Referring to section 9.0 of the application and pursuant to ARSD 20:10:22:12, please include:

a. How the general criteria used to select alternative sites as identified in Section 9.1 were measured and weighed;

Refer to the response of question 1-6 of the PUC staff's first set of data requests to Crocker Wind Farm, LLC.

b. The reasons for selecting the criteria;

The criteria was selected based on industry standard practices for site selection and from the USFWS Land Based Wind Energy Guidelines and Eagle Conservation Plan Guidance for environmental considerations.

c. An evaluation of alternative sites considered by the applicant for the facility; and

Refer to the response of question 1-6 of the PUC staff's first set of data requests to Crocker Wind Farm, LLC.

d. An evaluation of the proposed plant, wind energy, or transmission site and its advantages over other alternative sites considered by the applicant.

Refer to Section 9.0 of the application and the response of question 1-6 of the PUC staff's first set of data requests to Crocker Wind Farm, LLC.

2-12) Pursuant to ARSD 20:10:22:14(7) and referring to section 11.2.2.1, please provide information on areas of slope instability that the project was designed around.

Crocker consulted with civil engineers at Westwood Professional Services to identify slopes in the Project Area that would present construction challenges and avoided placing facilities in those areas.

2-13) Pursuant to ARSD 20:10:22:15(1) and Application Figures 5a-d, please show the surface water drainage patterns before and anticipated patterns after construction of the Project.

Changes to surface water drainage patterns are not anticipated. While small areas of impervious surfaces will occur as a part of construction, the Project will not impact surface water drainage in a material manner.

2-14) Pursuant to ARSD 20:10:22:15(2) and Application Figures 5a-d, please identify on the maps any current planned water uses by communities, agriculture, recreation, fish, and wildlife which may be affected by the location of the proposed facility.

Impacts to current planned water uses are not expected. The existing vegetation and soil types will provide sufficient infiltration and water flow from new impervious surfaces are not anticipated. Additionally, no water extraction is planned.

2-15) In section 13.2.1 of the application, it is stated that "it is expected that the majority of the turbines will be sited in plowed crop fields that are typically planted in row crops." However, the application also identifies that only 15.8% of the project area is cultivated cropland. Please explain how the majority of turbines can be sited in plowed crop fields when there is such a small percentage of cultivated cropland in the project area.

The preliminary layout sites turbines in row crops when practicable. Because a majority of the Project Area is grassland and hay/pasture the impacts to those lands will be higher than cropped land.

2-16) Referring to section 13.2.5.1 of the application, please include a more detailed analysis on the impact of construction and operation of the wind farm on breeding times and places for wildlife (particularly grassland nesting species) and support for any conclusions made in the analysis. See ARSD 20:10:22:16.

Section 13.2.5.1 of the Application references studies at the Buffalo Ridge Wind Resource Area in Minnesota regarding impacts to grassland breeding birds. The studies concluded that a reduced use of the area due to wind development appeared to be minor. Additional studies have been conducted regarding the indirect effects of wind facilities on grassland bird communities which support the Buffalo Ridge studies. One such study from 2016 analyzed the sound recordings to identify species assemblage of common breeding birds in unfragmented grasslands

to determine if wind facilities render habitat unsuitable for grassland birds to communicate. Results did not illustrate a difference in the species richness between a reference area (>760 m for any turbines) or treatment area (<760 m from turbines) indicating noise emitted by operational turbines did not appear to affect the presence or behavior or breeding birds.[2]

2-17) Please provide an update on the status of the environmental assessment and a timeline of when Crocker expects the environmental assessment to be completed.

A draft of the environmental assessment is under development. Crocker continues to coordinate with the U.S. Fish and Wildlife Service on the anticipated timeline.

2-18) Figures 6a-d use a different land use classification than what is required by Rule. Pursuant to ARSD 20:10:22:18(1), please provide maps of the project that identifies existing land use according to the following classification systems:

- **a. Land used primarily for row and nonrow crops in rotation;**
- **b. Irrigated lands;**
- **c. Pasturelands and rangelands;**
- **d. Haylands;**
- **e. Undisturbed native grasslands;**
- **f. Existing and potential extractive nonrenewable resources;**
- **g. Other major industries;**
- **h. Rural residences and farmsteads, family farms, and ranches;**
- **i. Residential;**
- **j. Public, commercial, and institutional use;**
- **k. Municipal water supply and water sources for organized rural water systems; and**
- **l. Noise sensitive land uses.**

Refer to attached maps.

2-19) Referring to section 15.5.1 of the application, please provide an analysis on the potential displacement of residences or businesses as a result of wind farm operations.

The potential layouts presented in the application will not result in displacement of residences or businesses during construction or operation of the project. The construction corridors and placement of facilities are industry standard and sufficiently protects the health and welfare of residences and businesses in and around the project.

[2] Raynor, Edward; Cara Whalen; Mary Bomberger Brown; Larkin Powell. "Grassland Bird Community and Acoustic Complexity Appears Unaffected by Proximity to Wind Energy Facility in the Nebraska Sandhills." School of Natural Resources, University of Nebraska-Lincoln. *The Condor.* Volume 119(3): 484-496.

2-20) Referring to section 15.5.3 and Appendix D of the Application, is Crocker aware of any post construction noise studies that were completed for other wind farms that verify the pre-construction noise modeling is accurate and conservative? If so, please provide those studies.

Studies that discuss sound propagation modeling or wind turbine sound, model settings, and accuracy are attached. The studies provided support the modeling methods used for Crocker.

2-21) Referring to section 15.5.3, please explain why waterfowl production areas, grassland easements, wetland easements, and public hunting areas are not considered noise sensitive areas.

South Dakota has not adopted statewide noise standards and therefore noise restrictions for private activities are unregulated unless local standards exist. Here, Clark County's noise standard is specific to residences. The areas listed can be subject to noise from hunting and farming activities as well as road traffic. While these lands are natural areas, no regulatory justification is in place for them to be considered noise sensitive areas.

2-22) Referring to section 18.2 of the application, please explain why a general air quality permit from the SDDENR is required for construction and provide a proposed timeline for obtaining the permit.

A general air quality permit may be required if the Project elects to install a concrete batching plant. Approval of the application typically takes up to 30 days. Crocker or Crocker's construction contractor would obtain the permit prior to the commencement of construction.

2-23) Referring to section 20.2.1, please identify the forecasted amount each taxing jurisdiction would receive from the project over the next 20 years and where, and in what amount, those funds would be allocated (e.g. schools and townships).

Refer to the response of question 1-7 of the PUC staff's first set of data requests to Crocker Wind Farm, LLC.

2-24) Referring to section 20.2.1 of the application, please quantify the economic benefit to the local community as a result of construction activities.

NREL's Wind Energy Jobs and Economic Development Impact (JEDI) model calculated state and local economic impact during Crocker's construction phase to be in the tens of millions of dollars. The primary impact areas are construction labor, construction services, turbine or other supply chain impacts, and direct payments to landowners during construction. The local economic benefit will vary based on products and services available in the state and local area, project size, time of construction, contractor selected, turbine model purchased, and other

variables. Crocker plans to utilize as many local resources as possible when commercially reasonable.

2-25) Referring to section 20.2.2 of the application, does Crocker have any South Dakota specific studies regarding the impact of wind farms on property values? If so please provide those studies. If not, please explain how the national studies are relevant to South Dakota.

Refer to responses of question 1-10 and 1-11 of the PUC staff's first set of data requests to Crocker Wind Farm, LLC.

2-26) Referring to section 20.2.2 of the application, please explain why a transmission line would have an effect on property values whereas a wind turbine would have no effect on property values.

The literature review referenced on transmission lines generally pointed to small or no effects on property values. Additionally, the routing of the transmission line avoids residences an impact to property values is not anticipated.

2-27) Referring to section 20.2.2 of the application, is Crocker aware of any studies that demonstrate there could be a potential negative impact to property values within or near a wind farm project area? If so please provide a list of those studies and an explanation as to why the study provided in Appendix H should be given more weight than any other property valuation studies Crocker is aware of.

Crocker's consultant conducted a literature review of studies that examine the relationship between wind facilities and nearby property values. This review concluded there are no large-scale statistical studies completed using data from areas in the United States and/or Canada which show a significant negative impact from wind facilities on nearby property values after the wind facility is constructed and operable.

The studies included in the literature review utilized generally accepted statistical analysis, implying the data base was sizeable (thousands of observations, i.e., utility scale operations), must use market data, and used accepted methodologies (e.g., hedonic price method). Therefore, "studies" that use inappropriate statistical methods such as small sample sizes, non-transparent sample selection process, failure to control for obvious variables, failure to under understand statistical significance, or were not subject to peer-review were not included. A study from Gardner[3] and Kielisch[4] were not included due to these inconsistencies.

[3] Gardner, D.T. (2009) "Impact of Wind Turbines on Market Value of Texas Rural Land." Prepared for the South Texas Plains Agriculture Wind and Wildlife Conference, Lubbock TX.

[4] Kielisch, K.C. (2011) "Wind Turbines and Property Value." Presentation, Appraisal Group One.

To draw the most accurate comparison to South Dakota, studies analyzing areas outside of the United States and Canada were also not considered. While there have been European and United Kingdom studies that show possible negative property value impacts from wind facilities, the estimated impacts are small (3-7%).[5] These impacts cannot be explained by data size, quality, or estimation methods and therefore have lead to speculation that community involvement and compensation levels differ from standard practice in the United States and Canada bringing the relevance of these studies into question.

Lastly, the literature review focused on estimated property value impacts after the wind facilities are fully constructed and operational. There is some evidence that the post-announcement/pre-construction phase of wind facility development could have a negative effect on nearby property values, however this has been labeled "anticipation stigma" and the effects are small and dissipate completely after the facility is operational.[6]

2-28) Referring to section 20.2.4.2, please provide the FAA's "Determination of No Hazard."

The attached determinations are within the Project Area, however turbine locations have been added and modified. Updated determinations are being processed by the FAA with ADLS technology and will be provided once received.

2-29) Pursuant to ARSD 20:10:22:24, please provide the following:

a. A tabulation that includes the estimated number of jobs and a description of job classifications, together with the estimated annual employment expenditures of the applicants, contractors, and subcontractors during construction.

The number of construction jobs listed in the application is conservative for a 400 MW project. The JEDI model estimates up to 247 peak construction jobs. These numbers are estimates and will vary from the projections based on actual project need. The Project will provide new temporary job opportunities for the local work force, however the percent of jobs filled by state

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[5] Sunak, Y. and Madlener, R. (2012) The Impact of Wind Farms on Property Values: A Geographically Weighted Hedonic Pricing Model. Prepared for Institute for Future Energy Consumer Needs and Behavior (ACN), RWTH Aachen University. May, 2012 (revised March 2013). 27 pages. FCN Working Paper No. 3/2012; Jensen, C.U; Panduro, T.E; Lundhede, T.H. (2014) "The Vindication of Don Quixote: The Impact of Noise and Visual Pollution from Wind Turbines." *Land Economics* 90 (4), 668-682; Gibbons, S.F (2014) "Gone with the Wind: Valuing the Visual Impacts of Wind Turbines through House Prices, Spatial Econometrics Research Center Report, April.

[6] Hoen, B., R. Wiser, P. Cappers, M. Thayer, and G. Sethi (2011). "Wind Energy Facilities and Residential Properties: The Effect of Proximity and View on Sales Prices." *Journal of Real Estate Research.* 33(3): 279-316; Hinman, J. L. (2010) "Wind Farm Proximity and Property Values: A Pooled Hedonic Regression Analysis of Property Values in Central Illinois." Thesis Prepared for Master's Degree in Applied Economics. Illinois State University, Normal. May, 2010. 143 pages; Heintzelman, M. D. and Tuttle, C. (2012) "Values in the Wind: A Hedonic Analysis of Wind Power Facilities." *Land Economics.* August (88): 571-588.

and local residents is unknown at this time. Current unemployment in the area is low, however jobs created by the Project may enable people who work in these fields to work closer to home during construction. The job categories during construction include foundation, erection, electrical, management/supervision, and substation/interconnection. The JEDI model estimates labor will cost approximately $15.8 million and includes hourly wages plus other employer costs including but not limited to: health benefits, workers compensation, disability insurance, and social security.

b. A separate tabulation that includes the information identified in subpart (a) above with respect to the operating life of the proposed facility, to be made for the first ten years of commercial operation in one-year intervals.

As a utility scale wind farm, Crocker will require operation and maintenance positions which will create job opportunities locally over the life of the Project. The exact numbers will vary over time based on project needs; however, the JEDI model estimates a 400 MW project would create up to 18 jobs during the operating life of the Project and includes field technicians as well as administrative and management positions. Labor estimates for these positions are approximately $1.1 million per year totaling over $10 million the first 10 years of operation.

c. Plans for the utilization and training of the available labor force in South Dakota by categories of special skills required.

South Dakota has several energy technician education programs that provide specialized training related to working in the energy field including wind farm service and operation. The Project hopes to benefit from graduates of these programs and provide job opportunities for South Dakota residents that want to work in the renewable energy industry and live near the Project Area. The Project will also create new local job opportunities for various trade professions that live and work in the area. It is typical to advertise locally to fill required construction positions. It is unlikely the local population will fill all the required construction jobs and additional workforces are expected to move to the area for the construction phase of the Project as needed. It is also anticipated that the operations and maintenance of the Project will require specially trained individuals that will move within the project vicinity to be driving distance from the Project Area.

d. The estimated percentage of temporary and permanent labor requirements that will remain within the county and the township in which the facility is located after construction is completed.

The JEDI model projection estimates approximately 80% of the permanent operation and maintenance jobs will be from the state and local area. Because many of the maintenance and operation jobs will require the individual to be on-site to perform the job duties, we anticipate that most of them will live within driving distance of the Project Area. It is unknown at this time the number of individuals that will live in Clark County or specific townships.

2-30) Referring to table 28-1 and pursuant to ARSD 20:10:22:05, please list the date each permit application will be filed.

Regulatory Authority	Permit/Approval	Status
Federal Approvals		
U.S. Army Corps of Engineers	Wetland Delineation Approvals	1st Quarter 2018
	Jurisdictional Determination	1st Quarter 2018
	Federal Clean Water Act Section 404 and Section 10 Permit(s)	2nd Quarter 2018
Lead Federal Agency - U.S. Fish and Wildlife Service	NEPA Review (Section 7 Consultation), Review for Threatened and Endangered Species	4th Quarter 2017
Environmental Protection Agency (Region 8) (EPA) in coordination with the South Dakota Department of Health	Spill Prevention Control and Countermeasure (SPCC) Plan	2nd Quarter 2018
National Historic Preservation Act	Federal Section 106 Review (Class I Literature Review / Class III Cultural Field Study)	4th Quarter 2017
Federal Aviation Administration	Form 7460-1 Notice of Proposed Construction or Alteration (Determination of No Hazard)	Ongoing – future revisions may be required depending on layout
	Notice of Actual Construction or Alteration (Form 7460-2)	As required by the FAA
Federal Communications Commission	Non-Federally Licensed Microwave Study	Completed
	NTIA Communication Study	Completed
Federal Energy Regulatory Commission	Exempt Wholesale Generator Self Cert. (EWG)	Before operations
	Market-Based Rate Authorization	Before operations
Federal Emergency Management Agency	Floodplain Designation	1st Quarter 2018
State of South Dakota Approvals		
South Dakota Aeronautics Commission	Aeronautical Hazard Permit	2nd Quarter 2018

Regulatory Authority	Permit/Approval	Status
South Dakota Public Utilities Commission	Application for Facility Permit	Filed – in process
South Dakota State Historic Preservation Office (SHPO)	Cultural and Historic Resources Review and Review of State and National Register of Historic Sites and Archeological Survey	4th Quarter 2017
South Dakota Department of Environment and Natural Resources	Section 401 Water Quality Certification	2nd Quarter 2018
	National Pollutant Discharge Elimination System Permit (NPDES) – MPCA General Stormwater Permit for Construction Activity	2nd Quarter 2018
	Temporary Water Use Permit for Construction Activities	Ongoing during construction
	Water Rights Permit for Nonirrigation Use	2nd Quarter 2018
	Temporary Discharge Permit	2nd Quarter 2018
	Air Quality Permit	2nd Quarter 2018
South Dakota Department of Transportation	Utility Permits on Trunk Highway Right-of-way	2nd Quarter 2018
	Oversize/Overweight Permit for State Highways	Ongoing during construction
	Tall Structure Permit	2nd Quarter 2018
Local Approvals		
Clark County	Right-of-way permits, crossing permits, driveway permits for access roads, building permit for O&M building, oversize/overweight permits for County Roads, conditional use permit and building permit for WES and transmission line	2nd Quarter 2018
Townships	Right-of-way permits, crossing permits, driveway permits for access roads, building permit for O&M building,	2nd Quarter 2018

Regulatory Authority	Permit/Approval	Status
	oversize/overweight permits for township roads	

2-31) Please provide a list of any known Federal agency, State agency, local government, landowner, or non-participating residence concerns and a brief discussion as to how Crocker is working to address/mitigate those concerns through siting or other measures.

Documentation of agency comments on the Project are located in Appendix G of the application. The Project has been designed according to the regulations and recommendations of the consulting agencies.

Non-participating residences have expressed concern regarding turbine setbacks from residences and a privately-owned airstrip located outside of the Project boundary. The application as filed demonstrates complete compliance with the Clark County Zoning Ordinance and sufficiently protects the health and welfare of residents in and around the Project. This has been demonstrated through various studies conducted by industry experts. A noise study was conducted to ensure the Project's maximum noise levels will not exceed the Clark County Zoning Ordinance noise standard of 50 dBA to any non-participant (refer to Appendix D of the application). An EMF study was conducted for the transmission line and concluded the projected electric field intensity are well-within industry standards, and no adverse impacts are expected (refer to Appendix I of the application). Additionally, Crocker conducted a shadow flicker study which is not required or regulated at the local, state, or federal level to ensure shadow flicker levels are below 1% of daylight hours for non-participating residences (refer to Appendix E of the application.) Despite the fact that no creditable evidence was provided to warrant additional setbacks beyond the Clark County Zoning Ordinance, Crocker voluntarily doubled the setback from non-participating residences, eliminated a turbine location and shifted a second turbine location to accommodate concerns raised by the private airstrip owner. Additional details on these layout modifications are detailed in a memo to the Clark County Commissioners included in the letter to the Commission dated Sept 5, 2017.

2-32) Referring to ARSD 20:10:22:33.02(1), please explain how the Application provides the "configuration of wind turbines" when four different turbine model layouts were provided as a result of Crocker not knowing which turbine model will be used for the project.

The cited rule seeks information on the configurations of the towers and turbines, not a layout of their intended or proposed locations. Crocker has provided four potential layouts for turbine

models under consideration. Specifications for each model are presented in the Table 8-2 of the Application. Proposed turbine locations overlap for each layout ranging from 116-200 turbine locations depending on the MW capacity.

2-33) Pursuant to ARSD 20:10:22:14(3), please provide a map "showing the bedrock geology and surficial geology *with sufficient cross sections* to depict the major subsurface variations in the siting area."

Refer to attached maps.

2-34) The May 9, 2016 and November 7, 2016 letters from SHPO, included in Appendix G of the application, requested the Applicant complete a Level III Cultural Resource Survey and a Level III Intensive Survey of the project area. Please provide the surveys. Have the surveys been submitted to SHPO? If the surveys have not been completed, please provide the estimated date of completion.

A Level III pedestrian survey of the Project Area was initiated in the fall of 2016 and will continue in late summer 2017 to evaluate areas not previously surveyed due to access constraints or modifications to the design. Shovel testing will occur in conjunction with the National Environmental Policy Act (NEPA) Section 106 process of the Environmental Assessment in the fall of 2017. Following competition of pedestrian surveys and shovel testing the survey report will be submitted to SHPO.

2-35) Since the Day County Wind Energy Center is directly northwest and Oak Tree Wind Farm is directly southeast of the project, please provide an analysis of any cumulative impacts "to the health and welfare of human, plant and animal communities which may be cumulative or synergistic consequences of siting the proposed facility in combination with any operating conversion facilities, existing or under construction." (ARSD 20:10:22:13).

The construction and operation of Crocker, in combination with the Oak Tree Wind Farm (located approximately 3.5 miles southeast of Crocker), as well as other private and public development is not anticipated to adversely impact the health and welfare of humans or plant and animal communities. Implementation of Best Management Practices (BMPs) and conservation measures will minimize potential impacts of the Project on all resources.

Dated this 6th day of September, 2017.

Melissa Schmit