

**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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**STAFF’S SIXTH SET OF DATA
REQUESTS TO CROCKER WIND
FARM, LLC**

EL17-028

Below, please find Staff’s Sixth 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.

6-1) Refer to Page 23-1 of the Application regarding the turbine and substation foundation removal. Crocker Wind Farm, LLC states “Turbine foundations will be excavated to a depth sufficient to remove all anchor bolts, rebar, conduits, cable, and concrete to a depth of 48 inches below grade.” Explain why removing the foundation to 48 inches below grade is adequate to ensure that agricultural and other future uses of land can continue unimpeded. Provide all studies and analysis to support this position.

Melissa Schmit and David Wirt: This is the industry standard depth for removal from wind farms throughout the country. A four-foot depth of removal ensures the foundation will not interfere with farming activities in the area or the root zones of most plants. It is also adequate for the construction of roads and the installation of utilities. The remaining concrete foundation is analogous to shallow bedrock formations. Additionally, the turbine foundations are sloped downward from the center so they will not impede drainage.

6-2) Please explain why the entire turbine foundation is not proposed to be removed if the typical depth of the turbine foundation ranges from four to six feet as stated in the Application.

Melissa Schmit and David Wirt: The typical depth of a turbine foundation is between 8-9 ft below grade. The agreement with wind farm landowners specifies that facilities will be removed to at a depth of 4 feet as we specify in the application. Removal beyond 48 inches is typically not necessary for restoration of the land affected by the project. Additional impact to the land will be required to remove the entire foundation rather than just the pedestal and top 48 inches of the foundation.

6-3) Please provide typical drawings of the turbine foundations and wind turbine structures, similar to what was provided in Appendix I for the transmission line.

Melissa Schmit: See attached drawing of a typical foundation and the wind turbine structure for the Vestas V136 turbine model (the largest design). Please note the wind turbine structure drawing is confidential and detailed schematics of turbine models are not typically available until contract negotiations with vendors is underway.

6-4) Please provide a breakdown of the cost estimate for turbine decommissioning that results in the after salvage value cost estimate of \$100,000 to \$150,000 per turbine. Include in the breakdown the estimated cost for cranes, labor, shipping, disposal, salvage value, and site restoration.

Melissa Schmit: 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 project's 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

6-5) Explain how Crocker Wind Farm, LLC mitigates potential threats to crop-dusters within the project area. How are project facilities, such as MET towers, marked and lighted within the project area for safety purposes?

Patrick Smith: 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 of any sort as well as the aviation community. Private pilots fly at their own discretion and need to make their own safety determinations with regards to the things they are flying around, atmospheric conditions, and their own skills. It is Geronimo's practice to work with local pilots to the best of our abilities to

come up with a number of different remedies tailored to the particulars of their situation to make sure they feel safe flying around the Project.

The permanent MET towers proposed in the application are expected to be free-standing and equipped with dual beacons at the top of the tower (white flashing during the day and red strobes at night) and continuous red beacons at approximately one-half the tower height.

6-6) 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: The intervenors counsel requested copies of the PUC's data requests and Crocker's responses on September 29, 2017. No other discovery has been propounded upon the Applicant.

Dated this 12th day of October, 2017.
Melissa Schmit

A handwritten signature in cursive script that reads "Melissa Schmit".