

- 1-1) Please provide all information assembled and resulting analysis and conclusions from the collaboration of Crowned Ridge Wind, LLC and GE during the fall 2021 sound study with regard to WIOM impact on noise reduction.

**Response:** There was no collaboration between Crowned Ridge Wind, LLC ("Crowned Ridge") and General Electric ("GE") on the Fall 2021 sound study. Therefore, Crowned Ridge has no document that is responsive to this request.

- 1-2) Please provide any/all correspondence with GE regarding the use of WIOM in the CRW project before, during and after the 2021 sound study.

**Response:** Attached as Attachment 1 to DR 1-2 is the correspondence with GE regarding the use of WIOM on the Crowned Ridge Project.

- 1-3) Please provide the maintenance log entries for Turbine 38 for the years 2020, 2021 and 2022.

**Response:** Crowned Ridge objects to Data Request 1-3, as it requests information that is not limited in time and not relevant to the 2021 sound study performed by Epsilon Associates, Inc. ("Epsilon"). Crowned Ridge also objects because the request seeks confidential information which if publicly disclosed would result in competitive harm to Crowned Ridge and NextEra Energy Resources, LLC ("NEER") wind generation affiliates of Crowned Ridge. More specifically, the disclosure of Crowned Ridge's maintenance log would provide competitors with information on how Crowned Ridge and other NEER wind project affiliates plan and execute maintenance of its wind turbines and the performance of the wind turbines. Maintenance plans and generator performance were developed at considerable cost, effort, and time to Crowned Ridge and the NEER wind generator affiliates, with the understanding that the information would be protected from competitors. Consequently, to publicly disclose Crowned Ridge's maintenance logs would be detrimental because it would provide competitors information valuable to them in making their own competitive decisions, without the competitors expending the time and money necessary to gather and develop the information. Subject to and without waiving these objections, Crowned Ridge responds: after the Commission issues an appropriate protective order and after Complainant has executed an appropriate non-disclosure agreement, Crowned Ridge will provide Confidential Information Attachment 1 to DR 1-3 which includes the maintenance log entries for Turbine 38 for the years 2020, 2021 and 2022. Concurrently with the submission of this response, Crowned Ridge is filing a motion for the issuance of a protective order in this proceeding.

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- 1-4) Please provide the maintenance records of Turbine 71 during the time period of the 2021 sound study.

**Response:** There was no maintenance performed on Turbine 71 during the time period of the 2021 sound study. Therefore, Crowned Ridge has no document that is responsive to this request.

- 1-5) Please provide any and all correspondence between Crowned Ridge Wind, LLC and MISO regarding any curtailment of output/power in the CR1 and CR2 projects during the period of October and November 2021.

**Response:** There was no correspondence between Crowned Ridge and MISO regarding any curtailment of output/power in the CR1 and CR2 projects during the period of October and November 2021. MISO curtailment of wind turbines is automated. Therefore, Crowned Ridge has no document that is responsive to this request.

- 1-6) Regarding the curtailments of the CRW project during the sound study of 2021, who in the CRW organization made the determination(s) of which turbines would be curtailed during MISO required curtailment periods? Please provide the related intra-office correspondence, notes and records.

**Response:** There is no person who made determinations of which turbines would be curtailed during MISO required curtailment periods. The curtailment of turbines at the request of MISO is automated. Because the MISO curtailment of wind turbines is automated, there was no related intra-office correspondence, notes and records related to a person deciding which turbines to curtail. Therefore, there is no person to identify and no documents that are responsive to this request.

- 1-7) During the 2021 sound study time period, did CRW curtail, or in any other way, manipulate the output or noise profile of any turbine in the project area, other than the MISO directives pertaining to output? If yes, please explain. Be specific.

**Response:** Crowned Ridge objects to Data Request 1-7, as it incorrectly concludes there was a manipulation of the output or noise profile of a wind turbine(s). Subject to and without waiving this objection, Crowned Ridge responds: No.

- 1-8) Who made the decision to not shut down the turbines November 7<sup>th</sup> and November 11<sup>th</sup>, violating the Order issued by the PUC of the Mitigation Plan? Please provide the

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correspondence, or any all notes and records regarding the circumvented required shutdowns.

**Response:** Crowned Ridge objects to Data Request 1-9, as it incorrectly concludes that there was a violation of a South Dakota Public Utilities Commission Order. Subject to and without waiving this objection, Crowned Ridge responds: There was no intentional decision to not shut down the wind turbines on November 7, 2021 and November 11, 2021. Epsilon communicated with the Crowned Ridge's operations in advance of the sound measurement program identifying the times and wind turbines to be shut down during the program. The planned shutdown on November 7, 2021 at 1:00 AM did not occur as it inadvertently scheduled during the change from daylight savings time to standard time. Epsilon did not seek to reschedule the November 7, 2021, but the lack of that one shutdown data point on November 7, 2021 did not impact the sound study, because conclusions regarding compliance could be drawn from the evaluation periods throughout the 2-week program. The November 11, 2021 shutdown did occur at 16:00 for all locations except Location 6. The November 11, 2021 shut down was not used in the evaluation of Location 6.



GE Renewable Energy  
Onshore Wind

**Gary Paschal**  
GE Renewable Energy - Onshore Wind  
1 River Road, Bldg. 53  
Schenectady, NY 12345

March 24, 2021

Crowned Ridge Wind, LLC  
700 Universe Blvd.  
Juno Beach, FL 33408-0402

RE: Statement on WIOM and Ice buildup blades

Ice/frost buildup on a wind turbine blade can increase noise in two ways. First, it can cause the air flowing over the blade to transition from a smooth (laminar) flow to a turbulent flow. Secondly, if ice/frost buildup is significant enough, it can cause flow separation. When the flow separates, large turbulent structures interact with the surface of the blade causing additional noise. WIOM is designed to change the pitch angle of the blades (the angle of the blade relative to wind direction) to reduce the risk of flow separation. GE does not have data to quantify the noise reduction benefit of WIOM on iced blades.

WIOM was not enabled at the Crowned Ridge Wind Farm but has been enabled as of Feb 2021.

Sincerely,

Gary Paschal  
CRM  
GE Renewable Energy - Onshore Wind