MONTANA-DAKOTA UTILITIES CO.
SOUTH DAKOTA PUBLIC UTILITIES COMMISSION
FIRST DATA REQUEST ISSUED MARCH 16, 2020
DOCKET NO. EL20-009

4. **Refer to the Thunder Spirt Wind annual performance reporting on page 3 of the letter.**
    a. **Provide the amount of MW used in the calculation of 548,180 MWh of generation in 2019. Explain why this is less than the 155.5 MW of capacity at Thunder Spirit Wind.**
    b. **Provide the calculation of the 41.7 percent capacity factor for Thunder Spirit Wind in 2019. If possible, separate this calculation between the original Thunder Spirit Wind and the expansion.**
    c. **Refer to the kWh used in the 2020 projected production tax credit calculation on page 2 of Attachment B. Break these out between the original Thunder Spirit Wind and the expansion and explain how MDU calculated these projections.**
    d. **Refer to the actual 2019 production tax credits on Attachment C. Provide the kWh used in the calculation of these production tax credits and separate them between the original Thunder Spirit Wind and the expansion. Do the production tax credits for the original Thunder Spirit Wind comply with the settlement stipulation in EL15-024? Explain.**
    e. **Provide a brief explanation of the 9,400 MWh of economic curtailments in 2019.**

Response:

a. The 41.7 percent capacity factor was calculated using a basis of a 150 MW project size which matches the MISO Generator Interconnection for the entire project. The capacity factor is calculated as 548,180/(150,000*24*365) = 41.7 percent. Alternatively, the capacity for the Thunder Spirit project at the nameplate rating is 40.2 percent (548,180/(155,500*24*365)).

b. The generation for each facility is combined at the generation metering point for MISO and other energy accounting with a total of 548,180 MWh. The generation at the individual turbine level is approximately 394,538 MWh and 153,484 MWh for the initial Thunder Spirit project and the expansion project, respectively. There is a slight difference between the turbine level MWh and the generation metering point MWh.

   The 2019 capacity factor for the initial Thunder Spirit project was 41.9 percent based on a nameplate rating of 107.5 MW. The 2019 capacity factor for the Thunder Spirit expansion project was 36.5 percent based on a nameplate rating of 48 MW.

c. Please see Response No. 1-4c Attachment A for an estimate of the 2020 projected production tax credits separately for Thunder Spirit Wind and the

expansion. The projections are calculated based on historic normal wind patterns.

d. Please see Response No. 4b. The original Thunder Spirit Wind accounts for approximately 72 percent of the production tax credits and the expansion accounts for the remaining 28 percent.

   Yes, the Settlement Stipulation in Docket No. EL15-024 states in Section III, Part 5, "The Company agrees to report average annual capacity factors, transmission curtailments, and economic curtailments for Thunder Spirit Wind. These figures will be provided with the first annual rider filing and continue annually until this project is moved into base rates." The annual capacity factors are generally associated with the generation that produces production tax credits. Consistent with prior Infrastructure Rider filings, Montana-Dakota continues to report annual performance of the Thunder Spirit facility in compliance with the Settlement Stipulation.

   The parties agreed to this reporting requirement in the Stipulation to provide Staff the opportunity to review how the wind facility is operating in comparison to the breakeven capacity factor underlying the economics of the ownership option.

e. Economic curtailments are associated with periods of time that the MISO real-time LMP for the Thunder Spirit Wind pricing node is less than Montana-Dakota's Thunder Spirit Wind offer price (negative $25 per MWh). A majority of economic curtailments are associated with periods of time with reduced customer load levels.