

Finding of Fact No. 5. Emmons-Logan Wind now proposes to use 35 GE 1.715 MW turbines and 88 GE 2.72 MW turbines at the previously permitted turbine locations. The Project will continue to have up to 123 wind turbines in the permitted locations; however, the turbine model assigned at all but eight locations has changed.

7. The change in turbine technology will result in a slight increase in the total nameplate capacity of the Project, from 298.1 MW to 299.4 MW.
8. The maximum turbine tip height used for setbacks was unchanged and thus there continue to be no exceedances of the applicable setbacks.
9. With respect to the GE 1.715 MW turbines, turbine height will remain as originally proposed (431.5 feet).
10. With respect to the GE 2.72 MW turbines, the turbine height will remain at or below the same turbine height as the originally proposed 2.5 MW turbines (485.5 feet). The GE 2.72 MW turbines will have the same 381-foot rotor diameter as the originally proposed 2.5 MW turbines. Sixty-eight of the GE 2.72 MW turbines will have the same 295-foot hub height as originally proposed, while 20 of the 2.72 MW turbines will now have a shorter, 262-foot hub height. Thus, the height from the base of the tower to the tip of the upright blade for the GE 2.72 MW turbines will be 485.5 feet and 452.5 feet, respectively.
11. To analyze the turbine model modifications on sound and shadow flicker, Emmons-Logan Wind conducted a new sound level assessment and shadow flicker analysis at inhabited residences and community buildings (collectively, “receptor”). *See* Memorandum and Attachments 6 to 15.
12. With respect to sound levels, and in accordance with Ordering Paragraph No. 8, Emmons-Logan Wind contracted AECOM to update the acoustic assessment as a result of the turbine model modifications. AECOM utilized the same methodology outlined in the Project’s November 2018 Acoustic Assessment (Docket No. 60). The predicted operational acoustic modeling demonstrates that the Project will not generate exceedances of the Commission’s sound threshold at any occupied receptors. This updated sound assessment is provided in the Memorandum and Attachments 6 to 9.
13. With respect to shadow flicker, and in accordance with Ordering Paragraph No. 9, Emmons-Logan Wind contracted AECOM to update the shadow flicker assessment as a result of the turbine model modifications. AECOM utilized the same methodology outlined in the Project’s November 2018 Shadow Flicker Assessment (Docket No. 62). Model results from the November 2018 Shadow Flicker Assessment demonstrated that seven participating occupied residences may exceed the Commission’s recognized 30 hours per year limit. Signed waivers for shadow flicker exceedances for these landowners were previously filed with the Commission. With the turbine model modification, no new


additional residences have shadow flicker impacts over 30 hours per year. Of the seven previously identified residences, six residences are anticipated to experience a reduction in shadow flicker. The updated shadow flicker assessment is provided in the Memorandum and Attachments 10 to 15.

14. Emmons-Logan Wind also proposes certain minor Project Site Plan modifications, including changes to certain collection lines and two access roads. Most collection line changes are a result of the turbine model modification. However, collection line relocation between turbine 64 and the 230 kV substation and between turbines 69 and 93, are a result of landowner requests. Additionally, access road relocation between turbines 69 and 93 and turbine 49 were also modified to accommodate landowner requests. Attachments 1 to 5 illustrate locations of the Site Plan modifications, whereas modifications that are imperceptible at the map scale can be viewed using the GIS shapefiles provided in Attachment 16.
15. All modifications occur within the previously permitted Project Site Plan and turbine locations identified in Late-Filed Exhibit 2 (Docket No. 94). However, as a result of the modification in turbine technology, changes have occurred to turbines' primary and alternate designations. Attachment 1 identifies existing turbine locations and calls out updated primary and alternates designations. Although turbine locations have not changed, a majority of turbines have been assigned new identification numbers to reflect the updated designations as provided in Attachments 2 to 5.
16. Project Site Plan modifications occur in areas previously surveyed for Exclusion and Avoidance Areas, including wildlife, wetlands, cultural and tribal resources as described in further detail in the attached Memorandum. No additional surveys were required.
17. The Site Plan modifications will not impact any cultural or tribal resources per a joint Class III Cultural Resources and tribal survey completed by AECOM. *See* attached Memorandum. Emmons-Logan Wind will submit an amended Class III Cultural Resources Inventory Report to the State Historical Society of North Dakota for review and concurrence. In accordance with Ordering Paragraph No. 6, the concurrence letter will be filed with the Commission before the start of construction.
18. Site plan modifications will avoid wetland impacts. *See* Attachment 17.
19. The Site Plan modifications fall within areas previously covered by the avian, raptor, lek, and nest surveys and the whooping crane and bat habitat desktop assessments. The Site Plan modifications do not change the results of those studies. No threatened and endangered species or new leks or nests were observed during the field surveys, and there are no new impacts to native prairie or unbroken grasslands. Project Site Plan modifications resulted in negligible changes to the total Project impacts calculations presented in Table 1-4 of the Project Application (Docket No. 1). The Site Plan modifications still follow the

Commission's Exclusion and Avoidance Criteria as presented in Tables 3-1 and 3-2 of the Project Application.

20. Activities associated with the Project modifications will not affect any known Exclusion or Avoidance areas. *See* Certification Provision No. 38(A)(1).
21. Project construction will occur wholly within the geographic location for which Emmons-Logan Wind previously obtained a site certificate. Maps and GIS shapefiles of the site modifications are enclosed. *See* Certification Provision No. 38(A)(2).
22. Emmons-Logan Wind will continue to comply with all applicable conditions and protections in the siting laws and rules and the Order previously issued for the Project. *See* Certification Provision No. 38(A)(3).
23. Emmons-Logan Wind anticipates initiating construction on the Project by April 2019.

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Jason Utton
Vice President Development
Authorized Representative of
Emmons-Logan Wind, LLC

STATE OF FLORIDA)
) ss.
COUNTY OF JUNO BEACH)

On this 13th day of March, 2019, before me personally appeared Jason Utton, known to me to be the Vice President Development and an authorized representative of the limited liability company that is described in and that executed the within instrument, and acknowledged to me that such limited liability company executed the same.





Notary Public