

# As-Built Inspection Report

Emmons—Logan Wind Energy Center

ND PSC Case No. PU-18-280

**Prepared for:**

North Dakota Public Service Commission  
Public Utilities Division  
State Capitol  
600 East Boulevard – Dept. 408  
Bismarck, ND 58505-0480

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As-Built Inspection Report  
Keitu Engineers & Consultants, Inc.



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## Table of Contents

EXECUTIVE SUMMARY .....	1
INTRODUCTION .....	2
PURPOSE AND SCOPE OF INSPECTION .....	2
ORDERS .....	3
CERTIFICATION .....	5
CONCLUSIONS .....	16
MANAGEMENT REVIEW .....	16

## Executive Summary

The State of North Dakota, acting through its North Dakota Public Service Commission (Commission), Division of Public Utilities, has contracted Keitu Engineers & Consultants, Inc. (Keitu) to perform consulting services for an As-Built Siting Inspection. This report addresses the Orders established by the Commission and issues established in Case No. PU-18-280.

The Emmons-Logan Wind Energy Center (Project) is a wind energy conversion facility within a Project area of approximately 28,097 acres of land in Emmons and Logan Counties, North Dakota. The Project consists of 102 turbines with a name-plate capacity of 216.1 megawatts (“MW”). The Project includes three models of turbines, consisting of 61 GE 1.715 MW 80m HH, 20 GE 2.72 MW 80m HH, and 21 GE 2.72 MW 90m HH turbines. A transformer at each turbine site steps up the voltage to 34.5 kV and is transmitted through an underground collection system to the collector substation where the voltage is stepped up from 34.5 kV to 230 kV transmission line voltage for interconnection to the transmission grid. Additional facilities associated with the Project include access roads, underground electrical collection systems, collection substation, an operation and maintenance building, meteorological evaluation towers, and an Aircraft Detection Lighting System (ADLS).

The purpose of the As-Built Inspection was to ensure the Project was constructed in compliance with the siting laws, rules, and the applicable Commission Order for the Project. Prior to the inspection, Keitu reviewed all Project documents to verify any and all aspects requiring site verification.

The site was visually inspected on March 5, 2021 by Keitu staff. The Project was well-maintained, secured, and in good condition. During the As-Built Inspection, the areas appeared to have been properly restored. Vegetation had not been reestablished in all areas due to poor growing conditions last summer and fall after reclaimed areas had been seeded, and will be reseeded later in the spring (2021). Overall, the Project appeared to be constructed as planned with numerous efforts to minimize impacts and to stay in compliance with the siting laws, siting rules, and Commission Orders.

## Introduction

The Project was approved in February, 2019 and construction began in May, 2019. Construction for the Project was completed in November, 2019 with the exception of the ADLS which was commissioned in February, 2020. The Project is operated by Emmons-Logan Wind, LLC. Emmons-Logan Wind, LLC is a wholly owned, indirect subsidiary of NextEra Energy Resources, LLC. The Project is a wind energy conversion facility consisting of 102 wind turbine and associated facilities. The Project's wind turbines consist of three models of GE turbines; 61 GE 1.715 MW 80m HH, 20 GE 2.72 MW 80m HH, and 21 GE 2.72 MW 90m HH turbines. The 102 turbines have a name-plate capacity of 216.1 MW.

The Project's generated power will interconnect to the electrical grid via the Emmons-Logan Wind 230 kV Transmission Line, which was constructed concurrently to the Project. Emmons-Logan Wind, LLC submitted a separate application to the Commission for a Certificate of Site Compatibility and Route Permit for the 230 kV transmission line.

The Project is under the jurisdiction of the North Dakota Public Service Commission, which issued its Certificate of Corridor Compatibility No. 57 for Case No. PU-18-280 on February 6, 2019.

## Purpose and Scope of Inspection

The North Dakota Energy Conversion and Transmission Facility Act (North Dakota Century Code Chapter 49-22) authorizes the Public Service Commission to determine that the location, construction, and operation of jurisdictional energy conversion and transmission facilities will produce minimal adverse effects on the environment and welfare of the citizens of North Dakota. Construction Inspections ensure the Project is constructed in compliance with siting laws, rules, and the applicable Commission Order Amending Certificate and Permit (Order).

The Commission retained Keitu to complete an As-Built Construction Inspection of the Project. The inspection process included a review of the Consolidated Application for Certificate of Corridor Compatibility and Route Permit (Application), Order, Certification Relating to Order Provisions (Certification), and other applicable documents to determine Project-specific siting and construction requirements; a site visit and inspection of facilities; documentation of compliance; and a report summarizing findings. This report includes, but is not limited to, site visit observations, documentation of compliance deficiencies, and a summary of issues that should be addressed for the Project to be considered complete and in full compliance.

## Methods

Keitu reviewed North Dakota siting laws and rules, the Application, Certification, and the Order for the Project to identify what Project-specific documentation was required for compliance. Keitu then reviewed Project documents in the PSC Online Case Search to identify those siting

laws, rules, and Application and Order assertions that already had written verification, those that still required documentation, and those that required physical site verification.

Keitu Staff visited the Project area on March 5, 2021 to visually inspect the site. Digital photographs were taken showing typical Project infrastructure. The Project was in operation at the time of visit.

## Orders

The following section includes discussion of a list of components of the Project that were asserted in the Order which could be documented during the As-Built Inspection to verify compliance with siting laws, rules and the Order for the Project, via either written documentation or physical site verification. Included are detailed findings and observations from Keitu personnel involved in the As-Built Inspection for the Project.

On October 10, 2018 the Commission deemed the application complete conditioned upon receipt within 30 days of the hearing of: 1) Sound and shadow flicker analysis with detail on residence locations and participating and non-participating landowners; 2) Class III cultural resource surveys; and 3) Wetland delineation reports, and issue a Notice of Filings and Consolidated Hearings in Emmons-Logan Wind, LLC, Emmons-Logan Wind Energy Center-Emmons & Logan, Siting Application, Case No. PU-18-280, and Emmons Logan Wind, LLC, Emmons-Logan 230 kV Transmission Line- Emmons, Siting Application, Case No. PU-18-281.

- 1. Emmons-Logan Wind shall construct and operate the facility in accordance with the Commission's find of fact.**

Order #1 is complete.

- 2. Certificate of Site Compatibility for an Energy Conversion Facility No. 57 is issued to Emmons-Logan Wind, LLC for the construction, operation, and maintenance of a wind energy conversion facility known as the Emmons-Logan Wind Energy Center corresponding to the revised Project Area depicted on Late-Filed Exhibit 2.**

Certificate of Corridor Compatibility No. 57 was issued to Emmons-Logan Wind, LLC on February 6, 2019. Order #2 was followed.

- 3. Within the permitted site, Emmons-Logan Wind is authorized to site and construct up to 123 wind turbines in proposed and alternative locations, as identified in Late-Filed Exhibit 2, along with electric collection and communication lines, a substation, access roads, an operations and maintenance building, and other associated facilities as identified in the Application and at the public hearing.**

A total of 102 wind turbines, along with electric collection and communication lines, a substation, access road, an operations and maintenance building, and other associated facilities for the Project were constructed as identified in the Application. Order #3 was followed.

- 4. The Certification Relating to Order Provisions with accompanying Tree and Shrub Mitigation Specifications filed with the Commission on December 5, 2018 is incorporated by reference and attached to this Order. The December 5, 2018 Tree and Shrub Mitigation Specifications may be modified upon the mutual agreement of the Commission and Emmons-Logan Wind.**

Order #4 was followed.

- 5. To the extent there are any conflicts or inconsistencies between Emmons-Logan Wind's Application and the Certification, the Certification provisions control.**

Order #5 was followed.

- 6. If modifications are made to the Project layout, Emmons-Logan Wind shall complete a Class III Cultural Resource Survey for any previously un-surveyed portions of the designated site affected by Project-related construction activities, in accordance with SHPO guidance, and shall submit cultural resource finds to SHPO for review, and file a copy of SHPO's response with the Commission prior to beginning construction in said areas.**

Order #6 was followed.

- 7. If modifications are made to the Project layout, Emmons-Logan Wind shall complete a wetland determination of any previously un-surveyed areas affected by Project-related activities, as necessary, and file the report with the Commission.**

Order #7 was followed.

- 8. If modifications are made to the Project layout that are not covered by the current acoustic analysis, Emmons-Logan Wind shall conduct an acoustic analysis and file a report with the Commission to ensure the Project complies with the Commission's Avoidance Area sound requirement at all occupied residences, unless otherwise agreed to by the landowner.**

Order #8 was followed.

- 9. If modifications are made to the Project layout that are not covered by the current shadow flicker analysis, Emmons-Logan Wind shall conduct a shadow flicker analysis, and file a report with the Commission to ensure the Project meets the Commission recognized shadow flicker 30 hours per year industry standard or less at tall occupied residences, unless otherwise agreed to by the landowner.**

Order #9 was followed.

## Certification

The following section includes discussion of relevant items included in the Certification attached by reference to original Order. All certification points relevant to the As-Built Inspection Report are included.

1. **Company understands and agrees that the Certificate of Site Compatibility will be issued by the Commission subject to the conditions and criteria set forth in Chapter 49-22 of the North Dakota Century Code and Chapter 69-06-08 of the North Dakota Administrative Code, and that Company shall be responsible for compliance with this order and conditions and criteria set forth in the applicable laws and rules.**

Certification Point #1 was followed.

2. **Company agrees to comply with the rules and regulations of all other agencies having jurisdiction over any phase of the proposed energy conversion facility including all city, township, and county zoning regulations.**

Certification Point #2 was followed.

3. **Company understands and agrees that it shall obtain all other necessary licenses and permits, and shall provide copies of all licenses and permits to the Commission prior to construction activity associated with the transmission facility that requires said license or permit.**

Certification Point #3 was followed.

4. **Company understands and agrees that the Certificate of Site Compatibility is subject to suspension or revocation and may, in an appropriate and proper case, be suspended or revoked for failure to comply with the Commission's order, the conditions and criteria of the certificate or subsequent modification, or failure to comply with the applicable statutes, rules, regulations, standards, and permits of other state or federal agencies.**

Certification Point #4 was followed.

5. **Company agrees to maintain records that will demonstrate that it has complied with the requirements of the Commission's order and the Certificate of Site Compatibility, and that it will preserve these records for Commission inspection at any reasonable time upon reasonable notice.**

Certification Point #5 was followed.

- 6. Company understands and agrees that the authorizations granted by the Certificate of Site Compatibility for the energy conversion facility are subject to modification by order of the Commission if deemed necessary to protect further the public or the environment.**

Certification Point #6 as followed.

- 7. Company is aware that under North Dakota Century Code section 49-02-27 the Commission has rules for decommissioning of wind energy conversion facilities. Company agrees to comply with all decommissioning rules adopted by the Commission.**

Certification Point #7 was followed.

- 8. Company agrees to hold a preconstruction conference prior to commencement of any construction, which must include a Company representative, its construction supervisor, and a representative of Commission Staff, to ensure that Company fully understands the conditions set forth in the Commission’s order.**

A preconstruction conference was held on April 23, 2019 and was attended by Company representatives, the construction supervisor, Jerry Lein from the ND PSC, and representatives from Keitu, the Commission’s third-party construction inspector. Certification Point #8 was followed.

- 9. Company understands and agrees that all cultural resource mitigation plans must be approved by the North Dakota State Historic Preservation Office prior to the start of any fieldwork and construction activity in the affected area.**

On November 29, 2018, NDSHPO issued a letter stating they had received and reviewed Class III Intensive Cultural Resource Survey for the Project (NDSHPO Ref.: 180-0844a) and found it acceptable. NDSHPO concurred with a “No Significant Sites Affected” determination provided the management and avoidance of identified sites are followed as stipulated. Certification Point #9 was followed.

- 10. Company understands and agrees that topsoil removal will begin when the Commission’s third party construction inspector is present at the Project site to observe that topsoil is properly removed and kept segregated from subsoil until replacement occurs. Company shall establish the date and time for the Commission’s third-party construction inspector’s topsoil removal oversight in the preconstruction conference.**

Keitu was present on-site for topsoil removal on May 16<sup>th</sup> and May 29<sup>th</sup>, 2019 and determined that the topsoil was properly removed and segregated from subsoil in accordance to the ND PSC's regulations for topsoil removal and segregation. Certification Point #10 was followed.

- 11. Company agrees to inform the Commission and the Commission's third-party construction inspector of its intent to start construction on the energy conversion facility prior to the commencement of construction. Once construction has started, Company shall keep the Commission and the Commission's third-party construction inspector updated of construction activities on a monthly basis.**

Keitu conducted a topsoil inspection when construction activities commenced for the project and observed topsoil removal during the construction inspection on May 16<sup>th</sup> and May 29<sup>th</sup>, 2019 and found topsoil removal activities to be in compliance with the Commission's Order. Certification Point #11 was followed.

- 12. Company is aware that North Dakota law requires that all companies that own or operate electric generation of any size for the primary purpose of resale must comply with the standards of the National Electrical Safety Code in effect at the time of construction of the generation facility, and agrees to comply with that requirement.**

Based on available information, Keitu's opinion is that Certification Point #12 was followed.

- 13. Company agrees to construct and operate the energy conversion facility in accordance with all applicable safety requirements.**

Certification Point #13 was followed.

- 14. Company understands and agrees that it shall bury all underground collection and feeder lines to a depth of at least 48 inches to the top of the lines.**

Based on available information, Keitu's opinion is that Certification Point #14 was followed.

- 15. Company understands and agrees that topsoil, up to 12 inches, or topsoil to the depth of cultivation, whichever is greater, over and along trench areas, roadways, tower locations, and locations of associated facilities must be carefully stripped and segregated from the subsoil. Any area on which excavated subsoil will be placed must first be stripped of topsoil. The stripped topsoil must not be stockpiled in natural drainages, and must be protected from water erosion. Care must be taken to protect topsoil from unnecessary compaction by heavy machinery. Unless otherwise approved by the Commission, topsoil must be removed before topsoil freezes in the late fall/early winter to the point that frost inhibits proper soil segregation. After backfilling with subsoil is completed, any excess subsoil must be placed over the**

**excavation area, blending the grade into existing topography. Topsoil must be replaced over areas from which it was stripped only after subsoil is replaced.**

Certification Point #15 was followed.

**16. Company understands and agrees that all buried facility crossings of graded roads shall be bored unless the responsible governing agency specifically permits Company to open cut the road.**

Certification Point 16 was followed.

**17. Company understands and agrees that staging areas or equipment shall not be located on land owned by a person other than Company unless otherwise negotiated with landowners.**

Based on available information, it is Keitu’s opinion that Certification Point #17 has been followed.

**18. Company understands and agrees that if any cultural resource, paleontological site, archeological site, historical site, or grave site is discovered during construction, it must be marked, preserved and protected from further disturbances until a professional examination can be made by the State Historical Society, a report of such examination is filed with the Commission.**

On 8/13/2019, a previously unidentified potential tribal site was found at the Turbine site 44 during pad construction. Construction was stopped immediately upon discovery. All notifications and procedures were followed as outlined by the Unanticipated Discoveries Plan. The discovery and surrounding areas were deemed spiritually important by the THPO archeologist. It was decided to eliminate the turbine and an alternate turbine location was activated. It was reported that AECOM would submit a cultural heritage form to the SHPO.

Based on available information, it is Keitu’s opinion Certification Point #18 has been followed.

**19. Company understands and agrees that construction must be suspended when weather conditions are such that construction activities will cause irreparable damage to roads or land, unless adequate protection measures are taken by Company.**

Based on available information, it is Keitu’s opinion that Certification Point #19 has been followed.

**20. Company understands and agrees that the Commission has authority to stop Project construction activities in the event of a probable violation of the siting laws, siting**

**rules, or applicable Commission Orders if, in the opinion of the Commission, construction activities are likely to result in irreparable or significant harm.**

Certification Point #20 has been followed.

**21. Company agrees that it shall, as soon as practicable upon the completion of the construction of the energy conversion facility, restore the area affected by the activities to as near as is practicable to the condition as it existed prior to the beginning of construction.**

Based on available information, Keitu’s opinion is that Certification Point #21 has been followed.

**22. Company understands and agrees that all pre-existing township and county roads and lanes used during construction must be repaired or restored to a condition that is equal to or better than the condition prior to the construction of the energy conversion facility and that will accommodate their previous use, and that areas used as temporary roads or working areas during construction must be restored to their original condition.**

Based on available information, Keitu’s opinion is that Certification Point #22 was followed.

**23. Company understands and agrees that reclamation, fertilization, and reseeding is to be done according to the Natural Resources Conservation Service recommendations, unless otherwise specified by the landowner and approved by the Commission.**

Reclamation, fertilization, and seeding was done according to the Natural Resources Conservation Service recommendations in the summer of 2020. Due to poor weather conditions during the 2020 growing season, some areas will need to be reseeded in 2021. It is Keitu’s opinion that Certification Point #23 was followed.

**24. Company will fulfill its obligation for reclamation and maintenance of the approved site continuing throughout the life of the energy conversion facility.**

Based on available information, Keitu’s opinion is that Certification Point #24 was followed.

**25. Company will repair all fences and gates removed or damaged during all phases of construction and operation of the proposed energy conversion facility.**

Based on available information, Keitu’s opinion is that Certification Point #25 was followed.

**26. Company will repair or replace all drainage tile broken or damaged as a result of construction and operation of the proposed energy conversion facility.**

Based on available information, Keitu's opinion is that Certification Point #26 was followed.

- 27. Company agrees to comply with the Tree and Shrub Mitigation Specifications, attached.**

Based on available information, Keitu's opinion is that Certification Point #27 was followed.

- 28. Company understands and agrees that it shall work with landowners and residents to mitigate any increase in television and residential radio interference that results from the construction of the energy conversion facility.**

Based on available information, it is Keitu's opinion that Certification Point #28 was followed.

- 29. Company understands and agrees that it shall remove all waste that is a product of construction and operation, restoration, and maintenance of the site, and properly dispose of it on a regular basis.**

Based on available information, Keitu's opinion is that Certification Point #29 was followed.

- 30. Company understands and agrees that it shall provide any necessary safety measures for traffic control or to restrict public access to the energy conversion facility.**

Based on available information, Keitu's opinion is that Certification Point #30 was followed.

- 31. Company agrees to provide the Commission with engineering design drawings showing surveyed structure and collection substation locations prior to construction.**

Based on available information, Keitu's opinion is that Certification Point #31 was followed.

- 32. Company understands and agrees that it shall advise the Commission as soon as reasonably possible of any extraordinary events which take place at the site of the energy conversion facility, including injuries to any person, a tower collapse, or a catastrophic turbine failure.**

Based on available information, Keitu's opinion is that Certification Point #32 was followed.

- 33. Company agrees to report to the Commission, as soon as reasonably possible, the presence in or near the approved site of any critical habitat of threatened or endangered species that Company becomes aware of which were not previously reported to the Commission.**

Based on available information, it is Keitu's opinion that Certification Point #33 was followed.

- 34. Company agrees to provide the Commission with both an electronic and a paper copy of the site approved by the Commission and the facility design specifications for the construction of the energy conversion facility showing the location of the energy conversion facility as built, and will provide this information within 3 months of the completion of the construction. Company also agrees to provide an electronic version of the site approved by the Commission and the facility design specifications for the construction of the energy conversion facility showing the location of the energy conversion facility as built that can be imported into ESRI GIS mapping software within 3 months of the completion of the construction. This electronic map data must be referenced to the North Dakota coordinate system of 1983, North and/or South zones US Survey feet (NAD 83) UTM Zone 13N or 14N feet (NAD 83), or geographic coordinate system (WGS 84) feet. The vertical data must be in the appropriate vertical datum for the coordinate system used. All submissions must specify the datum in which the data was developed.**

Based on available information, Keitu’s opinion is that Certification Point #34 was followed.

- 35. Company shall notify the Commission, as soon as reasonably possible, if any damage, as defined by North Dakota Century Code Chapter 49-23, occurs to underground facilities during construction conducted under the certificate or permit issued in this proceeding. In the event of any damage to underground facilities, Company shall suspend construction in the vicinity of the damage until compliance with One-Call Excavation Notice System requirements under North Dakota Century Code Chapter 49-23 has been determined.**

Certification Point #35 was followed.

- 36. Company agrees that it shall provide, if requested, educational material for landowners within the site boundaries about the proposed energy conversion facility and any restriction or danger concerning the proposed energy conversion facility.**

Based on available information, it is Keitu’s opinion that Certification Point #36 was followed.

- 37. Company understands and agrees that it shall implement a procedure for how complaints concerning the proposed energy conversion facility will be handled by Company.**

Based on available information, it is Keitu’s opinion that Certification Point #37 has been followed.

- 38. Before conducting any construction activities for any modification within the designated site, the Company will file the name and contact information for a key contact person for the purposes of notice and communication during the site modification application and will use the following procedures:**
- a. Before conducting any construction activities for any modification within the designated site, and such construction activities will not affect any known exclusion or avoidance areas within the designated site, the Company will file certification and supporting documentation:**
    - i. Affirming that construction activities will not affect any known exclusion or avoidance areas within the designated file;**
    - ii. Including a map meeting the requirements of N.D. Admin. Code § 69-06-04-01(2)(n) identifying the designated site and site modification(s); and**
    - iii. Affirming that Company will comply with the Commission's order, law and rules designating the site.**
  - b. Before conducting any construction activities for any modification within the designated site, and such construction activities will not affect any known exclusion but may affect an avoidance area within the designated site, the Company will file:**
    - i. A specific description of the avoidance area expected to be impacted, including a map meeting the requirements of N.D. Admin. Code § 69-06-04-01(2)(n) identifying:**
      - 1. The designated site and the site modification;**
      - 2. All exclusion and avoidance areas within the portion of the designated site containing the site modification;**
    - ii. Certification and supporting documentation affirming that construction activities will not affect any known exclusion area.**
    - iii. All field studies performed on the portion of the designated site containing the site modification;**
    - iv. Specific information about any mitigation measures Company will take within the modification area;**
    - v. Certification that each owner of real property on which the modification is to be located and any applicable governmental entity with an interest in the same modification area do not oppose the modification.**
    - vi. Certification that unless the Commission previously authorized the impact to the same avoidance area, that the utility has good cause and a specific reason to impact the avoidance area and a reasonable alternative does not exist;**

**vii. Certification that Company will comply with the Commission's order, law and rules designating the site.**

**(1) Turbine Modification**

In Finding of Fact No.4 of the February 6 Order, the Commission found that the Project will consist of up to 123 turbines and have a nameplate capacity of up to 298.1 MW. On May 2, 2019, Emmons-Logan Wind filed a Certification Relating to Modification of Energy Conversion Facility and Site Plan Pursuant to Certification Relating to Order Provision No.38(A) ("May 2 Certification Filing"). In this filing, Emmons-Logan notified the Commission that it had updated technologies at certain locations in its originally filed site plan. Specifically, Emmons-Logan Wind notified the Commission that it was originally expecting to use 111 General Electric ("GE") 2.5 MW turbines and 12 GE 1.715 MW turbines, but that it had updated this alignment to use 88 GE 2.72 MW turbines and 35 GE 1.715 MW turbines. This change would result in a slight increase in the total nameplate capacity of the Project, from 298.1 MW to 299.4 MW. On August 6, 2019, the Commission issued an amended Order that amended Findings of Fact paragraph 4 and 5 to reflect the revised GE 2.72 MW and GE 1.715 MW turbine models and resulting capacity increase.

Subsequent to the Commission's issuance of the Aug. 6 Order, Emmons-Logan Wind received updated network upgrade cost estimates from the Midcontinent Independent System Operator that significantly exceeded Emmons-Logan Wind's expectations. Emmons-Logan Wind determined to delay construction of 21 of the originally planned 123 turbines and to revise the mix of turbine technologies that were included in the May 2 Certification Filing. The Project's turbine technology remains unchanged and is consistent with the August 6 Order. Emmons-Logan Wind now proposes to use 61 GE 1.715 MW turbines and 41 GE 2.72 MW turbines in lieu of the 35 GE 1.715 MW turbines and 88 GE 2.72 MW turbines proposed in the May 2 Certification Filing. Emmons-Logan Wind is simply adjusting the turbine models assigned at certain locations within the approved Project site plan. The updated plan included the use of 61 GE 1.715 MW turbines and 41 GE 2.72 MW turbines with a nameplate capacity of 216.1 MW.

Emmons-Logan Wind conducted update analysis of sound levels and shadow flicker for the turbine modifications. All turbine model 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 the turbines' designations (i.e. which turbine technology is assigned to which location). The turbine model modifications required the reconfiguration of certain collection lines. No additional surveys were required, and no additional impacts occurred since Project infrastructure remained in previously surveyed areas.

**(2) ADLS**

Subsequent to issuance of the Commission's Orders, N.D.C.C. section 49-22-16.4 was enacted and became effective on August 1, 2017. Section 49-22-16.4 established a new compliance

deadline, requiring that facilities permitted by the Commission after June 5, 2016 be “equipped with a functioning light-mitigating technology system” by December 31, 2019.

On November 25, 2019, Emmons-Logan proactively notified the Commission that due to difficulties with its ADLS vendor’s supply chain, the radar unit for the ADLS was pending delivery from an overseas supplier. Based on estimates from its ADLS vendor, Emmons-Logan anticipated it would take several months for the radar system to be delivered, installed, and tested, and that the ADLS system would not be activated until the first quarter of 2020 (Docket No. 152).

On December 6, 2019, Staff responded to Emmons-Logan’s November 25 ADLS notification. Staff acknowledged Emmons-Logan’s efforts to provide advance notice of the issues they were experiencing in implementation of the ADLS system. The December 6 response stated Emmons-Logan will be in noncompliance with N.D.C.C. § 49-22-16.4 and N.D. Admin. Code § 69-06-11-02 unless the radar system was installed and the ADLS system was functioning by December 31, 2019. Staff requested that beginning December 13, 2019, Emmons-Logan provide weekly updates to the Commission regarding the status of the ADLS until such time as the ADLS is installed and functioning (Docket No. 154). Starting December 13, 2019, Emmons-Logan began to file weekly ADLS status updates with the Commission in accordance with Staff’s request (Docket Nos. 156-158, 160, 161).

On January 3, 2020, Staff issued a Notice of Noncompliance to Emmons-Logan alleging noncompliance with the provisions of N.D.C.C. § 49-22-16.4(2) and N.D. Admin Code § 69-06-11-02(1) (Docket No. 159).

On January 17, 2020, Emmons-Logan notified the Commission the ADLS had arrived to the United States and was pending processing by U.S. Customs, and notified the Commission the ADLS had been received by the vendor on January 24, 2020 (Docket Nos. 164, 165). On January 31, 2020, the Commission was notified that the radar system and additional system components had been delivered to the site and installed, and that test flights were scheduled to occur the week of February 3 (Docket No. 166). On February 7, 2020, the Commission was notified that the ADLS had been activated and preliminary test flights and software testing had been conducted. A second round of test flights were scheduled for the week of February 10, 2020 (Docket No. 167). On February 13, 2020, Emmons-Logan notified the Commission that the ADLS had been fully activated at the Facility as of February 11 (Docket No. 168).

Emmons-Logan and Staff engaged in good faith settlement discussions resulting in a Consent Agreement intended to avoid further administrative proceedings or litigation. Emmons-Logan agreed to be assessed a civil penalty of \$5,000 payable to the North Dakota Public Service Commission within ten business days of an Order approving the Consent Agreement. The Consent Agreement was filed and approved on April 21, 2020 and the \$5,000 payment was received by the Commission on May 11, 2020.

Keitu’s opinion is that Certification Point #38 has been followed.

**39. Company acknowledges and agrees that written authorization from the Commission for impacting the avoidance area is necessary prior to commencement of construction facility.**

Based on available information, it is Keitu's opinion that Certification Point #39 has been followed.

## Conclusions

Overall, the Project appeared to be constructed as designed with minimal impacts to the surrounding environment. The Project site was in good condition, well maintained, and appeared to be constructed in compliance with the siting laws, siting rules, and applicable Commission Orders.

Reclamation is still occurring onsite as reseeding was necessary due to poor growing conditions in 2020 after initial seeding took place.

## Management Review

The services performed by Keitu and its staff for this project have been conducted in a manner consistent with the degree of care and technical skill appropriately exercised by professionals currently practicing in this area under similar time and budget constraints.

Recommendations and findings contained in this report represent our professional judgment and are based upon available information and technically accepted practices at the present time and location. Other than this, no warranty is implied or expressed.



4/2/2021

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Jaimee Antognazzi, Operations Manager

**Report Photo #1: Operations and Maintenance Building**

**South West Elevation**

☉ 39°NE (T) ☉ 46°23.135'N, 100°6.626'W ±13ft ▲ 2145ft



**Report Photo #2: Turbine 25 (GE 1.7 MW 80m HH)**

**North East Elevation**

☉ 208°SW (T) ☉ 46°23.354'N, 100°4.758'W ±9ft ▲ 2051ft



**Report Photo #3: Access Road through Trees and Wetland**

**East Elevation**

☉ 264°W (T) ● 46°23.313'N, 100°5.644'W ±13ft ▲ 2063ft



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**Report Photo #4: Collection Line through Trees**

**North West Elevation**

☉ 132°SE (T) ● 46°23.326'N, 100°5.738'W ±9ft ▲ 2059ft



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**Report Photo #5: Turbine 48 (GE 2.7 90m HH)**

**East Elevation**

🌐 258°W (T) 🌐 46°21.920'N, 100°3.255'W ±9ft ▲ 2094ft



**Report Photo #6: Laydown Yard Site**

**North Elevation**

🌐 172°S (T) 🌐 46°22.239'N, 99°59.012'W ±9ft ▲ 2166ft



**Report Photo #7: Turbine 103 (GE 2.7 80m HH)**

**North West Elevation**

☉ 139°SE (T) ● 46°22.718'N, 99°55.021'W ±9ft ▲ 2105ft



**Report Photo #8: Road Routed around Wetland**

**North East Elevation**

☉ 229°SW (T) ● 46°23.105'N, 99°55.019'W ±16ft ▲ 2114ft



**Project Map:**

