



April 11, 2025

Memorandum to the North Dakota Public Service Commission

This memorandum is intended to provide the North Dakota Public Service Commission (“PSC”) with an update regarding the Aircraft Detection and Lighting System (“ADLS”) for the Aurora Wind Project owned by Aurora Wind Project, LLC (“Aurora”) and the Lindahl Wind Project owned by Lindahl Wind Project, LLC (“Lindahl”) and collectively with Aurora, the “Projects”).

For background, a single centrally located ADLS tower, manufactured and installed by Terma Inc., was commissioned in December of 2021 at Aurora to provide ADLS services for both Aurora and Lindahl. Aurora operates 15 Vestas V110 and 56 Nordex V149 turbines while Lindahl operates 75 Vestas V100 turbines.

For transparency, the ADLS is not fully functional for both Aurora and Lindahl. Efforts to identify and resolve the complex issues affecting the full functionality of the ADLS are further described below.

A task force of internal Engineering & Construction, Operations & Maintenance and Information Technology subject matter experts created by Enel to assess ADLS functionality issues (the “Task Force”) attribute the issues affecting functionality at the Projects to be primarily affected by three main factors:

- **Cybersecurity standards:** Corporate cybersecurity standards and North American Electric Reliability Corporation (NERC) reliability and security standards restrict communication between specific devices (e.g., turbines and Terma ADLS tower). Such standards get updated requiring the Projects to adapt.
- **Communication topology:** The ADLS communicates to a central switch that splits to each of Aurora and Lindahl then to the turbine manufacturer’s firewall before communicating with the turbines to enable the FAA light to flash.
- **Network connectivity between different manufacturer technologies:** Several third-party technologies must be integrated for the system to function as intended (e.g., turbine SCADA, FAA lighting and Terma ADLS radar).

This requires the Task Force to trouble-shoot and resolve the above communication and network connectivity issues within the cybersecurity standards for bulk energy systems. As of today, the Task Force believes that, according to the SCADA system, the ADLS is functioning properly for approximately 50% of the Vestas V100 turbines operating across both Projects, such that the ADLS is sending signals, and the turbines are receiving those signals as intended. However, diagnosis of the communication and connectivity issues for the remaining turbines continues.

The trouble-shooting efforts requires (i) extensive technical analysis from an information technology perspective of on a turbine-by turbine basis, (ii) physical inspections of the communications systems across the infrastructure of both Projects on a turbine-by-turbine basis, and (iii) collaboration between the owners of the third-party technologies (including Terma Inc., Vestas and Nordex).



The Task Force has undertaken the following actions:

- Identification and mapping out of all network switches and firewalls and verification of all network communication identifiers located in Project infrastructure.
- Individual inspection of each of the 75 turbines at Lindahl and 71 turbines at Aurora to obtain network communication identifiers and inspect physical hardware.
- Weekly Task Force meetings, including Terma, Nordex and Vestas (OEMs) as needed, to collaborate on diagnosis of connection issues and potential resolutions.

These information-gathering actions by the Task Force have provided a basis for next steps in the process. The next steps to occur include:

- Engaging third-party contractors to climb each turbine to perform diagnostic and troubleshooting activities in order to provide situational reports of the network functionality of each turbine.
- Collaborating with OEM staff to conduct testing/analysis of ADLS functionality in conjunction with visual inspections
- Engaging meteorological tower manufacturers to evaluate network connectivity issues and required remediations.

Enel recognizes that the ADLS issues have been ongoing, have not been adequately resolved, and requires a resolution to have a fully functional ADLS serve each Project as soon as possible. Productive collaboration between the Projects and the OEMs, collection of reliable information of the connectivity failures, and designing scopes of work with third-party contractors to perform effective diagnostic work have been methodically taken, thereby requiring lead time to complete. Enel predicts that the diagnostic/troubleshooting work to be performed by the third-party contractors in the upcoming weeks will provide valuable information to progress toward achieving full functionality of the ADLS.

Enel is also committed to providing the PSC with updates of its progress toward achieving full functionality of the ADLS and proposes that it provide such updates on a regular basis going forward.

As stated in previous communications, any time ADLS communication fails for either the Vestas or Nordex turbine model, the FAA lights installed on that turbine model revert to operating in failsafe mode. Failsafe mode includes the continuous synchronized flashing of the lights, in accordance with FAA standards, maintaining air traffic and human safety. Enel also has on-site technicians and staff that undertake operational monitoring and maintenance activities as well as 24-hour remote facility monitoring. Other health, safety and environmental protocols (e.g., Emergency Response Plan) are in place to maintain the safe operation of the Aurora and Lindahl facilities.