

# Wind Farm Regulatory Compliance Report

## Prairie Wind Energy Project - Phase II

### Executive Summary

This compliance report demonstrates adherence to Federal Energy Regulatory Commission (FERC) requirements, North American Electric Reliability Corporation (NERC) standards, and local environmental regulations for the Prairie Wind Energy Project Phase II. The 200 MW wind farm consists of 67 GE Haliade-X 3.0 MW turbines and will provide clean energy to approximately 60,000 homes annually.

### Applicable Regulations

Regulation	Authority	Compliance Status	Date Verified
NERC FAC-001-3	NERC	Compliant	2024-01-15
NERC FAC-002-3	NERC	Compliant	2024-01-15
FERC Order 2003	FERC	Compliant	2024-01-20
FAA Part 77	FAA	Compliant	2024-01-10
ESA Section 7	USFWS	Compliant	2024-01-25
NPDES Permit	EPA	Compliant	2024-01-18
State Siting Permit	State PSC	Approved	2024-01-12

### Environmental Compliance

Comprehensive environmental impact assessments have been completed in accordance with the National Environmental Policy Act (NEPA). Key findings include:

- Avian and Bat Studies: 24-month pre-construction monitoring completed. Predicted annual bird mortality rate of 2.3 birds per turbine per year, within acceptable limits.
- Noise Assessment: Sound levels comply with local ordinances, with maximum levels of 45 dBA at nearest residence (500m from turbines).
- Shadow Flicker Analysis: Maximum 30 hours per year at any residence, below the 30-hour threshold required by county regulations.
- Wetland Delineation: All turbine locations maintain required 100-foot buffer from identified wetlands. Temporary impacts during construction will be restored within 12 months.

### Grid Interconnection Requirements

The wind farm will interconnect to the regional transmission grid through a new 138 kV transmission line and switching station. All equipment meets IEEE 1547 standards for distributed resource interconnection:

- Power Factor: 0.95 leading to 0.95 lagging
- Voltage Regulation:  $\pm 5\%$  of nominal voltage
- Frequency Response: Primary frequency response within 10 seconds
- Fault Ride-Through:

Low/high voltage and frequency ride-through capabilities • Communication: DNP3 and IEC 61850 protocols for grid monitoring