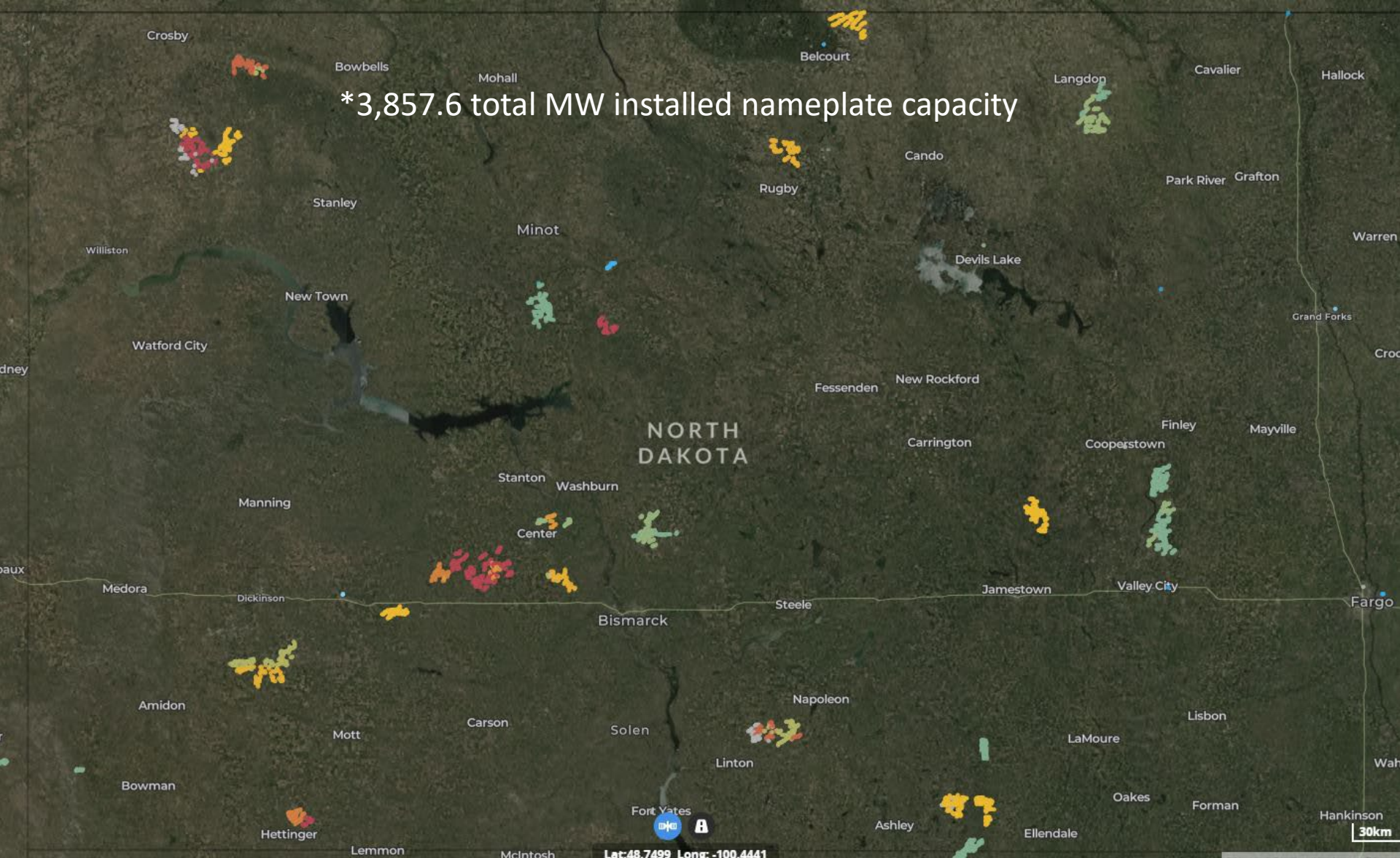


North Dakota Wind Turbine Lighting Requirements & Results

**Julie Fedorchak, Public Service Commission Chair
Kansas Senate Select Committee for Wind Turbine Lighting
Oct. 27, 2022**

Projects in ND

Source: <https://eerscmap.usgs.gov/uswtdb/viewer/#7.12/47.454/-100.076>



Law passed in 2017

Requires two things:

1. **New wind facilities must be built with functioning light mitigating technology prior to operation.**
2. **Existing facilities must retrofit.**

What the law says:

First: A deadline for the Commission to adopt rules

Ch. 49-22-16.4: Light-mitigating technology system – Rules.

- Commission shall adopt rules by Jan. 1, 2019, to implement light-mitigating technology systems on wind energy conversion facilities.
 - Must be consistent with federal aviation administration regulations *[14 CFR 1.1 et seq.]*
 - Must include service and maintenance requirements, safety standards, and lighting system requirements.

What the law says:

Second: A deadline for new facilities:

Ch. 49-22-16.4: Light-mitigating technology system – Rules.

- By December 31, 2019, every wind energy conversion facility permitted after June 5, 2016, must be equipped with a functioning light-mitigating technology system that complies with rules adopted by the commission.
- After public hearing, the commission may grant a waiver or an extension of time based on technical or economic feasibility considerations.

What the law says:

Third: A deadline for retrofitting existing facilities

Ch. 49-22-16.4: Light-mitigating technology system – Rules.

- By December 31, 2021, every wind energy conversion facility permitted prior to June 5, 2016, must be equipped with a functioning light-mitigating technology system that complies with the rules adopted by the commission.
- After public hearing, the commission may grant a waiver or an extension of time based on technical or economic feasibility considerations.

What the law says:

Ch. 49-22-16.4: Light-mitigating technology system – Rules.

- Any costs associated with the implementation, operation, and maintenance of light-mitigating technology systems are the sole responsibility of the wind energy conversion facility owner.

What the rules say:

Commission Rules: Chapter 69-06-11 Wind Energy Conversion Facility Lighting Systems

- Same deadlines as outlined in law.
- Commission may grant a waiver for facility designed or capable of generating no more than 5 MW.
- Temporary lighting allowed until permanent configuration and system are in place.
- Owner shall provide written notice to the Commission upon implementation of light-mitigating technology.
- Owner is solely responsible for costs associated with implementation, operation and maintenance.

What the rules say:

Commission Rules: Chapter 69-06-11 Wind Energy Conversion Facility Lighting Systems

An extension request must be in writing and contain:

- The purpose of the extension
- A description of the light-mitigating technologies submitted to the federal aviation administration
- The technical or economic inability to implement light-mitigating technology systems
- The length of extension requested
- Any other information requested by the commission

What the rules say:

Commission Rules: Chapter 69-06-11 Wind Energy Conversion Facility Lighting Systems

Each light-mitigating technology system must be installed, operated, and maintained in accordance with United States department of transportation federal aviation administration regulations [14 CFR 1.1. et. seq] in effect as of July 1, 2018.

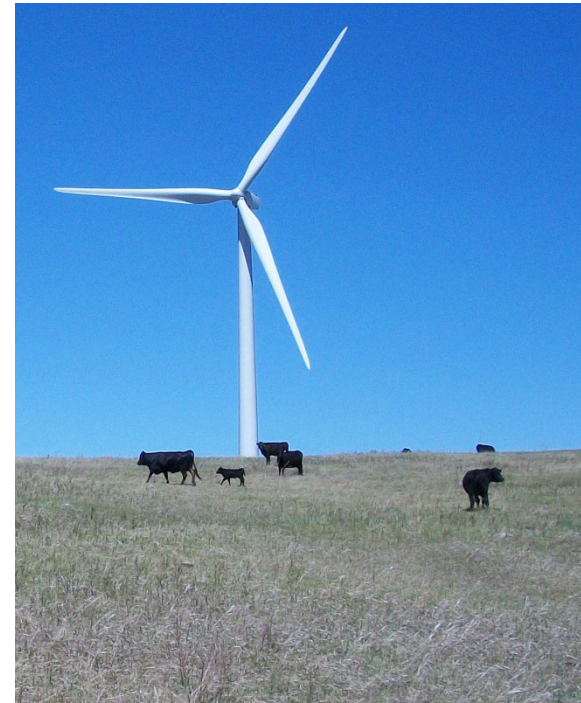
30 wind projects required to install light mitigation:

- 1. Langdon Wind Energy Center - 118.5 MW**
- 2. Langdon Wind Energy Center – 40.5 MW**
- 3. Langdon Expansion – 40 MW**
- 4. Ashtabula Wind I – 196.5 MW**
- 5. Prairie Winds (waiver granted due to US Air Force proximity) – 115.5 MW**
- 6. Ashtabula Wind II – 120 MW**
- 7. Luverne Wind Farm – 49.5 MW**
- 8. Rugby Wind Farm – 149.1 MW**
- 9. Baldwin Wind Energy Center – 102.4 MW**
- 10. Ashtabula Wind III – 70 MW**
- 11. Bison I Wind Project – 81.8 MW**
- 12. Bison 2 Wind Project – 105 MW**
- 13. Bison 3 Wind Project – 105 MW**
- 14. Bison 4 Wind Project – 204.8 MW**
- 15. Thunder Spirit – 107.5 MW**

30 wind projects required to install light mitigation:

16. Border Winds – 150 MW
17. Courtenay Wind Farm – 200.5 MW
18. Brady Wind Energy Center I – 150 MW
19. Brady Wind Energy Center II – 150 MW
20. Sunflower Wind Project – 104 MW
21. Oliver Wind III – 100 MW
22. Lindahl Wind Project – 150 MW
23. Thunder Spirit Expansion – 48 MW
24. New Frontier Project – 99 MW
25. Foxtail Wind – 150 MW
26. Glen Ullin Energy Center – 100 MW
27. Emmons-Logan Wind Energy Center – 200 MW
28. Merricourt Wind – 150 MW
29. Northern Divide Wind – 200 MW
30. Aurora Wind Project - 300 MW

***3,857.6 total MW**



Results

Limited vendors exist for purchasing and installing the systems.

The systems need 1-3 years of operation and fine tuning until they have very good results or “lights off” percentages.

Even with good “lights off” percentages, lights are most often activated during the evening/early night hours when people are more likely to notice them.

Flocks of birds will set off the lights, particularly during peak migratory seasons.

Traffic on roads, farm equipment in fields, and weather will set off the detection equipment.

Results and Compliance

Currently, 3 of the 30 facilities operating in ND are without light mitigating technology:

- Prairie Winds (waiver)
- Sunflower (non-compliant)
- Thunder Spirit (extension)

7 companies have been fined for failure to activate ADLS by their due date:

- Range of penalties \$1,000 (2 days late) to \$24,000 (77 days late).
- Total of all penalties assessed to date is \$47,000 (Sunflower Wind project is still non-compliant and penalty has not been assessed yet)

Thank You!

North Dakota Public Service Commission

www.psc.nd.gov

701-328-2400

Chair

Julie Fedorchak

**Sixty-fifth Legislative Assembly of North Dakota
In Regular Session Commencing Tuesday, January 3, 2017**

HOUSE BILL NO. 1378
(Representatives Johnston, Headland, Kiefert, Simons)
(Senator Clemens)

AN ACT to create and enact a new section to chapter 49-22 of the North Dakota Century Code, relating to light-mitigating technology systems on wind energy conversion facilities.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. A new section to chapter 49-22 of the North Dakota Century Code is created and enacted as follows:

Light-mitigating technology system - Rules.

1. The commission shall adopt rules by January 1, 2019, relating to the implementation of light-mitigating technology systems on wind energy conversion facilities. The rules must be consistent with the federal aviation administration regulations [14 CFR 1.1 et seq.] and must include service and maintenance requirements, safety standards, and lighting system requirements.
2. By December 31, 2019, every wind energy conversion facility for which the commission issued a certificate of site compatibility after June 5, 2016, must be equipped with a functioning light-mitigating technology system that complies with rules adopted by the commission.
3. By December 31, 2021, every wind energy conversion facility for which the commission issued a certificate of site compatibility before June 5, 2016, must be equipped with a functioning light-mitigating technology system that complies with the rules adopted by the commission. After public hearing, the commission may grant an extension of time based on technical or economic feasibility considerations.
4. Any costs associated with the implementation, operation, and maintenance of light-mitigating technology systems is the sole responsibility of the wind energy conversion facility owner.

Speaker of the House

President of the Senate

Chief Clerk of the House

Secretary of the Senate

This certifies that the within bill originated in the House of Representatives of the Sixty-fifth Legislative Assembly of North Dakota and is known on the records of that body as House Bill No. 1378.

House Vote: Yeas 83 Nays 8 Absent 3

Senate Vote: Yeas 45 Nays 1 Absent 1

Chief Clerk of the House

Received by the Governor at _____ M. on _____, 2017.

Approved at _____ M. on _____, 2017.

Governor

Filed in this office this _____ day of _____, 2017,

at _____ o'clock _____ M.

Secretary of State