



North Dakota Public Service Commission:  
Informal Hearing Case No. PU-23-313

# Rugby Wind Repower Project

December 13, 2023



## Rugby Wind

ND PSC December 13, 2023

### Informal Hearing Overview

- Introductions
- Facility Overview
- Application and Certification Amendments
- Proposed Repower Details
- Conclusion



### Informal Hearing Objective

**Rugby Wind requests that the Commission amend the Order and Certificate for the Rugby Repower.**

## Rugby Wind

ND PSC December 13, 2023

### PSC History

- Rugby Wind rec'd ND PSC Certificate of Site Compatibility on October 3, 2005 (Case No. PU-05-47), as amended
- Commercial Operation Date: December 23, 2009

### Rugby Wind Overview

- 9,554 acres of land leased from 49 local landowners.
- Revenue contributions supporting local community and landowners --
  - Over \$3.5 million to date in taxes supporting local services, schools, and public safety.
  - Approximately \$1.5 million annually to landowners

**Efficiency increase,  
reliability improvements, and  
improved energy production = more shared revenue**



## Rugby Wind

ND PSC December 13, 2023

**Engineering analysis confirmed the repower will require an increase in the proposed hub height and tip height of the Project. As a result, Avangrid will submit an amendment to the application and certification to incorporate the following:**

- Increase proposed Hub Height from 259 ft (79m) up to 283ft (86.4m)
- Increase proposed Tip Height from 456ft (139m) up to 480ft (146m)
- Updated setback analysis
- Update shadow flicker analysis report
- Update sound analysis report
- Update the Point of Interconnection limit from 149 MW to 147 MW



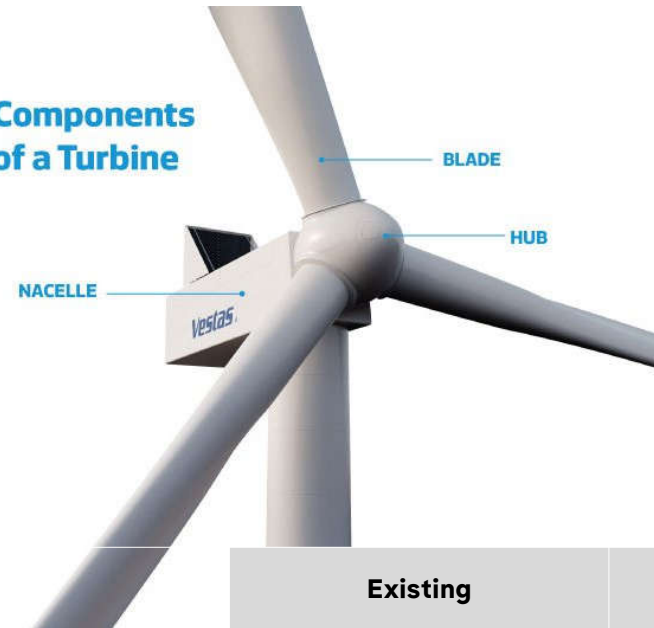
## Rugby Wind

ND PSC December 13, 2023

### Repowering Activities

- Replacing the rotor (hub and blades) and increasing the tip height of turbines from 407 ft. up to 480 ft.;
- Reinforcing the tower with an adapter section increasing hub height from 259 ft up to 283ft
- Replacing the nacelle (turbine gearbox)
- Replacing generators from 2.1 MW up to 2.2 MW,
- Reinforcing foundations, and
- Upgrading collector lines where needed.

#### Components of a Turbine



	Existing	Proposed
# of Turbines	71	up to 71
Turbine type	Suzlon 2.1MW	Vestas 2.2MW
Tip height	407 ft	up to 480 ft
Nameplate capacity	149.1 MW	up to 156.2 MW
POI limit (export capacity)	147 MW	147 MW

## Rugby Wind

### Repower Summary

**All proposed work will be completed within the Facility's Footprint.**

### Temporary Construction

- Improved access roads and turning radius for construction/blade delivery
- Crane paths and turbine work areas
- Collector system upgrades
- Temp. laydown/staging

### No Permanent Change

- Turbine locations
- Export capacity
- Roads
- O&M building, substation, ADLS
- Transmission or generation tie lines



## Rugby Wind

### Repower Summary

## Due Diligence Reviews

### Sound Analysis

- Rugby Wind anticipates obtaining waivers or operating turbines at a lower electrical and sound output mode in order to reduce the sound level to less than 45 dBA within 100 feet of occupied residences.

### Cultural and Architectural Resources

- Currently, no impacts are anticipated to known cultural or architectural resources in the Footprint.
- Rugby Wind will continue to assess impacts to NRHP-eligible or potentially eligible resources in coordination with the North Dakota SHPO.

### ND Department of Environmental Quality

- Rugby Wind will seek North Dakota Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit coverage and will comply with the site restoration and reseeding conditions in the Commission's Order and all other applicable permitting requirements.

### Setback analysis

- Based on a maximum tip height of 480ft, Rugby Wind may request up to 3 setbacks variances



## Rugby Wind

ND PSC December 13, 2023

**Rugby Wind requests that the Commission amend the Order and Certificate to remove the 1.5 to 3.0 megawatt (MW) per turbine limitation, grant setback variances (as needed) and remove the overall 150 MW limitation.**

- Certification will be in Compliance with NDCC Section 49-22-03(3)(a):
  - The activities associated with the Project will not affect any known exclusion or avoidance areas. See N.D.C.C. § 49-22-03(3)(a)(4)(a).
  - The activities are for the construction to improve the existing electric energy conversion facility known as the Rugby Wind Farm . See N.D.C.C. § 49-22-03(3)(a)(4)(b).
  - Rugby Wind will comply with all applicable conditions and protections in siting laws and rules and Commission orders previously issued for any part of the Facility. See N.D.C.C. § 49-22-03(3)(a)(4)(c).

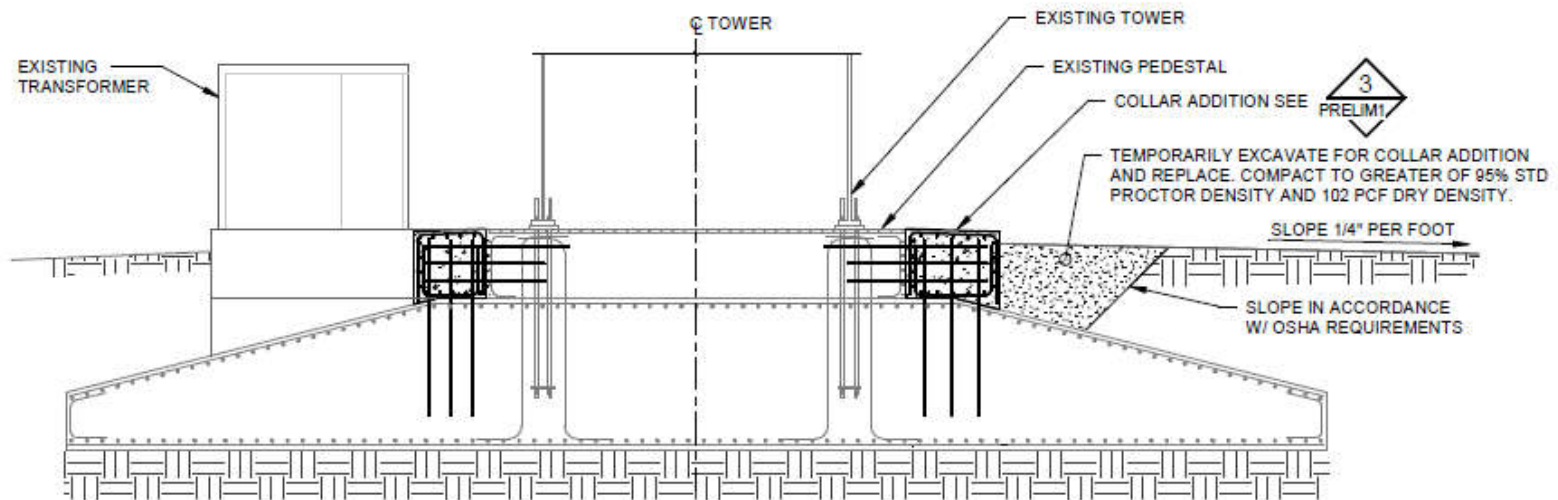




# Appendices

# Foundation Collar

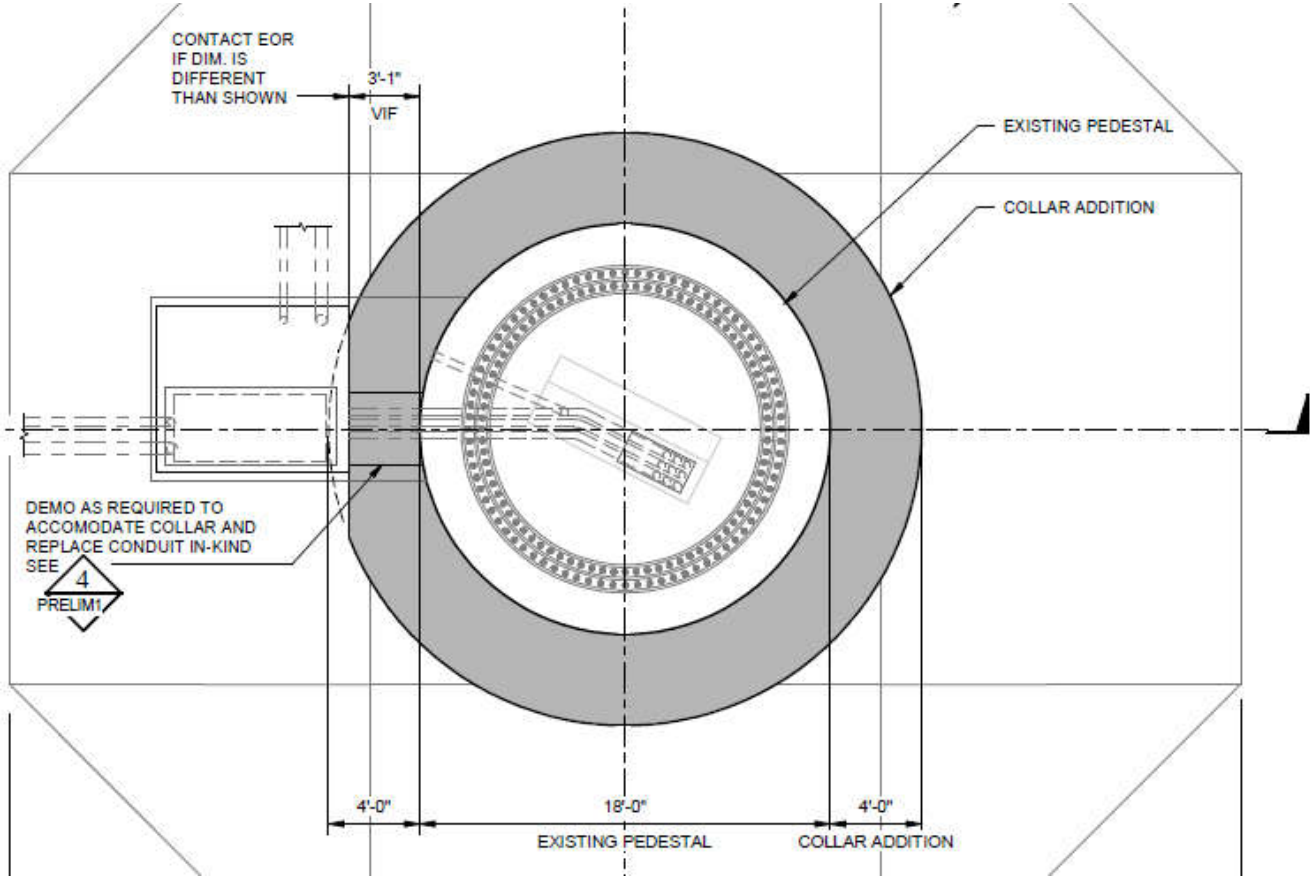
1 PLAN: TOWER FOUNDATION WITH COLLAR ADDITION  
3/16" = 1'-0"



2 SECTION: TOWER FOUNDATION WITH COLLAR ADDITION  
3/16" = 1'-0"

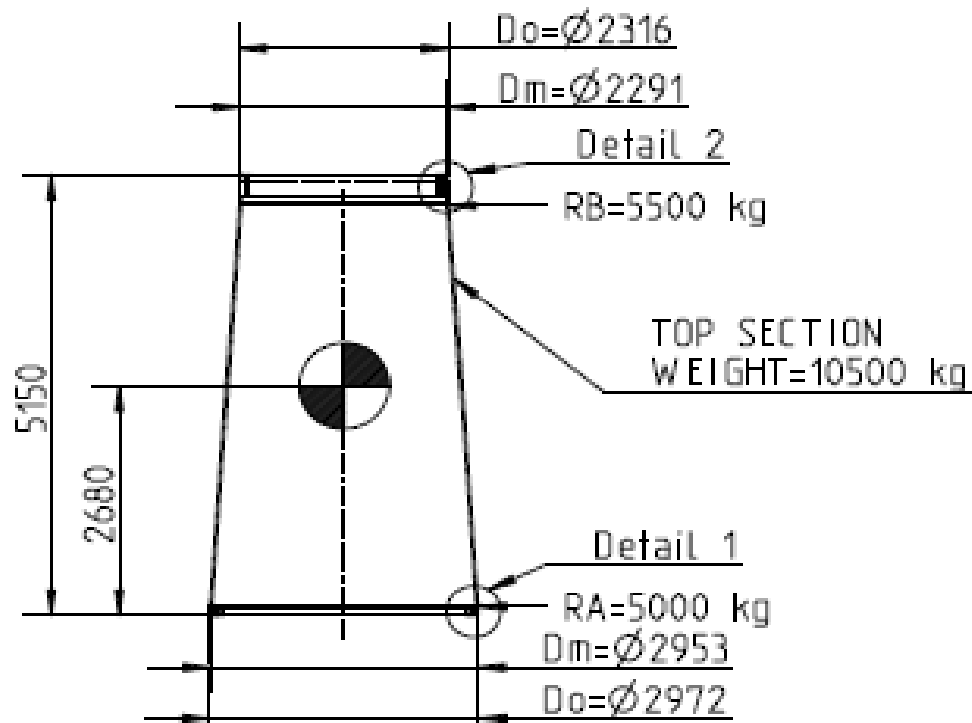
PRELIMINARY DESIGN  
NOT FOR CONSTRUCTION

# Foundation Collar



**PRELIMINARY DESIGN  
NOT FOR CONSTRUCTION**

# Adapter Section



PRELIMINARY DESIGN  
NOT FOR CONSTRUCTION