

Environmental Assessment:
Big Bend Wind Project
Red Rock Solar Project
Big Bend Wind 161 kV Transmission Line Project

Human and Environmental Impacts of Constructing and Operating this
335 MW Hybrid Wind Energy and Solar Energy
Generating System and Associated Facilities
And
Constructing and Operating this 161 kV Transmission Line

January 2022



Docket No. IP7013/CN-19-408

Docket No. IP7013/WS-19-619

Docket No. IP7013/TL-19-621

Docket No. IP7014/CN-19-486

Docket No. IP7014/GS-19-620

OAH Docket No. 71-2500-36480

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Sources

Much of the information used to prepare this environmental assessment comes from the certificate of need and site permit applications and addendums. Additional sources include new information provided by the applicants, as well as information from relevant federal and state environmental review documents for similar projects. Spatial data was used. Information was gathered from multiple site visits. Unless otherwise noted url addresses were current as of January 14, 2022.

Project Mailing List

To place your name on the project mailing list contact docketing.puc@state.mn.us or (651) 201-2204 and provide the docket number (19-408, 19-619, 19-621, 19-486, or 19-620), your name, email address, and mailing address. Please indicate whether you would like to receive notices by email or U.S. mail.

Alternative Formats

This document can be made available in alternative formats, that is, large print or audio, by calling (651) 539-1530 (voice).

Additional Information

Big Bend Wind Project Website – <https://apps.commerce.state.mn.us/eera/web/project/14153>

Big Bend Wind HVTL Project Website – <https://apps.commerce.state.mn.us/eera/web/project/14156>

Red Rock Solar Project Website - <https://apps.commerce.state.mn.us/eera/web/project/14155>

Coronavirus Pandemic

The descriptions and analyses provided herein do not account for uncertainties associated with the coronavirus pandemic. Impacts from the pandemic are anticipated to be primarily socioeconomic in nature, but impacts could occur to other resources.

ACRONYM/TERM	DEFINITION
AADT	average annual daily traffic
ADLS	aircraft detection lighting system
ALJ	administrative law judge
BMP	best management practice
Commission	Minnesota Public Utilities Commission
CN	certificate of need
CR	County Road
CSAH	County State Aid Highway
dba	A-weighted decibels
DEED	Minnesota Department of Economic Development
distribution	relatively low-voltage lines that deliver electricity to a retail customer's home or business
DNR	Minnesota Department of Natural Resources
ECS	Ecological Classification System
EERA	Minnesota Department of Commerce, Energy Environmental Review and Analysis
EMF	electromagnetic field
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
GE	General Electric
GPS	global positioning system
HAP	hazardous air pollutant
interconnection	location of project connection to the power grid
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
LIDS	Light Intensity Dimming Solution
LNTE	low-noise trailing edge

ACRONYM/TERM	DEFINITION
LWECS	large wind energy conversion system
MBS	Minnesota Biological Survey
MDH	Minnesota Department of Health
MET	meteorological tower
micrositing	the process in which the wind resources, potential environmentally sensitive areas, soil conditions, and other site factors, as identified by local, state and federal agencies, are evaluated to locate wind turbines and associated facilities
MISO	Midcontinent Independent Transmission System Operator, Inc.
MnDOT	Minnesota Department of Transportation
MPCA	Minnesota Pollution Control Agency
MW	megawatt
MWh	megawatt-hour
NAC	noise area classification
NESC	National Electric Safety Code
NHIS	Natural Heritage Information System
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRO	Noise Reducing Operation
NSP	Northern States Power, a subsidiary of Xcel Energy
NTIA	National Telecommunications and Information Administration
NWI	National Wetlands Inventory
O&M	operation and maintenance
PM	particulate matter
ppm	parts per million
Project	Walleye Wind Project
PV	Photovoltaic
PWI	Public Waters Inventory

ACRONYM/TERM	DEFINITION
RD	rotor diameter; diameter of the rotor from the tip of a single blade to the tip of the opposite blade
SCADA	supervisory control and data acquisition
SHPO	Minnesota State Historic Preservation Office
SWPPP	stormwater pollution prevention plan
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound
Walleye Wind	Walleye Wind, LLC
WCA	Wetland Conservation Act
WMA	wildlife management area
WPA	waterfowl protection area

Definitions

Several terms used in this document have a specific meaning in Minnesota law or regulation. Other terms are defined for clarity.

associated facilities means buildings, equipment, and other physical structures that are necessary to the operation of a large electric power generating plant or high voltage transmission line (Minnesota Rule 7850.1000, subpart 3).

collection line means an approximately 2.8-mile above-ground double-circuit three-phase 34.5 kV distribution line proposed by the applicant to connect the solar array to the project substation.

collection line corridor means the approximately 84-acre review area for the collection line, project substation, Minnesota Power switching station, and gen-tie transmission line.

construction means any clearing of land, excavation, or other action that would adversely affect the natural environment of the site or route but does not include changes needed for temporary use of sites or routes for nonutility purposes, or uses in securing survey or geological data, including necessary borings to ascertain foundation conditions (Minnesota Statute 216E.01, subdivision 3).

distribution line means power lines that operate below 69 kilovolts.

gen-tie transmission line means an approximately 700-foot above-ground 115 kV transmission line proposed by the applicant to connect the project substation to the switching station.

high voltage transmission line means a conductor of electric energy and associated facilities designed for and capable of operation at a nominal voltage of 100 kilovolts or more and is greater than 1,500 feet in length (Minnesota Statute 216E.01, subdivision 4).

land control area means the approximately 802-acre review area for the solar array.

large electric power generating plant means electric power generating equipment and associated facilities designed for or capable of operation at a capacity of 50,000 kilowatts or more (Minnesota Statute 216E.01, subdivision 5).

large energy facility means any electric power generating plant or combination of plants at a single site with a combined capacity of 50,000 kilowatts or more and transmission lines directly associated with the plant that are necessary to interconnect the plant to the transmission system (Minnesota Statute 216B.2421, subdivision 2(1)).

local vicinity means 1,600 feet from the land control area and collection line corridor.

mitigation means to avoid, minimize, correct, or compensate for a potential impact.

power line means a distribution, transmission, or high voltage transmission line.

project area means one mile from the land control area and collection line corridor.

solar farm means ground-mounted photovoltaic equipment capable of operation at 5,000 kilowatts or more connected directly to the electrical grid.

solar energy generation system means a set of devices whose primary purpose is to produce electricity by means of any combination of collecting, transferring, or converting solar-generated energy (Minnesota Statute 216E.01, subdivision 9a).

transmission line means power lines that operate at 69 kilovolts and above.

Summary

Big Bend Wind, LLC (wind applicant), an affiliate of Apex Clean Energy, Inc., must obtain a certificate of need and site permit from the Public Utilities Commission (commission) before it can construct and operate the proposed Big Bend Wind Project (wind project). The wind project would interconnect to the electrical grid at either the existing Crandall Switching Station or the existing Great River Energy Lakefield Junction Peaking Plant. Big Bend Wind, LLC has proposed an 18 mile long, 161 kV high voltage transmission line (Big Bend HVTL) to connect the wind project to the grid, and the HVTL project must obtain a route permit from the commission. Red Rock Solar, LLC (solar applicant), an affiliate of Apex Clean Energy, Inc. must obtain a certificate of need and site permit from the commission before it can construct and operate the proposed Red Rock Solar Project (solar project). The solar project would interconnect to the electrical grid by connecting to the proposed Big Bend HVTL.

The applicants filed separate certificate of need, site permit, and route permit applications on November 9, 2020. Per commission order, these applications were deemed complete upon their submittal on March 11, 2021. The wind applicant filed an amended site permit on September 20, 2021.

What is this document?

This document is an environmental assessment. The commission will use the information in this document to inform their decisions about issuing permits for the project.

This environmental assessment (“EA”) contains an overview of affected resources, and discusses potential human and environmental impacts and mitigation measures. Energy Environmental Review and Analysis staff within the Commerce Department (“commerce”) was responsible for preparing this document as part of the environmental review process. Scoping was the first step in the process. It provided opportunities to provide comments on the content of this environmental assessment (“EA”) and suggest alternatives to mitigate potential impacts.

Where do I get more information?

For additional information contact commission or commerce staff.

If you would like more information or if you have questions, please contact commerce staff: Richard Davis (richard.davis@state.mn.us or (507)380-6859) or the commission public advisor: Charley Bruce (publicadvisor.puc@state.mn.us or (651) 201-2251).

Additional documents and information, including the certificate of need, site permit, and route permit applications, can be found on eDockets: <https://www.edockets.state.mn.us/EFiling/search.jsp> by searching:

“19” for year either “408” (certificate of need) or “619” (site permit) for number – Wind Project

“19” for year “621” (route permit) for number – Big Bend HVTL

“19” for year either “486” (certificate of need) or “620” (site permit) for number – Solar Project

Information is also available on the commerce webpage:

Big Bend Wind Project Website – <https://apps.commerce.state.mn.us/eera/web/project/14153>

Big Bend Wind HVTL Project Website – <https://apps.commerce.state.mn.us/eera/web/project/14156>

Red Rock Solar Project Website - <https://apps.commerce.state.mn.us/eera/web/project/14155>

What is the applicant proposing to construct?

Three major components, a wind project of up to 300 MW, an up to 60 MW solar generation facility and the 161 kV HVTL of approximately 18 miles

The Big Bend Wind Project and the Red Rock Solar Project have been proposed as a hybrid generation facility that would generate a total of 335 MW of energy.

The Big Bend Wind Project will consist of 45 to 47 turbines, one permanent meteorological tower and other weather data collection systems, up to four ADLS radars, an electrical collection and communications system, new gravel access roads, improvements to existing roads, temporary laydown and staging areas, one temporary concrete batch plant if needed during construction, one wind project substation, one Sonic Detection and Ranging (SoDAR) or one Light Detection and Ranging (LiDAR) unit and an Operations and Maintenance O&M facility.

The Red Rock Solar Project will generate up to 60 MW of electric energy. The Solar Project's primary components include photovoltaic (PV) panels affixed to linear ground-mounted single-axis tracking systems, inverters and transformers housed in electrical cabinets, electrical collection system, a solar project substation, and supervisory control and data acquisition ("SCADA") systems and metering equipment. The Solar Project also requires fencing, access roads, laydown areas, and collection line outside the fenced facility to the solar project substation. The solar array will connect to the project substation through a below ground AC 34.5 kV collection line.

Big Bend Wind proposes to construct and operate 18 miles of new 161 kV HVTL, which will connect to the wind project and solar project substations and interconnect to the Blue Lake-Wilmarth-Interstate 345 kV transmission line via the Crandall Substation or the GRE Lakefield Junction Peaking Plant.

Red Rock has indicated that due to the cost of transmission to reach grid interconnection, the solar project would not be constructed and operated without the construction and operation of the wind project. Big Bend Wind Project could be constructed and operated without the solar project.

What are the projects' purpose?

To increase renewable energy capacity in Minnesota.

Energy production is intended to help meet the growing demand for additional renewable resources required to meet energy sector needs of both utility companies and private commercial and industrial customers. The applicant has not secured a power purchase agreement at this time.

Where are the projects located?

Cottonwood, Watonwan, and Martin Counties, Minnesota.

The Big Bend Wind Project is located within Cottonwood and Watonwan Counties. The Red Rock Solar Project is located in Cottonwood County, and the Big Bend HVTL Project is located in Cottonwood, Watonwan, and Martin Counties.

What permits are needed?

Two certificate of need approvals, two site permits, and a route permit are needed from the commission to construct and operate all the projects proposed. Also, various federal, state, and local permits might be required.

The Big Bend Wind Project and Red Rock Solar Project each need a certificate of need from the commission because they meet the definition of *large energy facility* in Minnesota statute, which is any electric power generating plant with a capacity of 50 megawatts (“MW”) or more.

The Big Bend Wind Project meets the definition of a Large Wind Energy Conversion System (LWECS), and a site permit must be issued by the commission to construct and operate the wind project.

The Red Rock Solar Project also requires a site permit from the commission because it meets the definition of *large electric power generating plant* in Minnesota statute, which is any electric power generating equipment designed for or capable of operation at a capacity of 50 MW or more.

The Big Bend HVTL Project requires a route permit from the commission.

Various federal, state, and local approvals will be required for activities related to the construction and operation of the project. These subsequent permits are referred to as downstream permits, and must be obtained by the applicant prior to constructing the project.

What’s next?

A public hearing will be held in the project area; you can provide comments at the hearing. The commission will then review the record and decide whether to grant a certificate of need and issue a site permit.

An administrative law judge (“ALJ”) from the Office of Administrative Hearings will hold a public hearing after the EA is complete and available. At the hearing you may speak, ask questions, and submit comments about the project. After the public comment period is over, the ALJ will provide a written report to the commission summarizing the public hearing and comment period, and any spoken or written comments received. The ALJ will also provide the commission with proposed findings and a recommendation whether to issue a certificate of need and site permit.

The commission then reviews the record and decides whether to grant the certificates of need, issue the site permits, and the route permit. If the commission issues the certificates, site permits, and route permit for the projects it may identify measures to mitigate potential impacts. The commission is expected to make a decision by spring or early summer of 2022.