General Information

Queue number
AH1-545

Project name
Cornerstone Solar

Name of a signature authority from company
Eric Crawford

Title
Senior Vice President

Project Developer (former Interconnection Customer)
North Corners Energy, LLC

Federal Tax ID
[redacted]

Phone (day)
[redacted]

Phone (evening)
[redacted]

Email of a signature authority from company
[redacted]

Country
United States

Business address
520 Maryville Centre Drive Suite 400

City
St. Louis, MO 63141

State
Missouri

Postal Code
63141

Primary Contact Name
Zelalem Tekle

Title
Director, Transmission East

Phone (day)
[redacted]

Email
[redacted]

Invoice Contact Information

Invoice Contact Name
Zelalem Tekle

E-mail
[redacted]

Phone (day)
[redacted]

Phone (evening)
[redacted]

Facility Information

Facility location
GPS coordinates

Latitude
40.3356970

Longitude
-80.5134610

Is this a change in data to a previously submitted queue position or facility name?
No

Is this queue request claiming rights from a previous facility?
No

Planned in-service date

[redacted]

Point of Interconnection

POI state
Pennsylvania

POI county
Washington

Connection type
Single line tap / New substation

Substation A (from)
Wylie Ridge

Substation B (to)
Tidd

Distance from POI to Substation A
10.30 Miles

Distance from POI to Substation B
13.00 Miles

Line voltage
345.000000 kV

Project Capability

Type of request

Build new facility

Describe the facility and circumstances under which Surplus Interconnection Service will be available at the existing Point of Interconnection

This is a 200 MW MFO tracking Solar project. The proposed project will connect to Wylie Ridge-Tidd 345kV line via a new 345 kV interconnection switchyard. The project will consist of 58 – 4.2 MVA inverters. The inverters will be connected to a medium voltage collector system, which will feed into a 34.5/345 kV plant step-up transformer. The plant step-up transformer will connect to the gen tie which will lead to the POI at the new 345kV interconnection switchyard.

Generating Facility Capability

Maximum Facility Output (MFO) of the facility
as defined in section 1.18A.03 of the PJM Tariff

200.000000 MW

Capacity Interconnection Rights (CIRs)

20.000000 MW

	Summer	Winter	
Net energy	*200.000000*	*200.000000*	*MW*
Gross energy output of facility	*201.970000*	*201.970000*	*MW*

Auxiliary Load

	Summer	Winter	
Total auxiliary load of facility	*0.190000*	*0.190000*	*MW*
Load related to the operations of the plant (e.g fans, pumps, etc)	*0.062000*	*0.062000*	*MVAR*

Where is the auxiliary load being connected?

High voltage side of the GSU

Station Load

	Summer	Winter

Station load to support generation of electricity	*0.020000*	*0.020000*	*MW*
Load necessary to support facility of the plant (e.g. heating, lighting, air-conditioning, office equipment etc)			
	0.007000	*0.007000*	*MVAR*

Where is the station load being connected?

High voltage side of the GSU

Total Reactive Power Capability at Max Gross Energy Output

	Summer	Winter	
Lagging - Overexcited	*121.861900*	*121.861900*	*MVAR*
Leading - Underexcited	*-121.861900*	*-121.861900*	*MVAR*

Additional comments related to the configuration above:
N/A

Fuel Supply Verification

Primary fuel type
Other

Behind The Meter

Purpose of application:
Not applicable

Supporting Documents

Single line diagram — Cornerstone Solar CSLD 20250212.pdf

Generator Information
PV - Solar

Number of identical inverter(s)

58

Specify manufacturer

SMA

Specify model

SC4200-UP-US

MW value per inverter

3.522800 MW

MVA base

4.200000 MVA

Terminal voltage

0.630000 kV

Maximum fault current output from the inverter
The maximum fault current present 2 to 3 cycles after a fault; Typical range is 1.0 to 1.5 p.u.

1.306000 P.U.

Requested CIRs

20.00

Voltage relay settings entered

Yes

SMA_SC4200_PQ_Curve

Frequency relay settings entered

Yes

SMA_SC4200_VRT_FRT_PRC-024-3

Stability Models

Please upload the document showing frequency and voltage relay settings for the model

231109_Technical Information SC UP(-US)_V3.5.pdf

Please provide a reactive capability P/Q curve for the inverter

SC4200_Reactive Power Capability Curves 40C.pdf

Dynamic Model Package
Prepared in accordance with the PJM Dynamic Model Development Guidelines

AH1-545_Stability Models_Final_2-16-2025.zip

Transformer Information

Cornerstone Solar Main Xfrm - Inverter Based Main Transformer

Selected Machine ID for Transformer

PV - Solar

MVA base

133.000000 MVA

Number of identical transformers

1

Cooling class designation(s) for your transformer

How many ratings does the transformer have?

Three ratings

Rating 1

ONAN
133.000000 MVA

Rating 2

ONAF
177.000000 MVA

Rating 3

OFAF
222.000000 MVA

Winding Type

Two Windings

Impedance on MVA base

	R	X	X/R
High-side to low-side	*0.002440 P.U.*	*0.099970 P.U.*	*40.971311*

	R0	X0	X/R
High-side to low-side	*0.002070 P.U.*	*0.084970 P.U.*	*41.048309*

Winding Nominal Voltages

High-side

345.000000 kV

Low-side

34.500000 kV

Winding Connection Types

High-side

Grounded Wye

Low-side

Delta

Tap position

17.000000

Number of taps

33

Step size

0.006300

Comments

As per FE standards, MPT has been updated to two-winding transformer with high-side grounded wye and low-side delta. Also, the inverter step-up will be high-side grounded wye and low-side delta

xfrm 1- 58 - Inverter Based Step-up Transformer

Selected Machine ID for Transformer

PV - Solar

MVA base

4.200000 MVA

Number of identical transformers

58

Cooling class designation(s) for your transformer

How many ratings does the transformer have?

One rating

Rating 1

ONAN
4.200000 MVA

Winding Type

Two Windings

Impedance on MVA base

	R	X	X/R
High-side to low-side	*0.005430 P.U.*	*0.059750 P.U.*	*11.003683*

	R0	X0	X/R
High-side to low-side	*0.005430 P.U.*	*0.059750 P.U.*	*11.003683*

Winding Nominal Voltages

High-side

34.500000 kV

Low-side

0.630000 kV

Winding Connection Types

High-side

Grounded Wye

Low-side

Delta

Tap position

3.000000

Number of taps

5

Step size

0.025000

Comments

As per FE standards, MPT has been updated to two-winding transformer with high-side grounded wye and low-side delta. Also, the inverter step-up will be high-side grounded wye and low-side delta

Collector System Equivalent

Does the project have collector system equivalent data (modeled between main transformer and step-up transformers)?

Yes

Voltage level	MVA base
34.500000 kV	*100.000000 MVA*

Impedance on 100 MVA Base

	R	X	
Total branch positive sequence impedance	*0.000240*	*0.000330*	*P.U.*
Total branch zero sequence impedance	*0.001370*	*0.000420*	*P.U.*

	B	
Total branch charging susceptance	*0.009010*	*P.U.*

Collector System Equivalent data

Attachment Line Data

Voltage level
345.000000 kV

MVA base
100.000000 MVA

Attachment line length
0.10 Miles

Impedance on 100 MVA Base

	R	X	
Total branch positive sequence impedance	*0.000010*	*0.000162*	*P.U.*
Total branch zero sequence impedance	*0.000103*	*0.000376*	*P.U.*

	B	
Total branch charging susceptance	*0.001638*	*P.U.*

Supporting Documents

Site plan	AH1-545_Site_Plan.zip
Completed Agreement (ASA, UASA, or SISSA)	AH1-545_ASA.zip
Officer Certification Form	NorthCornersEnergyLLC_AH1_545_Solar_officer-certification-for-transition-readiness-site-control.pdf
Other documents	AH1-545_Cornerstone Solar_Deficiency_Notes.pdf
Site Control Review Spreadsheet	NorthCornersEnergyLLC_AH1_545_Solar_ApplicationReview_20241022
Identification of Ownership Interest	AH1-545_Site_Control_Redacted.zip

Supporting documents comments

Please see the attached deficiency notes

Deposits

Readiness Deposit One

[redacted]

Payment Type

[redacted]

Study Deposit

Wire Transfer Confirmation Number

[redacted]

Bank Account Name

[redacted]

Study Deposit Comments

[redacted]

Supporting Documents

Upload Executed Letter of Credit [redacted]