Submitting a GO GOP Registration Request



WECC Registration Staff



Items Covered

- Overview of the Registration Process for a New Generator Owner (GO) and Generator Operator (GOP)
- General Information about the NERC Rules of Procedure and the Registration Criteria
- How to Submit a New GO GOP Registration Request in CORES
- How to Add a Generation Add to an Existing Registration (Footprint Change)
- Available Resources



New GO/GOP Registration Requests

Complete Self-Evaluation

• Evaluate applicability of the BES Definition, Appendix 2, and Appendix 5B registration criteria

Contact WECC with Registration Questions

- WECC may advise on applicability of registration criteria and answer process questions
- Email questions to <u>registration@wecc.org</u>

Submit a Registration Request Through CORES

- <u>CORES End User Guide</u>
- Add project details and relevant documents in the Comments and Attachments section in CORES

Respond to WECC Requests for Information

• WECC reviews the request and will ask for additional information as needed

Organization Registration Requirements

- Identifies and registers BPS users, owners, and operators who are responsible for performing specified reliability functions to which requirements of mandatory NERC Reliability Standards are applicable.
 - Registered entities can face penalties or sanctions for noncompliance

- Requirements and activities for the Organization Registration Program are embodied in the FERC approved <u>NERC</u> <u>Rules of Procedure</u> (ROP):
 - ROP, Section 500 | Organization Registration and Certification
 - Appendix 2 | Definitions Used in the ROP
 - Appendix 5A | Organization Registration and Certification Manual
 - Appendix 5B | Statement of Compliance Criteria
 - Appendix 5C | Procedure for Requesting and Receiving an Exception from the Application of the NERC Definition of BES

Inclusions and Exclusions Listed in Appendix 2

Inclusions and Exclusions

Example diagrams of BES inclusions and exclusions are available in:

BES Definition Reference Document

<u>Application of the BES Definition to Battery Energy</u> <u>Storage Systems and Hybrid Resources</u>

<u>Application of the Registration Criteria for Category 2</u> <u>GO/GOP IBRs</u>

Processes exist for submittal and consideration of Exceptions and Materiality:

• Review Appendix 5A, Appendix 5B, and Appendix 5C

Majority of Applications: Inclusion 4



CORES Overview

What to Know about CORES

- The Centralized Organization Registration ERO System (CORES) launched on July 15, 2019, to provide consistency and alignment across the ERO for registration activities.
- The CORES platform enables entities to manage their registration information, contact information, and functional relationships from one application.
- All entities seeking to submit a new registration application must register for an ERO Portal account (<u>https://eroportal.nerc.net/</u>) and will need to complete the steps for multi-factor authentication that automatically appear when attempting to log into the ERO Portal for the first time.



Creating a New Registration Application in CORES

- Log into the ERO Portal (<u>https://eroportal.nerc.net/</u>)
- Select the Entity Registration Requests tab

NERC NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION	▲ **	w Notifications! -	A VR000006 - Test Entity -
My Profile My Resources + My Applications + Research Help Desk	h - My Groups Entity Registration Requests N	ly Entity 👻 NERC Membership List	NERC Membership
Welcome to the ERO Portal The ERO Portal allows new users to register for an acco	unt and perform the following functions upon completi	on:	
SELF SERVICE ACCOUNT Change Password, Update Security Questions	VIEW MAILING LISTS & RESOURCES Access to Datastores and Applications	REQUEST ACCESS Get Access to Resources & Mail	ing Lists



Creating a New Registration Application in CORES

Select the **Create** button to begin a new application

NERC NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION			New Notifications! -	Abby Fellinger 🗸	🕈 VR000006 - Test Entity 🗸
A My Profile My Resources → My Help Desk	Applications 👻 Research 👻 My Group	Entity Registration Requests	My Entity 👻 NERC Me	embership List N	IERC Membership
Home / Entity Registration Requests Entity Registra	tion Requests				
 This page is where an ease a status screen for e Training Link - <u>https://</u> 	entity will start a new entity registration re existing registration requests that are being vimeopro.com/nerclearning/cores-video-li	equest to register with NERC and g g processed by your Regional Entit ibrary	et a NERC Compliance Reg y(ies).	gistry ID. This page	also serves
Registration Status 🕇	Entity Name	Function List	Region List	t	



New Entity Registration – Basic Information

Enter applicable information

Enter the corporate address					
Basic Information			V Basic Informa		
ntity Name • Running Solar	Street 1 • 123 Test Ave		Upstream Holding (
cronym	Street 2				
RS					
hone	City •		Registration Sc		
555-5555	Hollywood				
∕ebsite	State/Province 🗢		Functional Mar		
	California		Comments and Att		
as a NERC-Led Panel Request been submitted? 🌻	Zip Code 🔶				
0 No O Yes	90027		Submit Entity Regist		
	Country 🕈				
	US	x Q			
Has a BES Exception Request been submitted? • • No O Yes					
UPDATE BASIC INFORMATION REQUEST The record will be auto saved after selecting the Update Basic Information Request Button.					



New Entity Registration – Draft Application

The record can be continued or accessed later as a draft

Home / Entity Registration	Requests				
	Entity Registration Requests				
	 This page is where an entity will start a new entity registrati Training Link - <u>https://vimeopro.com/nerclearning/cores-vi</u> 	on request to register with NERC and get a NERC Compliance Registry ID. This page also serves as a st <u>deo-library</u>	itus screen for existing registration requests that are being processed	i by your Regional Entity(ies).	Q CREATE
	Registration Status 🕇	Entity Name	Function List	Region List	
	Draft	Running Solar			\checkmark



New Entity Registration - Upstream Holding Company

If applicable, enter the top tier Holding Company and NERC registered affiliates



Note: A list of NERC registered entities can be reviewed here: NCR Active Entities List



New Entity Registration – Contacts

 <u>Add the following:</u> Primary Compliance Contact, Primary Compliance Officer, and Alternate Compliance Contact(s). Note: If the entity record is managed by another party, an owner representative must be listed within one of the contact roles.

Home / Entity Registration Requests / Contacts					
 This form is where you will enter the contacts for your registering entity. The two required contacts for registration are Primary Compliance Contact and Primary Compliance Officer. Primary Compliance Officer and Authorizing Officer are synonymous. Registered entities may upload a document to describe the mapping between older terms and the new terms on the comment and attachment form. This form has other voluntary contact types available. Training Link 					
CONTACTS					
Add Contact		Basic Information			
Role Business Mobile		Upstream Holding Companies			
↑ Contact (Contact) (Contact) (Contact) (Contact) (Contact) (Region)		Contacts			
There are no records to display.		Registration Scopes			
Functional Mapping					
		Comments and Attachments			
		Submit Entity Registration Req			

New Entity Registration – Registration Scopes

Add applicable functions and expected registration date

Home /	Home / Entity Registration Requests / Functional Registration Scopes							
	 This form is used for specifying the functional registrations for your organization as functions are defined in the Registry Criteria under the NERC Rules of Procedure. The function, region, jurisdiction and proposed effective date for the registration are required fields. Training Link 							
	REGISTRATION SC	OPES					~	Basic Information
						Add Registration Scope	~	Upstream Holding Companies
			Effective	Regulatory		Submitted	~	Contacts
	Function 🕇	Region	Date	Jurisdiction	Description	Ву	~	Registration Scopes
	Generator Operator Generator Owner	WECC	4/24/2024	United States		Abby Fellinger		Functional Mapping
								Comments and Attachments
								Submit Entity Registration Req

This example applies to a GO/GOP.

The Commercial Operation Date (COD) should be entered as the **Proposed Effective Date** for registration.

New Entity Registration – Functional Mapping

- Enter Functional Mapping
- For example, a GO would map to its BA, GOP, PA/PA, TO, TOP, TP, and RC

Balancing Authority (BA)	>	RC						
Distribution Provider (DP)	>	BA	PC/PA	тор	RC			
Distribution Provider - UFLS Only (DP-UFLS)	>	PC/PA						
Generator Owner (GO)	>	BA	GOP	PC/PA	RC	то	ТОР	ТР
Generator Operator (GOP)	>	BA	RC	ТОР				
Planning Coordinator and Planning Authority (PC/PA)	>	RC						
Transmission Owner (TO)	>	PC/PA	RC	ТОР	ТР			
Transmission Operator (TOP)	>	BA	RC					
Transmission Planner (TP)	>	PC/PA	RC					



New Entity Registration - Comments and Attachments

Upload all applicable documents

 This form is used for specifying comments and attachments related to the registration. Attachments Link Training Link 	Documents to Upload WECC Generation
COMMENTS & ATTACHMENTS Add Comment or Attachment	Basic Information Basic Information Basic Information Basic Information Basic Information Commercial Operation Date
Modified By	Vpstream Holding Companies (COD)
Comment <u>Created On</u> T Modified On (Portal User)	 Contacts Operations & Maintenance Agreements (if any)
	 Registration Scopes Generation Interconnection
	 Functional Mapping ERO Enterprise GO GOP
< 1 2 >	Comments and Attachments
	Submit Entity Registration Req

See slides 19 - 23 for examples of documents needed with the GO/GOP application.

New Entity Registration – Submit Entity Registration

Review the application and Click to Submit Entity Registration button

APPROVAL	STATUS						\checkmark	Basic Information
Approval Type	Created On ↑	Entity	Entity Registration Request	Regional Administration	Return Date	Submitted By	~	Upstream Holding Companies
							~	Contacts
There are n	no records to	display.					\checkmark	Registration Scopes
							~	Functional Mapping
				Click to Su	bmit Entity	y Registration	~	Comments and Attachments
								Submit Entity Registration Req



New Entity Registration – Submit Entity Registration





Timeline | Contact Information

- Please submit requests 45-60 days ahead of the COD.
- If the planned COD changes, please send updates to <u>registration@wecc.org</u>.
- Please notify us when the facility reaches final COD.



GO/GOP Information Collected Examples

CORES Required Fields

- Registered Entity Name
- Address
- Affiliates and Holding Companies
- Contact Roles
- Entity Scopes (Registered Functions)
- Functional Mapping
- Comments and Attachments:
 - **Comment**: Describe facility project and phase(s)
 - Attachment: Zip folder of documentation referenced on this slide

Registration Documentation Required

- WECC Generation Registration Request Form
- <u>GO GOP Asset Verification Form</u>
- Interconnection Agreements
- Third-Party or Operating Agreements
- Operating One-Line Diagrams
 - Depicting the Generation Resource(s) through to the Point of Interconnection w/Transmission Owner (TO)
- Nameplate Data for the individual PV Inverters

Note: Provided documentation should include accurate facility profile information (such as gross nameplate rating, capacity in-service agreement limitations, and inverter information). Explain if there are any discrepancies between documentation provided (such as Interconnection Agreement and One-line Diagram information).

GO GOP Asset Verification Form

ERO Enterprise GO GOP Asset Verification Form

ECC



20

Operating One-Line Diagrams

One-Line Diagrams should depict the Generation Resource(s) through to the Point of Interconnection w/TO.

FCC

Specifically, diagrams should include the Interconnection Point and Collector System with feeders and individual ratings.



21

Operating One-Line Diagrams – Inverter Nameplate

	MODULE #1	MODULE #2	MODULE #3	
MODULE MFR				
MODULE MODEL	1			
MODULE STC RATING	I			
MODULE QUANTITY	I			
DC CAPACITY	I			
STRING SIZE	I			
STRING QUANTITY	I			
3-STR TABLE QTY	I			
2-STR TABLE QTY				
MAX DC SYSTEM VOLTAGE				
TOTAL DC SYSTEM SIZE				Redacted Site Man
INVERTER MFR				neudoted one map
INVERTER MODEL	I			
INVERTER OUTPUT VOLTAGE				
INVERTER AC OUPUT				with Individual
INVERTER QUANTITY				mannadat
AC SYSTEM SIZE (@ POI)				
DC/AC RATIO (@ POI)				lin voirtoiro
RACKING MFR				Inverters
RACKING MODEL				
RACK TYPE				
MODULE ORIENTATION				
ARRAY TILT ANGLE				
ARRAY AZIMUTH				
ARRAY PITCH, (GCR)				
ASHRAE WEATHER STATION	I			
ASHRAE HIGH TEMP (0.4%)				
OWNER SPECIFIED HIGH TEMP				
ASHRAE MIN EXTREME TEMP				
OWNER SPECIFIED MIN TEMP				
SITE ELEVATION				



Manufacturer's Data Specifications – Solar/BESS Inverters

Example of Datasheet Information

SUNGROW

Clean power for all

Type designation	SG3425UD-MV	SG3600UD-MV			
Input (DC)					
Max. PV input voltage	150	00 V 00			
Min. PV input voltage / Start-up input voltage	875 V / 915 V	915 V / 955 V			
Available DC fuse sizes	250 A	- 630 A			
MPP Voltage Range	875 V - 1500 V	915 V - 1500 V			
Full power MPP voltage range @ 45 °C	875 V - 1300 V *	915 V - 1300 V *			
No. of DC inputs	24 (opt	ional: 28)			
Max. DC short-circuit current	100	A 000			
PV array configuration	Negative grour	nding or floating			
Output (AC)					
AC output power	3425 kVA @ 45 °C(113 °F),	3600 kVA @ 45°C(113 °F),			
AC output power	3083 kVA @ 50 °C(122 °F) **	3240 kVA @ 50°C(122 °F) **			
Max. AC output current	165 A	173 A			
AC voltage	12 kV - 3	4.5 kV			
Nominal grid frequency / Grid frequency range	60 Hz / 57 Hz – 63 Hz				
THD	< 3 % (at nominal power)				
Power factor at nominal power / Ajustable power factor	> 0.99 / 0.8 leadir	ng - 0.8 lagging			
Efficiency					
Inverter max. efficiency	98.9 %				
Inverter CEC efficiency	98.5 %				
Transformer					
Transformer rated power	3425 kVA	3600 kVA			
Transformer max. power	3425 kVA	3600 kVA			
LV / MV voltage	0.6 kV / (12 – 35) kV 0.63 kV / (12 – 35				
Transformer vector	Dyl (Optional: Dyll, Yny0)				
Transformer cooling type	KNAN (Optio	onal: ONAN)			

Protection				
DC input protection	Load switch + fuse			
Inverter output protection	Circuit breaker			
AC MV output protection	Load switch + fuse			
Overvoltage protection	DC Type II / AC Type II			
Grid monitoring / Ground fault monitoring	Yes / Yes			
Insulation monitoring	Yes			
Overheat protection	Yes			
General data				
Dimensions (W*H*D)	6058 mm * 2896 mm * 2438 mm 238.5" * 114.0" * 96.0"			
Weight	18000 kg 39683.2 lbs			
Degree of protection	NEMA 4X (Electronic for Inverter) /NEMA 3R (Others)			
Auxiliary power supply	5 kVA, 120 Vac; Optional: 30 KVA 480 Vac + 5 KVA 120 Vac			
Operating ambient temperature range(it refers to the	-35 °C to 60 °C (> 45 °C derating) / optional: -40 °C to 60 °C (> 45 °C derating)			
ambient temperature of 1m around the inverter.)	-31 °F to 140 °F (> 113 °F derating) / optional: -40 °F to 140 °F (> 113 °F derating)			
Allowable relative humidity range	0 % - 100 %			
Cooling method	Temperature controlled forced air cooling			
Max operating altitude	1000 m (Standard) / > 1000 m (Customized)			
Max. operating antitude	(3280.8 ft (standard) / > 3280.8 ft (Customized))			
DC-Coupled storage interface	Optional			
Night reactive power function	Optional			
Charging power from the grid	Optional			
Communication	Standard: RS485, Ethernet			
Compliance	UL 1741, IEEE 1547, UL 1741 SA, NEC 2017, CSA C22.2 No.107.1-01			
Crideument	Q at night function (optional), L/HVRT, L/HFRT, Active & reactive power control			
und support	and power ramp rate control, Volt-var, Frequency-watt			

* Full power MPP range is temperature dependent, check the characteristic curve of the inverter for more information ** For sustained operation above 40°C, an optional 60 °C temperature rise transformer is recommended

SG3425UD-MV SG3600UD-MV Datasheet V17 SUNGROW



Timeline of Reporting Registration Changes

- Please submit registration activity requests 45-60 days ahead of the expected effective date of change.
- The request should be sent to registration@wecc.org.
- Please notify WECC when the registration activity is complete (when the effective date is reached).



Adding Assets to Existing Registration

- Footprint Change Process
 - Sign in to ERO Portal
 - Access CORES for your entity
 - Click on "Comments and Attachments" to add a description of change
 - Send an email to registration@wecc.org
 - Respond to information requests

Example of Footprint Change in CORES

Please accept this as a notification of Perfect Power's request to add the Cactus Storage Facility to its registration under NCR00000 as a GO/GOP with a tentative effective registration date of 04/01/2025. The Battery Facility is comprised of 24 Power Electronics PCSM Gen 3 FP4200M2 Inverters at 4.2 MVA each, which is a gross nameplate rating of 100.8 MVA and is connected to the grid at 230 kV in the WECC Region.

Cactus Storage, LLC is submitting the following documents pertaining to Cactus Storage for WECC's review:

- WECC Generation Registration Request Form
- GO GOP Asset Verification Form
- As-built Operating One-Line Diagrams
- Interconnection Agreements
- O&M Agreement
- Nameplate Data for the individual Inverters

International Registration/Changes

- All new international registrations should be submitted via WECC's international registration form
- All requests to change a functional registration must use the international registration form
 - Example: an entity that believes it no longer meets the criteria of a Distribution Provider (DP) must first complete the registration form and send it to registration@wecc.org to start the evaluation process by WECC
- WECC registration will then notify the WECC International Relations Manager of the request

Registration Resources

WECC Registration Page

• <u>WECC Entity-Registration</u>

Onboarding Information

ERO Enterprise 101 Informational Package

ERO Enterprise Entity Onboarding Checklist

NERC Registration Page

- NERC Organization Registration
 - **CORES Video Library**
 - CORES End User Guide
 - <u>ERO Enterprise Registration Procedure</u>

WECC Generator Welcome Package





www.wecc.org