



Submitting a GO GOP Registration Request in CORES

WECC Registration Staff



Submitting a GO GOP Registration Request in E@RES

CENTRALIZED ORGANIZATION REGISTRATION ERO SYSTEM



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 Entity Registration Requests

Complete Self-Evaluation

Evaluate applicability of the BES Definition, Appendix 2, and Appendix B 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

- CORES End User Guide
- 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

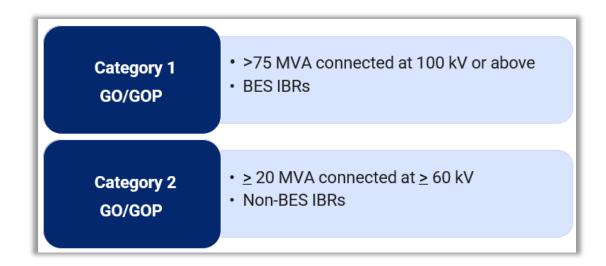
Application of the BES Definition to Battery Energy Storage Systems and Hybrid Resources

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

Processes exist for submittal and consideration of Exceptions and Materiality:

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

Majority of Registrations: Category 1 and Category 2 GO and GOP



Defined in Appendix 2





CORES Overview

What to Know about CORES

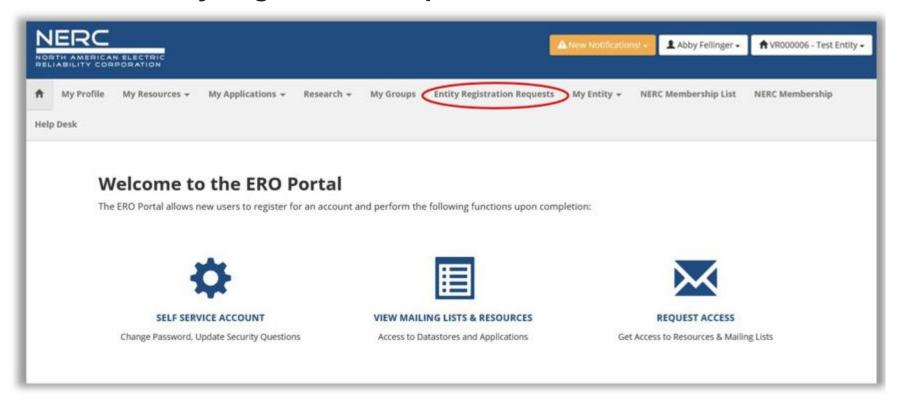
- The Centralized Organization Registration ERO System (CORES) launched on July 15, 2019, to provide consistency and alignment across the ERO for registration activities.
- The CORES platform enables entities to manage their registration information, contact information, and functional relationships from one application.
- All entities seeking to submit a new registration application must register for an ERO Portal account (https://eroportal.nerc.net/) 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 (https://eroportal.nerc.net/)
- Select the Entity Registration Requests tab

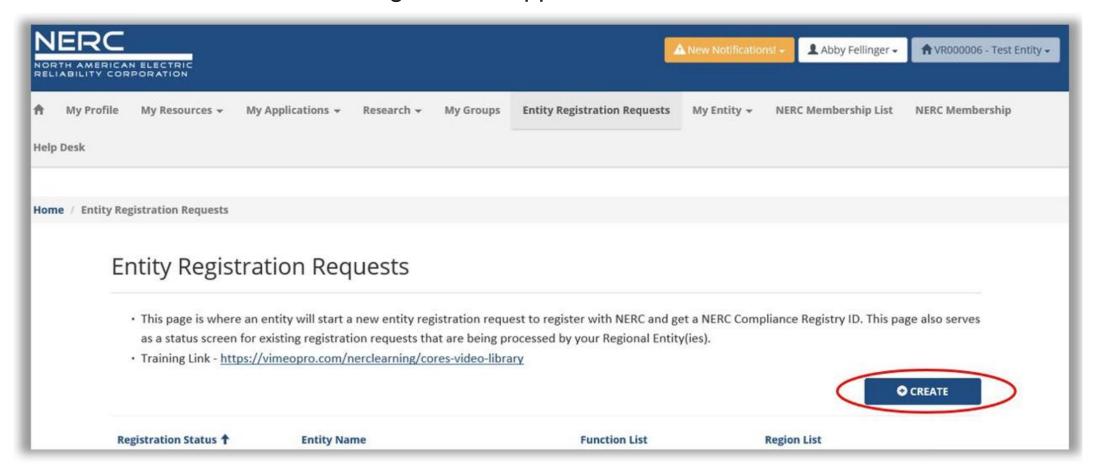






Creating a New Registration Application in CORES

Select the Create button to begin a new application

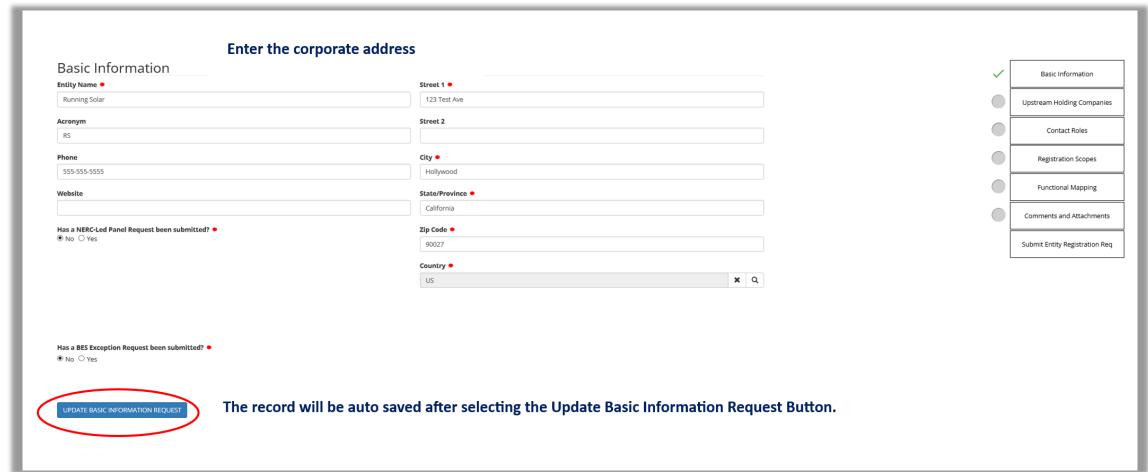






New Entity Registration – Basic Information

Enter applicable information

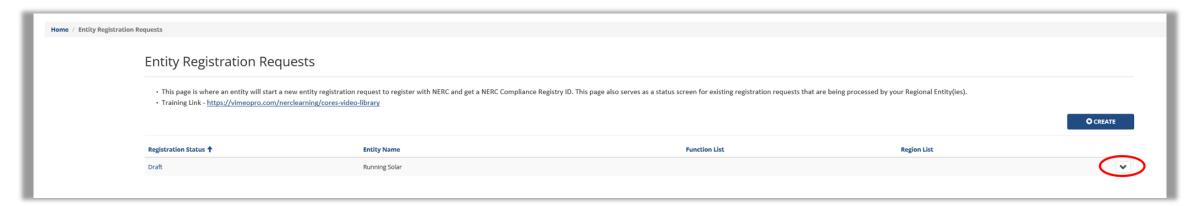






New Entity Registration - Draft Application

The record can be continued or accessed later as a draft

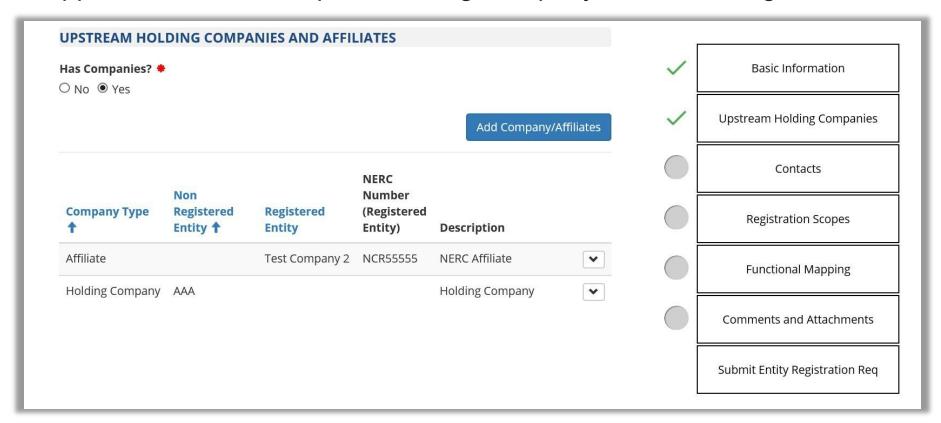






New Entity Registration – Upstream Holding Company

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

• Add the following: 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.

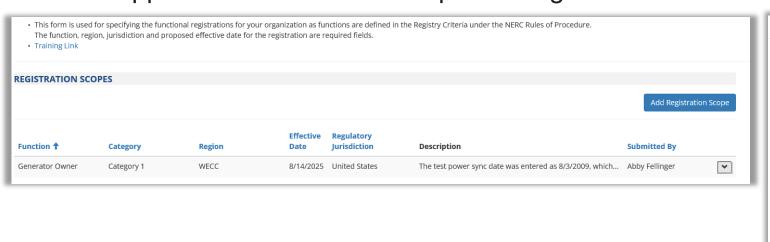
Home / Entity	y Registration Requests / C	ontacts	
The two req Primary Con Registered e	uired contacts for registratior mpliance Officer and Authoriz entities may upload a docume as other voluntary contact typ	nt to describe the mapping between older terms and the new terms on the comment and attachment form.	
	CONTACTS	Add Contact	Basic Information
	Role Type	Business Mobile Phone Phone Job Title E-mail Name	Upstream Holding Companies
	↑ Contact	(Contact) (Contact) (Contact) Address 1 (Contact) (Region)	Contacts
	There are no records to	display.	Registration Scopes
Nist		(Functional Mapping
Not	e: ⊨ach conta	ct must have an active ERO Portal account.	Comments and Attachments
			Submit Entity Registration Req

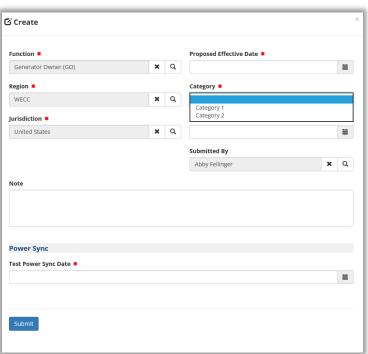




New Entity Registration - Registration Scopes

Add applicable functions and expected registration date





- This example reflects selecting either a Category 1 or Category 2 GO.
- For Category 1, the Commercial Operation Date (COD) should be entered as the Proposed Effective Date.
- For Category 2, enter May 15, 2026, as the Proposed Effective Date.
- Note: A Test Power Sync Date must be entered.





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	TP
Generator Operator (GOP)		BA	RC	ТОР				
Planning Coordinator and Planning Authority (PC/PA)		RC						
Transmission Owner (TO)		PC/PA	RC	ТОР	TP			
Transmission Operator (TOP)		BA	RC					
Transmission Planner (TP)	>	PC/PA	RC					

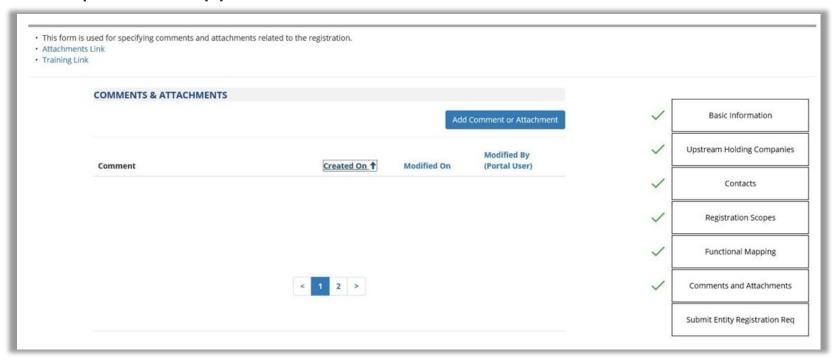






New Entity Registration - Comments and Attachments

Upload all applicable documents



Documents to Upload

- WECC Generator Registration Request Form
- Map/geographic location of facility
- One-line diagrams
- Commercial Operation Date (COD)
- Operations & Maintenance Agreements (if any)
- Generation Interconnection Agreement
- ERO Enterprise GO GOP Asset Verification Form

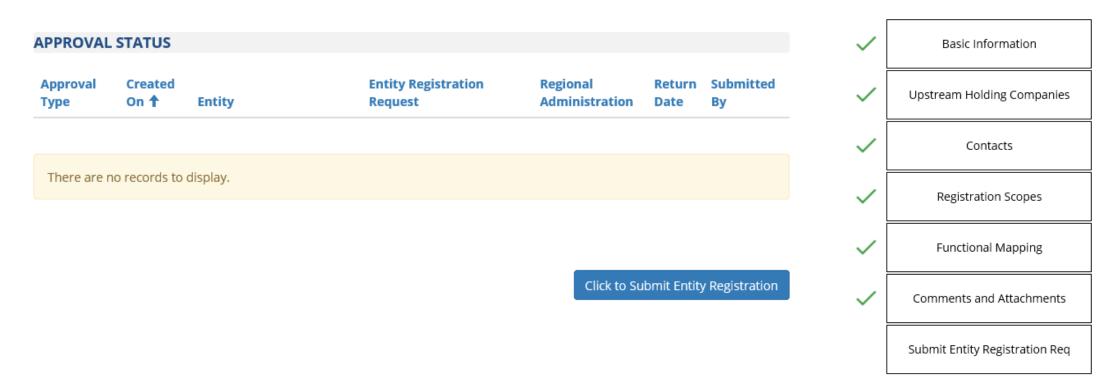
See slides 20 – 24 for examples of documents needed with the GO/GOP application.





New Entity Registration - Submit Entity Registration

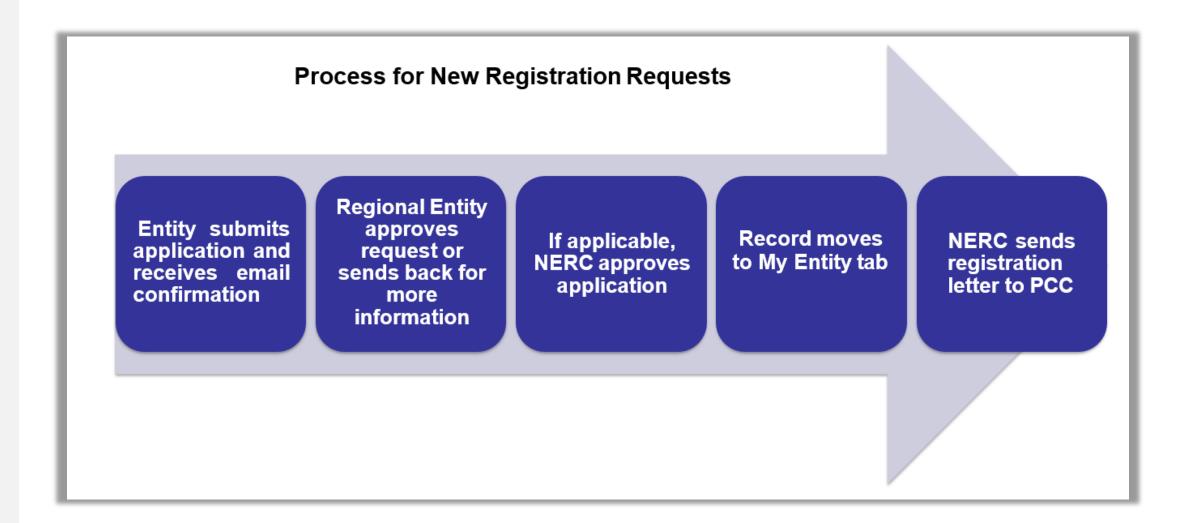
Review the application and Click to Submit Entity Registration button







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.





Information Collected: GO/GOP Registration

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

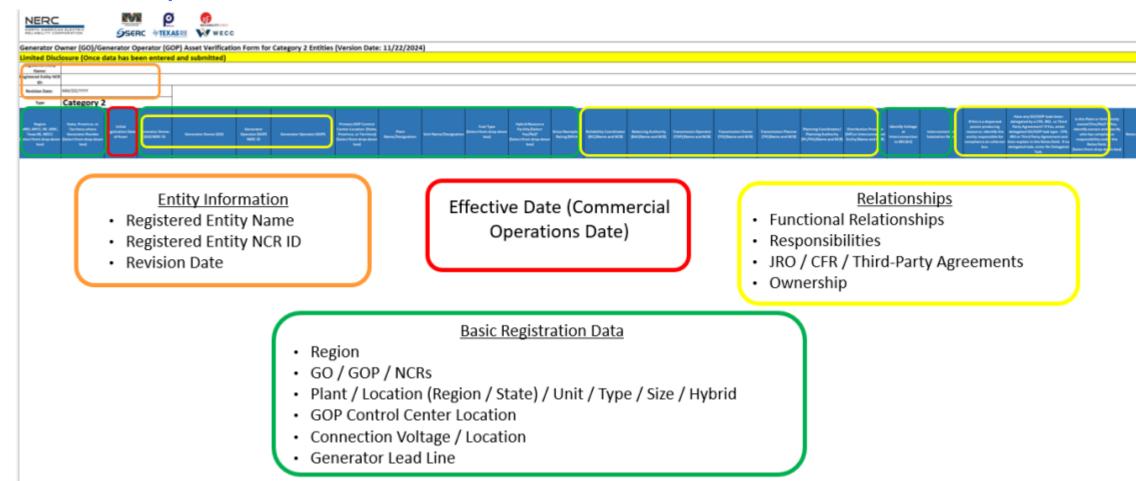
- WECC Generation Registration Request Form
- GO GOP Asset Verification Form
- Interconnection Agreements
- Third-Party or Operating Agreements
- Operating One-Line Diagrams
 - Depicting the Generation Resource(s) through to the Point of Interconnection w/Transmission Owner (TO)
- Nameplate Data for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

Note: Provided documentation should include accurate facility profile information (such as gross nameplate rating, capacity inservice 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



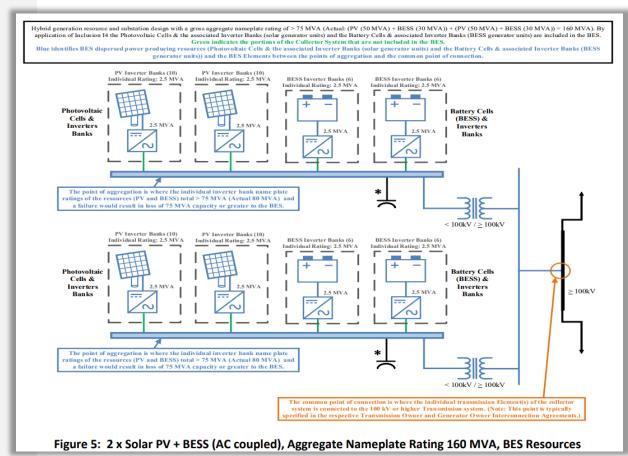


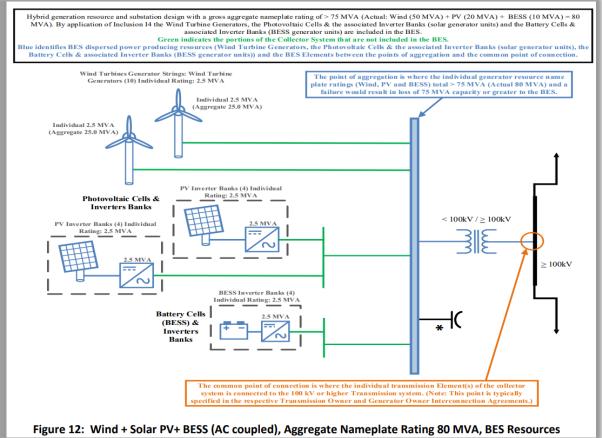


Operating One-Line Diagrams

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

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







Application of the BES Definition to BESS and Hybrid Resources



Operating One-Line Diagrams - Inverter Nameplate

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

Redacted Site Map with Individual Inverters





Manufacturer's Data Specifications - Solar/BESS Inverters

Example of Datasheet Information



Type designation	SG3425UD-MV	SG3600UD-MV		
Input (DC)				
Max. PV input voltage	150	0 V		
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 (optional: 28)			
Max. DC short-circuit current	1000	00 A		
PV array configuration	Negative groun	ding or floating		
Output (AC)				
10	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 - 34.5 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 leading - 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) kV		
Transformer vector	Dyl (Optional: Dyll, Yny0)			
Transformer cooling type	KNAN (Optional: 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 attitude	(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			
Grid support	Q at night function (optional), L/HVRT, L/HFRT, Active & reactive power contr 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

SG3425UD-MV SG3600UD-MV_Datasheet_V17_SUNGROW

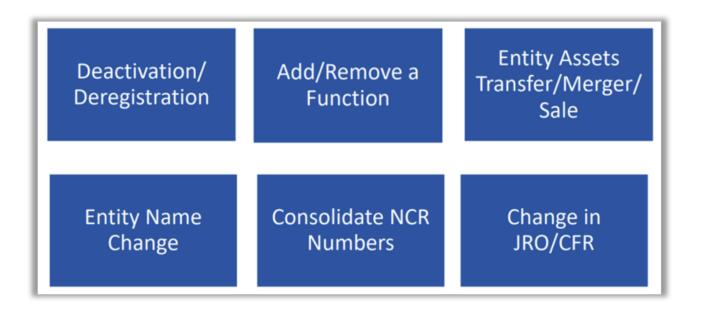


^{**} For sustained operation above 40°C, an optional 60 °C temperature rise transformer is recommended



Timeline of Reporting Registrations/Changes

- Please submit registration activity requests 45-60 days ahead of the expected effective date.
- 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 <u>registration@wecc.org</u>
- 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 Registrations/Changes

- All new international registrations should be submitted via WECC's <u>International Registration Form</u>
- All requests to change a functional registration must use the <u>International</u> <u>Registration Form</u>

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

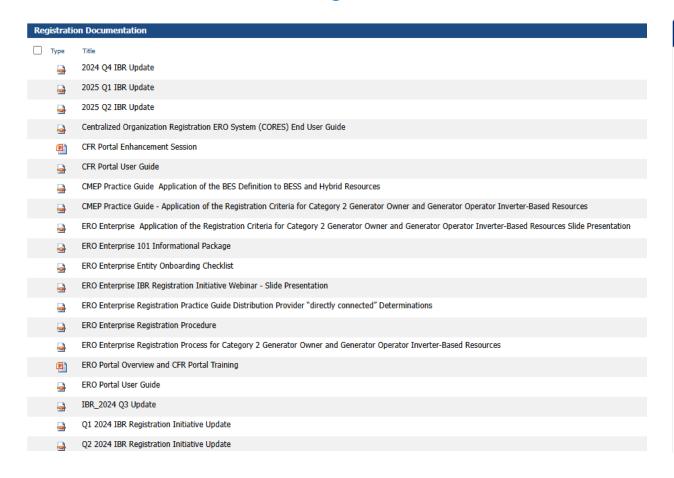
WECC registration will then notify the WECC International Relations
 Manager of the request





Registration Resources

NERC Registration



WECC Entity Registration

	Registration Reference Documents and Forms			
	Application of the BES Definition to BESS and Hybrid Resources			
	Application of the Registration Criteria for Category 2 GO/GOP IBRs			
	Information to Consider Regarding IBRs			
	Reliability Standards Compliance Dates for GOs and GOPs			
File Type	Title			
PDF E	ERO Enterprise 101 Informational Package			
PDF E	ERO Enterprise Entity Onboarding Checklist			
Excel E	ERO Enterprise GO GOP Asset Verification Form			
PDF E	ERO Enterprise Registration Procedure			
PDF E	ERO Portal Access and Application Information			
PDF C	Generator Welcome Package			
PDF I	IBR Registration Infographic Expanding Your Registration			
PDF <u>I</u>	IBR Registration Infographic Joining the ERO Enterprise			
PDF I	IBR Registration Initiative 2025			
PDF <u>I</u>	IBR_Quick Reference Guide			
PDF S	Submitting a GO GOP Registration Request to WECC			
Word V	WECC Generation Registration Request Form			





Contacts

Registration | Registration@wecc.org

- Mark Rogers | Manager, Registration & Certification | mrogers@wecc.org
- Abby Fellinger | Senior Registration & Certification Engineer | <u>afellinger@wecc.org</u>
- Andrew Williamson | Senior Registration & Certification Engineer | <u>awilliamson@wecc.org</u>
- Sarah Mitchell | Staff Engineer, Registration | smitchell@wecc.org







