

NERC

NORTH AMERICAN ELECTRIC
RELIABILITY CORPORATION

Connected Energy Storage

GADS Solar Training - Module 5

May 2024

RELIABILITY | RESILIENCE | SECURITY

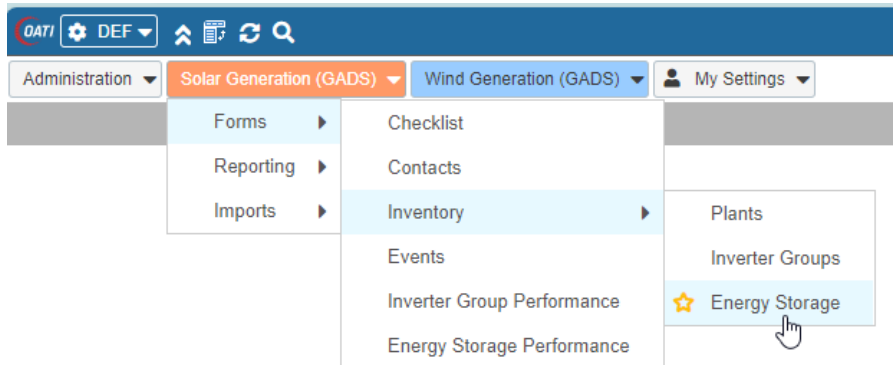


- Concepts
- Add Storage
- Storage Update
- Validations
- Export, correct, and reimport
- Energy Storage Import (Excel)
 - Append, Update, Full Replace

- All graphics (screen shots) in this presentation are courtesy of Open Access Technology International (OATI), Inc.

Connected Storage – User Interface

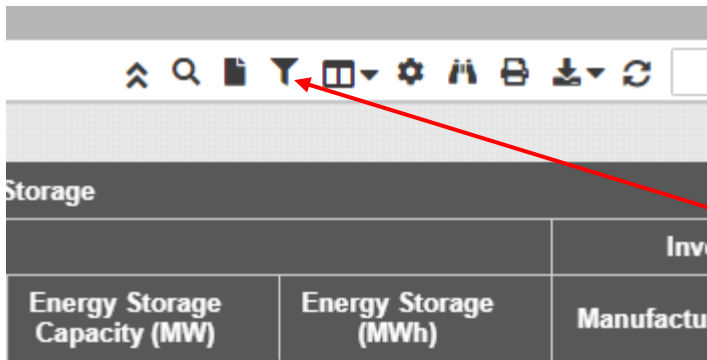
- Login to the NERC GADS OATI Wind and Solar Portal
- Click on Solar Generation (GADS)
- Hover over Forms and Inventory, then click on Energy Storage



- A list of Energy Storage groups (if any) will appear

Company			Plant		
Company Name	NERC ID	Region	Plant ID	Plant Name	Group ID

- You can edit the storage group information by clicking on a storage group or you can create a new storage group
- You may need to filter (top right of screen) for a certain company before adding energy storage



- Click the filter icon to select a company

- Select a company from the filter and click the floppy disk icon to filter

Filtering Options [Close] [Refresh]

Company: NERC 3 Test (NCR99997 | NERC 3 Test) [Auto]

Plant: ALL [Auto]

Energy Storage Group ID: [Auto]

Energy Storage Group Name: ALL [Auto]

Chargeable From Grid: ALL [Auto]

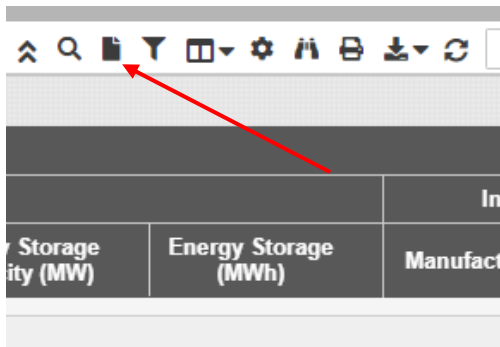
Type: ALL [Auto]

Connection: ALL [Auto]

Ownership Status: ALL [Auto]

[Floppy Disk Icon] [Refresh Icon] [Show]

- Select the new icon to create a new energy storage group



- The following screen will appear
- Let's look closer at each section

Solar Energy Storage Entry

Entity	Data Reporter
NERC ID: NCR99997	Name: Leeth DePriest
Company: NERC 3 Test	Email: leeth.depriest@nerc.net
Region: Non North America	Phone Number:
	Submission Date:

Energy Storage Group

Plant ID: <input type="text" value="Please select one..."/>	Commissioning Date: <input type="text" value=""/>
Plant Name: <input type="text" value="Please select one..."/>	Ownership Status: <input type="text" value="ID Request"/>
Group ID: <input type="text" value=""/>	Effective Date: <input type="text" value=""/>
Group Name: <input type="text" value=""/>	Last Updated: 03/19/2024
Group EIA Code: <input type="text" value=""/>	
Group ISO ID: <input type="text" value=""/>	

Energy Storage Details



Storage Manufacturer: <input type="text" value="Please select one..."/>	Chargeable From Grid: <input type="text" value="Please select one..."/>
Storage Model: <input type="text" value=""/>	Capacity (MW): <input type="text" value=""/>
Storage Type: <input type="text" value="Please select one..."/>	Energy Storage (MWh): <input type="text" value=""/>
Connection Type: <input type="text" value="Please select one..."/>	

Inverter Details

Inverter Manufacturer: <input type="text" value="Please select one..."/>	Inverter Model: <input type="text" value=""/>
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Reporting Periods

<input type="text" value="2024"/>	<input checked="" type="radio"/> Default	Reporting Status: <input type="text" value="Please select one..."/>
<input type="text" value="2023"/>	<input type="radio"/>	
<input type="text" value="2022"/>	<input type="radio"/>	
<input type="text" value="2021"/>	<input type="radio"/>	
<input type="text" value="Default"/>	<input type="radio"/>	
<input type="text" value="Everything"/>	<input type="radio"/>	

- The entity (company) data is filled in because the company has already been created

Entity	Data Reporter
NERC ID: NCR99997	Name: Leeth DePriest
Company: NERC 3 Test	Email: leeth.depriest@nerc.net
Region: Other	Phone Number:
	Submission Date: 03/18/2024

- This part of the screen is for energy storage group information entry

– Energy Storage Group

Plant ID: Please select one... 1

Plant Name: Please select one... 2

Group ID:

Group Name: 3

Group EIA Code: 4

Group ISO ID: 5

Commissioning Date: * 6

Ownership Status: ID Request 7

Effective Date: 8

Last Updated: 03/19/2024

1. Select the Plant ID from the picklist or select the plant name from the picklist
2. Enter the storage group name
3. Enter the EIA plant code for the energy storage group as reported to EIA
4. Enter the unique storage group identifier assigned by the ISO or RTO if applicable
5. Enter the commissioning date
6. Select the ownership status from the picklist - Select **ID Request** for a new storage group
7. Enter the effective date as the commissioning date of the new storage group
 - For updates to existing storage groups, enter the date the change became effective

- This part of the screen is for energy storage group details entry

Energy Storage Details

Storage Manufacturer: 1

Storage Model: 2

Storage Type: 3

Connection Type: 4

Chargeable From Grid: 5

Capacity (MW): 6

Energy Storage (MWh): 7

1. Select the energy storage manufacturer from the picklist
2. Enter the model of the energy storage equipment. Enter zero (0) if no model number.
3. Select the type of energy storage from the picklist
4. Select the type of energy storage connection from the picklist
5. Select whether the energy storage group can be charged from the grid
6. Enter the generating capacity of the energy storage group. This is equal to installed capacity minus electrical losses between the inverter and revenue meter.
7. Enter the energy storage rating in MWh for the energy storage group

- This part of the screen is for energy storage group inverter details entry

Inverter Details

Inverter Manufacturer: **1**

Inverter Model: **2**

1. Select the energy storage inverter manufacturer from the picklist
2. Enter the model of the energy storage group inverter. Enter zero (0) if model is not applicable.

- This part of the screen is for Reporting Period data entry

Reporting Periods

2024	— Default —
2023	
2022	Reporting Status: Please select one... 1
2021	
Default	
Everything	

1. Select the Reporting Status from the picklist

- Press the save button (floppy disk icon) on the bottom left of screen when all information has been entered

Attached Storage – Excel Template

Energy Storage Inventory Design Data

Energy Storage		Energy Storage		Energy Storage	Energy Storage	Energy Storage Group	
Entity ID	Plant ID	Group ID	Energy Storage Group Name	Group EIA Code	Group ISO ID	Type	Capacity Rating (MW)
1	2	3	4	5	6	7	8

- Remember the pop-up windows provide helpful information
1. Enter the company NCR (NERC Compliance Registry) number or voluntary reporting ID (Entity ID)
 2. Enter the plant ID assigned by the GADS Solar application.
 3. Enter the energy storage group ID assigned by the GADS Solar application. Leave blank for new storage group.
 4. Enter the energy storage group name. This will not be assigned by NERC or the GADS Solar application.
 5. Enter the EIA plant code for the energy storage group as reported to EIA
 6. Enter the unique storage group identifier assigned by the ISO or RTO if applicable
 7. Select the type of energy storage from the picklist
 8. Enter the generating capacity of the energy storage group. This is equal to installed capacity minus electrical losses between the inverter and revenue meter.

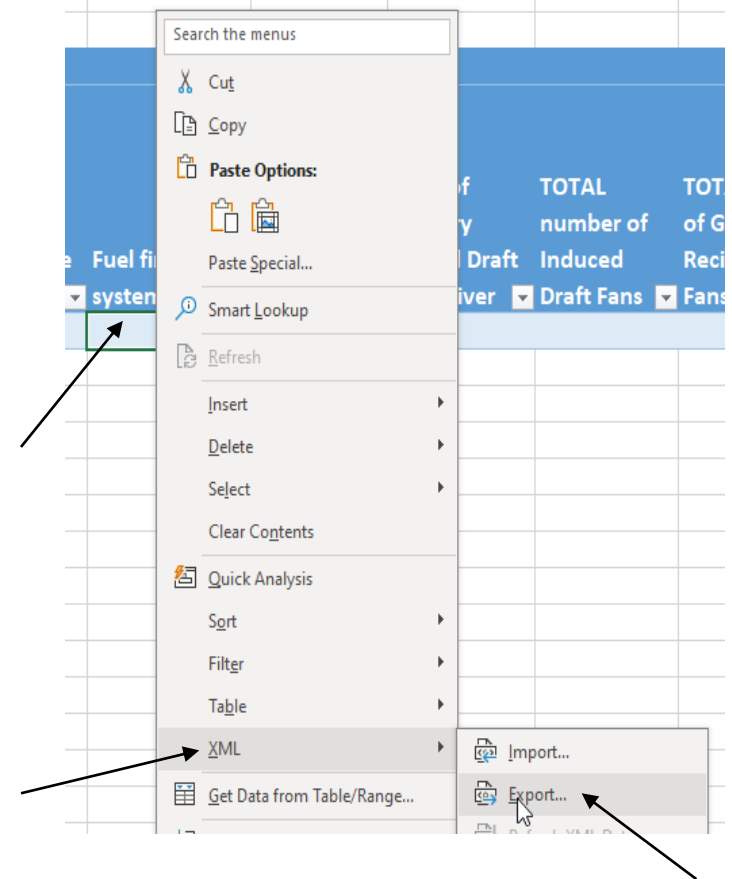
Energy Storage Group	Energy Storage	Energy Storage	Energy Storage	Energy Storage	Commissioning	Energy Storage Inverter
Energy Rating (MWh) ▾	Connection ▾	Chargeable from Grid ▾	Manufacturer ▾	Energy Storage Model ▾	Date ▾	Manufacturer ▾
1	2	3	4	5	6	7

- Remember the pop-up windows provide helpful information
1. Enter the energy storage rating in MWh for the energy storage group
 2. Select the type of energy storage connection from the picklist
 3. Select whether the energy storage group can be charged from the grid
 4. Select the energy storage manufacturer from the picklist
 5. Enter the model of the energy storage equipment. Enter zero (0) if no model number.
 6. Enter the energy storage commercial operation date
 7. Select the energy storage inverter manufacturer from the picklist

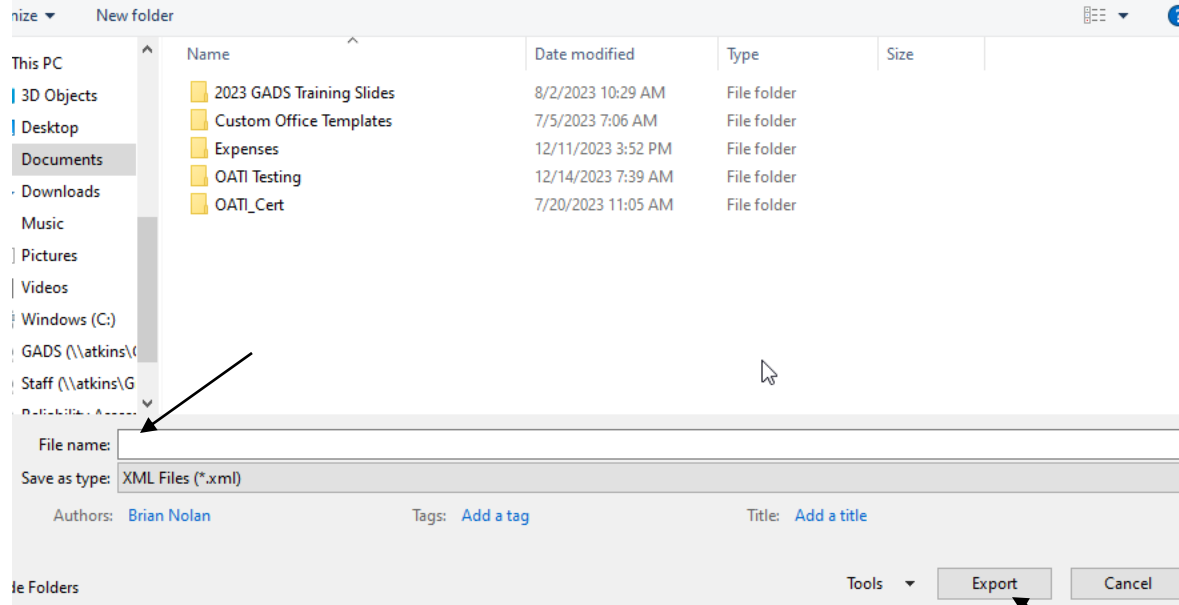
The image shows a screenshot of a web form for configuring an energy storage group. The form has a blue header bar with the following labels: "Energy Storage Inverter Model", "Energy Storage Ownership Status", and "Effective Date". Below each label is a dropdown menu icon. Three red boxes with white numbers are overlaid on the form: box 1 is under "Energy Storage Inverter Model", box 2 is under "Energy Storage Ownership Status", and box 3 is under "Effective Date".

- Remember the pop-up windows provide helpful information
1. Enter the model of the energy storage group inverter. Enter zero (0) if model is not applicable.
 2. Select the energy storage ownership status from the picklist
 3. Enter the effective date of the energy storage group ownership status being reported.

- You are now ready to export your Storage Group configuration file to OATI
- Save your Excel template to a place of your choosing
- Next create the XML file for the Energy Storage Group design data
 - Make sure that you are on the “Storage” worksheet tab
 - Right click a cell somewhere on a row of data on the “Storage” worksheet
 - Select XML from the popup menu
 - Select export from the popup menu

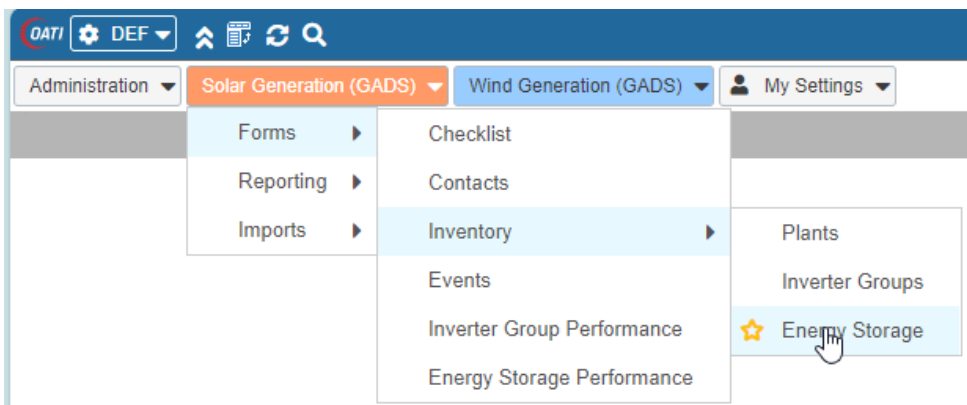


- Name the file, select where you want the file saved, and press the export button



- Make note of your file name and where you saved it

- Next import the XML file into the OATI system
 - Log into the OATI Solar GADS system
 - Navigate to the appropriate menu item on the Solar interface
 - Click on SOLAR Generation (GADS) on the top menu ribbon
 - Click Forms and then Inventory in the dropdown menu
 - Click Energy Storage in the dropdown menu

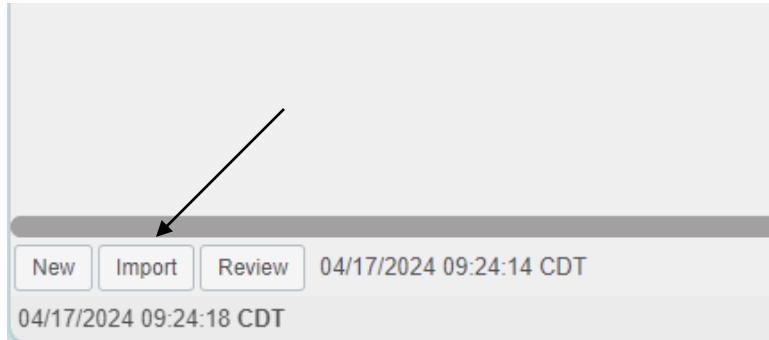


The screenshot shows the 'Solar Energy Storage Summary' page. It includes a filter bar with 'Company: NERC Test 5ish or so (NCR9995 | NCR9995_WECC)'. Below the filter is a table with the following data:

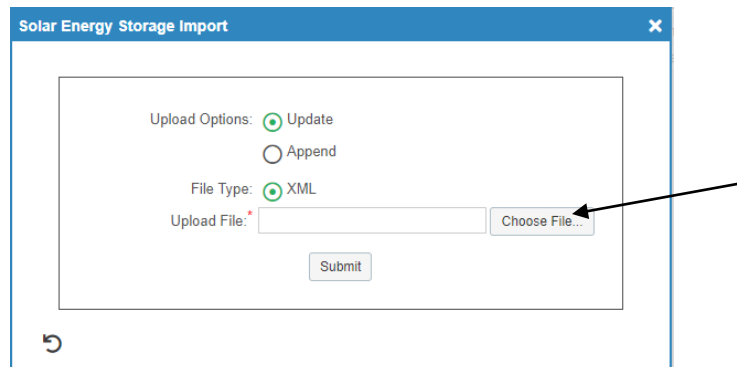
Company			Plant		
Company Name	NERC ID	Region	Plant ID	Plant Name	Group ID
NERC Test 5ish or so	NCR9995	WECC	1000008	Leeth Test 1	3000007

- A list of previously created Energy Storage groups (if any) will appear

- An Import button will appear on the bottom left of the screen

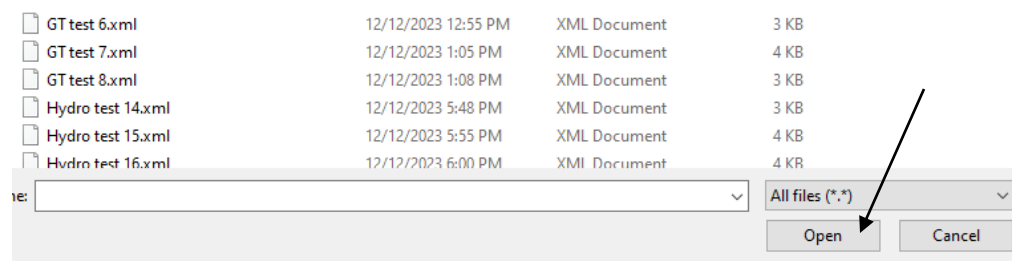


- Press the import button and the popup below will appear

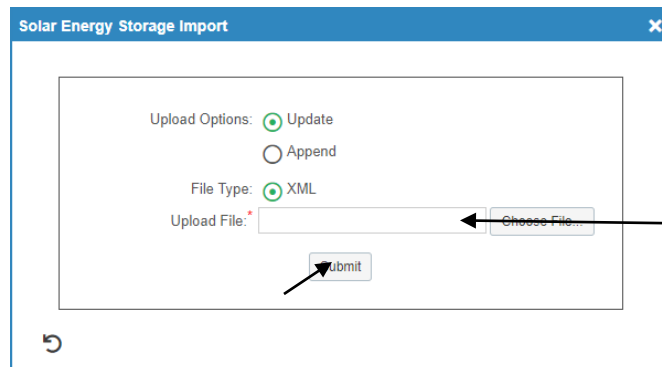


- Click the “Choose File” button on the Solar Energy Storage Import popup and navigate to where you saved your XML file

- Select the file you just created and press the “Open” button



- Click the submit button on the Solar Energy Storage Import popup shown below



File chosen in previous step will appear here

- If you correctly entered the data in your spreadsheet, your Energy Storage configuration data should load without issue and is complete.

A stylized map of North America is centered on the page. The map is divided into three horizontal color bands: a light blue band at the top, a dark blue band in the middle, and a light grey band at the bottom. The dark blue band is the widest and contains the title text. The map shows the outlines of the United States, Canada, and Mexico.

Questions and Answers