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# Aggregated Residential Passive Assets



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*Initial Registrations & Change Requests in CAMS*

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ASSET REGISTRATION



# What is an Aggregated Residential Passive Asset?

- A multitude of residential solar installations (i.e. residential rooftop solar) and/or battery storage all located within the same **load zone** and have the same **distribution company**, that meets the definition of a **passive demand capacity resource**, specifically an **on-peak demand resource**.
- The individual residential installations are then aggregated to be registered as a singular asset in ISO systems.



Passive Demand Capacity Resource: a demand capacity resource principally designed to save electric energy use, which is in place at all times without requiring real-time direction from the ISO (iso-ne.com, Glossary & Acronyms)



On-Peak Demand Resource: a type of Demand Capacity Resource and means installed measures (e.g., products, equipment, systems, services, practices and/or strategies) on end-use customer facilities that reduce the total amount of electrical energy consumed during Demand Resource On-Peak Hours, while delivering a comparable or acceptable level of end-use service. Such measures include Energy Efficiency, Load Management, and Distributed Generation (ISO New England Inc. Transmission, Markets, and Services Tariff, Section 1, 2022, p. 70)

# Reminder!

**A Measurement & Verification Plan must have been submitted and approved during the qualification of the Capacity Resource that will be mapped to the asset. Please verify that this was completed prior to registering the asset.**

Measurement &  
Verification Manual



Please reach out to ISO Participant Support ([askiso@iso-ne.com](mailto:askiso@iso-ne.com)) for additional questions regarding the Measurement & Verification Plan.

# INITIAL REGISTRATION

*Getting Started*



# What You Will Need

## Necessary Documents

- ✓ A representative utility bill
- ✓ \*Sample contract
- ✓ \*\* Completed Aggregated Residential Passive Asset Template
- ✓ Explanations of specific value calculations
- ✓ Other supporting documentation

\*Only necessary if this is the first aggregated residential passive asset being registered by the Participant

\*\* If registering a Hybrid Asset, population of the Hybrid Tab on the Template is required



Registrations must be submitted at least 5 business days prior to the desired effective date to allow ISO Asset Registration review. If multiple updates/new registrations are being submitted, this will require additional time than the 5 business days.

# Representative Utility Bill

- The bill should be located in the same **load zone** and have the same **distribution company** that matches the residential installations comprising the asset
- This **same utility bill** will be used for each additional asset registered by the Participant in the same load zone and with the same distribution company that make up one **aggregation series**
  - This allows ISO to identify the assets as being linked to one another in CAMS



Aggregation Series: several assets that each contain installations within the same load zone and distribution company, separated by six month groupings



# Sample Contract

- Only necessary if this is the **first** aggregated residential passive asset enrollment for a Participant
- The sample contract can be a **blank version** with no customer information provided



# Aggregated Residential Passive Asset Template

- A blank copy of the Aggregated Residential Passive Asset Template can be found on the [ISO-NE](#) website

Aggregated Residential Passive  
Asset Template





# Calculation Explanations

- An explanation of how the **Maximum Interruptible Capacity (MIC)**, **Maximum Generation**, **Maximum Load**, and **Maximum Net Supply** are calculated will need to be uploaded to the asset's service notes



Tip: these explanations can be generic (not inclusive of specific numbers) and therefore can be applied to other registrations of this type that use the same calculations. Put these explanations on a PDF or Word file to make it an easier Service Notes upload for future registrations.

# Supporting Documentation

- Any other supporting documentation should be uploaded that will be helpful for ISO's review of the registration (i.e. a document that was used when calculating certain values associated with the asset)



# INITIAL REGISTRATION

*The Aggregated Residential Passive Asset Template*



# Reminder!

Before registering the asset in CAMS, please make sure to download a blank version of the Aggregated Residential Passive Asset Template.

Aggregated Residential Passive  
Asset Template



# Definitions

Aggregated Residential Passive Asset Template	
1	Distribution Company Name
2	Technology Type
3	Load Zone
4	Asset Number in Aggregation Series
5	Data As Of Date

1

Distribution Company Name: the utility company for the service territory that all the installations are located within

2

Technology Type: Solar, Battery Storage, or Hybrid Solar/Battery

3

Load Zone: the load zone in which all the listed installation addresses are located within

4

Asset Number in Aggregation Series: a two-digit sequential number assigned to each asset that makes up an aggregation series. The number represents a new set of installations within a six-month period also located within the same load zone and distribution company

5

Data As Of Date: the date in which the installation data was finalized and submitted to ISO



# Definitions Continued

General Facility Information								
Generation Facility						Unit Capacity		Commercial Operation Date
Name (Unit)	Address	City	State	Zip Code	Utility Account	MIC (Max Interruptible Capacity)	Nameplate Capability (MW)	mm/dd/yyyy
1	2				3	4	5	6

- 1 Name: the identifier of the installation assigned and used by the Lead Participant or Utility. If this data is not available, you may leave this field blank.
- 2 Address, City, State, Zip Code: the street number, street name, city, state, and zip code where the installation is located.
- 3 Utility Account: the unique retail account ID of the installation.
- 4 MIC\*: an estimate of the maximum demand reduction and Net Supply that a Demand Response Asset can deliver, as measured at the Retail Delivery Point.
- 5 Nameplate Capability\*: the rating of the generator installation as a measure of its ability to produce electricity
- 6 Commercial Operation Date\*\*: the In-Service date of the installation as indicated on the Permission to Operate Letter

\*If the installation represents a Hybrid Solar/Battery facility, the sum of both the solar and battery components should be listed. A breakdown of each component's information will be requested on the Hybrid Only tab.

\*\*If the installation represents a Hybrid Solar/Battery facility, the earlier of the commercial operation dates between the components should be listed. A breakdown of each component's information will be requested on the Hybrid Only tab.

# “Hybrid Only” Tab

General Facility Information													
Generation Facility						Battery Storage Unit Capacity		Solar Unit Capacity		Hybrid Capacity		Battery Storage Commercial Operation Date	Solar Commercial Operation Date
Name (for Lead Participant/Utility use) - Optional	Address	City	State	Zip Code	Utility Account	MIC (Max Interruptible Capacity)	Nameplate Capability (MW)	MIC (Max Interruptible Capacity)	Nameplate Capability (MW)	MIC (Max Interruptible Capacity)	Nameplate Capability (MW)	mm/dd/yyyy	mm/dd/yyyy
						2	3	4	5	6	7		

1

Generation Facility: Information populated here should match the data as found on Sheet 1 of the Excel Workbook.

2

MIC (Battery ONLY): an estimate of the maximum demand reduction and Net Supply that a Demand Response Asset can deliver, as measured at the Retail Delivery Point.

3

Nameplate Capability (Battery ONLY): the rating of the generator installation as a measure of its ability to produce electricity

4

MIC (Solar ONLY): an estimate of the maximum demand reduction and Net Supply that a Demand Response Asset can deliver, as measured at the Retail Delivery Point.

5

Nameplate Capability (Solar ONLY): the rating of the generator installation as a measure of its ability to produce electricity

6

MIC (Hybrid): The workbook will sum the values for each component. **This is the value that should be populated on Sheet 1.**

7

Nameplate Capability (Hybrid): The workbook will sum the values for each component. **This is the value that should be populated on Sheet 1.**

8

Commercial Operation Date: The Commercial Operation Date for each component, which may or may not be the same. **The earlier of these two dates should be populated on Sheet 1.**

# Populating the Aggregated Residential Passive Asset Template

- Installations listed on the Aggregated Residential Passive Asset spreadsheet should:
  - ✓ Clearly indicate the technology type(s)
  - ✓ Be in groupings of six (6) month periods based off the installation's commercial operation dates
  - ✓ Be located within the same load zone
  - ✓ Have the same distribution company
  - ✓ Have a **unique** utility retail account ID
    - The retail account ID should not be a duplicate of any other installations contained on the spreadsheet, or of installations contained on spreadsheets used in previous registrations





# INITIAL REGISTRATION

*Customer Asset Management System (CAMS) Registration*



# Reminder!

**Before registering the asset in CAMS, please have the following documents available for your use:**

## Necessary Documents

- ✓ A representative utility bill
- ✓ \*Sample contract
- ✓ \*\*Completed Aggregated Residential Passive Asset Template
- ✓ Explanations of specific value calculations
- ✓ Other supporting documentation

\*Only necessary if this is the first aggregated residential passive asset being registered by the Participant

\*\* If registering a Hybrid Asset, population of the Hybrid Tab on the Template is required

# Accessing CAMS

- CAMS can be accessed on the [SMD Application Home Page](#)

## SMD Applications Home Page

Market System → SMD Applications Home Page

**Internal Transactions**

**External Transactions**

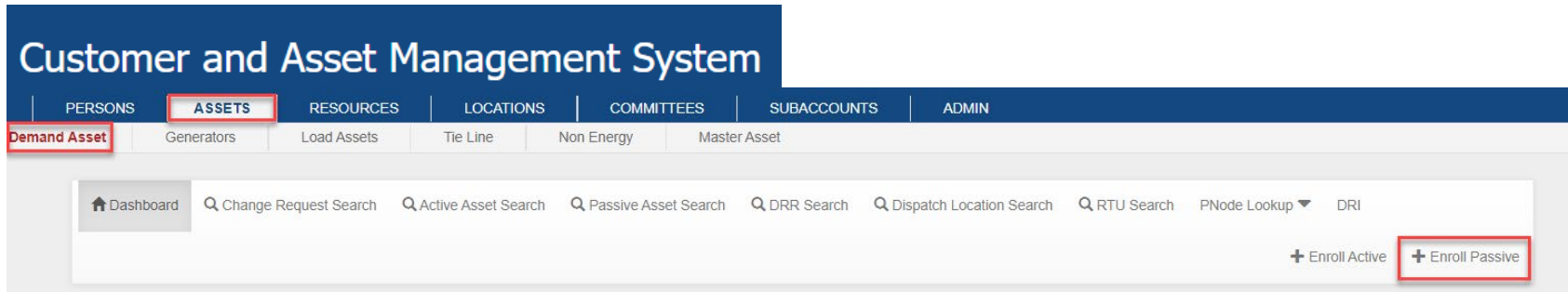
**Bids & Offers  
(Registered Users)**

**Customer and Asset  
Management System**



# CAMS Enrollment

- To start the enrollment process of a new Passive Asset, go to Assets → Demand Asset → + Enroll Passive



# CAMS Enrollment: Asset Details

## Enroll Passive Asset - Enter Asset Details

### Asset Details

<b>Requested Operational Date*</b>	<b>#Facilities*</b>				
09/01/2022	Single				
<b>Asset Name*</b>	<b>Asset Type*</b>	<b>Lead Participant*</b>			
Sunny Days Agg SEMA 01	On-Peak Demand Resource	ISO New England Inc (50051)			
<b>M.I.C.*</b>	<b>Reduction Method*</b>	<b>Meter Installed and Operational*</b>	<b>Meter Reader*</b>	<b>Has Generation*</b>	
13	Distributed Generation	Yes	ISO New England Inc	Yes	

Next >

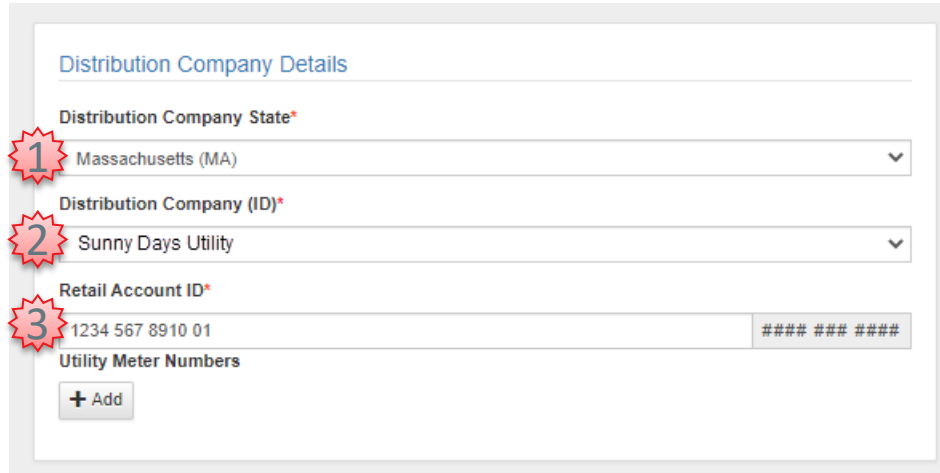
Cancel

# CAMS Enrollment: Asset Details

- 1 Number of Facilities: should always be “Single”
- 2 Asset Name: should follow the format of “(Asset Name) nn” where nn is a two digit sequential number beginning with 01 which advances for each asset of this type the participant registers
  - If registering aggregations across multiple load zones, the number sequence should start from 01 when the load zone changes (e.g. NEMA 01 NEMA 02 SEMA 01 SEMA 02)
  - If registering the Battery and Solar components as separate Assets, “PV” or “BESS” should be included in the Asset name (e.g. NEMA PV 01 and NEMA BESS 01)
- 3 Asset Type: should be “On-Peak Demand Resource”
- 4 MIC: this value should match the explanation provided for calculating the value.
- 5 Reduction Method: this value should be “Distributed Generation”
- 6 Meter Installed and Operational: this value should be “Yes”



# CAMS Enrollment: Distribution Company Details



The screenshot shows a web form titled "Distribution Company Details". It contains three main input fields, each with a red starburst callout number: 1. "Distribution Company State\*" is a dropdown menu with "Massachusetts (MA)" selected. 2. "Distribution Company (ID)\*" is a dropdown menu with "Sunny Days Utility" selected. 3. "Retail Account ID\*" is a text input field containing "1234 567 8910 01", with a masked area "#### ## ####" to its right. Below these fields is a section labeled "Utility Meter Numbers" with a "+ Add" button.

Distribution Company Details

Distribution Company State\*  
1 Massachusetts (MA)

Distribution Company (ID)\*  
2 Sunny Days Utility

Retail Account ID\*  
3 1234 567 8910 01 #### ## ####

Utility Meter Numbers  
+ Add

- 1 Distribution Company State: must match supplied utility bill
- 2 Distribution Company (ID): must match supplied utility bill
- 3 Retail Account ID: must follow the format of "(Retail Account ID on supplied utility bill) + nn" where nn is the same two digit suffix from the Asset Name



# CAMS Enrollment: Facility Address

**Facility Address**

<b>ID</b>	<b>Facility Name*</b>		
52783	Sunny Days Agg SEMA 01		
<b>Address Line 1*</b>		<b>Address Line 2</b>	
123 Sunshine Blvd		Address Line 2	
<b>City*</b>	<b>State*</b>	<b>Zip*</b>	
Quincy	MA	02169	

The address entered must match the supplied utility bill exactly and should represent an address in the correct Load Zone.





# CAMS Enrollment: Confirm Location Details

Confirm Location Details

Based on the USPS standardized address, the closest PNode in the state is displayed below.  
If you know or suspect that the displayed Load Zone is incorrect, please set **Suspect Load Zone** to **Yes** and provide a reason.

USPS Standardized ☒ Use this 1

Address Line 1\*

123 Sunshine Blvd

Address Line 2

City\* State\* Zip\*

Quincy MA 02169

Location Details

Load Zone (ID)\*

SEMA (4006)

PNode (ID)\*

LD.N\_QUINCY13.8 (4327)

Suspect Load Zone\*

No 2

- 1 Keep the “Use this” box checked off
- 2 Keep the “Suspect Load Zone” field as “No”



# CAMS Enrollment: Single Facility Details

## Enter Single Facility Details

### Asset Details

CR ID*	Asset ID*	Requested Operational Date*	#Facilities*
<input type="text" value="9957"/>	<input type="text" value="73329"/>	<input type="text" value="09/01/2022"/>	<input type="text" value="Single"/>
Asset Name*	Asset Type*	Lead Participant*	
<input type="text" value="Sunny Days Agg SEMA 01"/>	<input type="text" value="On-Peak Demand Resource"/>	<input type="text" value="ISO New England Inc (50051)"/>	
M.I.C.*	Reduction Method*	Meter Installed and Operational*	Meter Reader*
<input type="text" value="13"/>	<input type="text" value="MW"/>	<input type="text" value="Distributed Generation"/>	<input type="text" value="Yes"/>
			<input type="text" value="ISO New England Inc"/>
			<input type="text" value="Has Generation"/>

### Facility Details

Synchronize to Grid? ☒

Max Net Supply\*

Max Load\*

### Facility Contact (600077985)

First Name\*

Last Name\*

Email\*

Work Phone\*

Ext



# CAMS Enrollment: Single Facility Details

- 1 Synchronize to Grid: should always be “Yes”
- 2 Max Net Supply: this value should match the explanation provided for calculating the value.
- 3 Max Load: this value should match the explanation provided for calculating the value.
- 4 Facility Contact: the contact information of a member of the Lead Participant should be used



# CAMS Enrollment: Generator Details

## Enter Generator Details

### Asset Details

CR ID*	Asset ID*	Requested Operational Date*	#Facilities*		
9957	73329	09/01/2022	Single		
Asset Name*	Asset Type*	Lead Participant*			
Sunny Days Agg SEMA 01	On-Peak Demand Resource	ISO New England Inc (50051)			
M.I.C.*	Reduction Method*	Meter Installed and Operational*	Meter Reader*	Has Generation*	
13	MW	Distributed Generation	Yes	ISO New England Inc	Yes

Generator Name*	In Service Date*	Max Generation*	Generator Type*	Fuel Type*	Controllable*	
Sunny Days Agg SEMA	11/30/2019	16	MW	Photovoltaic	Solar	No

# CAMS Enrollment: Single Facility Details

- 1 Generator Name: should match the Asset's name
- 2 In Service Date: this date should be the earliest Commercial Operation Date on the Aggregated Residential Passive Asset file
  - This date must fall after the New Capacity Qualification Date of the Demand Capacity Resource, as specified in [MR-1, III.13.1.10](#)
- 3 Max Generation: this value should match the explanation provided for calculating the value
- 4 Generator Type: "Photovoltaic" if Solar only OR Hybrid Solar/Battery  
"Energy Storage" if Battery only
- 5 Fuel Type: "Solar", "Energy Storage (Battery)", or "Hybrid Solar/Battery" based on registration type
- 6 Controllable: should always be "No" if Solar and otherwise should be "Yes"



# CAMS Enrollment: Generator Details

Map Asset to Demand Capacity Resource

[Asset Details](#)

CR ID*	Asset ID*	Requested Operational Date*	#Facilities*		
9957	73329	09/01/2022	Single		
Asset Name*	Asset Type*	Lead Participant*			
Sunny Days Agg SEMA 01	On-Peak Demand Resource	ISO New England Inc (50051)			
M.I.C.*	Reduction Method*	Meter Installed and Operational*	Meter Reader*	Has Generation*	
13	MW	Distributed Generation	Yes	ISO New England Inc	Yes

[Capacity Resource Mapping](#)

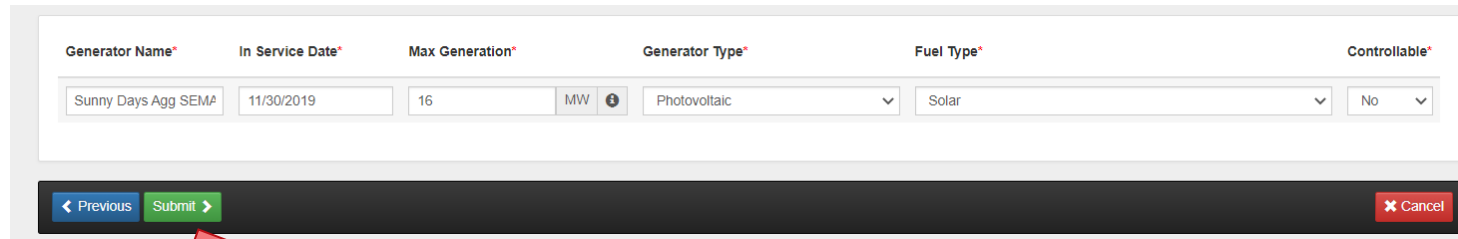
Capacity Resource (ID)\*

The selected Capacity Resource (ID) must have qualified for: 1) the Distributed Generation measure type, and 2) a Capacity Commitment Period in which the residential installation commercial dates fall after the New Capacity Qualification Date, as specified in [MR-1, III.13.1.10](#)



# CAMS Enrollment: Submitting the Asset for Approval

- After reviewing the data entered for the asset registration, submit the asset to ISO for approval



The screenshot displays a web form for asset registration. The form fields are as follows:

Generator Name*	In Service Date*	Max Generation*	Generator Type*	Fuel Type*	Controllable*
Sunny Days Agg SEMA	11/30/2019	16	MW ⓘ Photovoltaic	Solar	No

At the bottom of the form, there are three buttons: a blue 'Previous' button, a green 'Submit' button with a right-pointing arrow, and a red 'Cancel' button with an 'X' icon. A large red arrow points directly to the 'Submit' button.

# CAMS Enrollment: Service Notes

Passive Asset Details

As Of *	Asset ID	Asset Name	Asset Status	Asset Type	Asset Sub-Type	Date Effective
09/01/2022	73329	Sunny Days Agg SEMA 01	PENDING	ON_PEAK	Single Facility	08/18/2022

Lead Participant (ID) Meter Reader (ID) Load Zone (ID)

ISO New England Inc (50051) ISO New England Inc (50051) SEMA (4006)

Demand Capacity Resource (ID)

Sunny Days (1234)

Basic Facility Generator Contacts Change Log Change Requests Service Notes

Filter By: All

+ Create New

Service notes are not available for this asset.

1 Click the “Create New” button and follow the instructions to upload the following documents as attachments.

✓ A representative utility bill	✓ Explanations of specific value calculations
✓ *Sample contract	✓ Other supporting documentation
✓ ** Completed Aggregated Residential Passive Asset Template	

\*Only necessary if this is the first aggregated residential passive asset being registered by the Participant

\*\* If registering a Hybrid Asset, population of the Hybrid Tab on the Template is required



# UPDATE EXISTING REGISTRATION

*Customer Asset Management System (CAMS) Change Requests*



# Applicable Change Requests Covered in this Presentation

- The following change requests have unique instructions for Aggregated Residential Passive Assets:
  - Maximum Interruptible Capacity (MIC)
  - Maximum Load
  - Maximum Net Supply
  - Maximum Generation
  - Demand Capacity Resource Mapping



For guidance on making update(s) to the asset in CAMS, please refer to the [CAMS User Guide for Demand Asset and Demand Resource Maintenance](#).

# UPDATE EXISTING REGISTRATION

*Maximum Interruptible Capacity, Maximum Load, Maximum Net Supply,  
Maximum Generation*

# What You Will Need

## Necessary Documents

- ✓ \*\* Revised Aggregated Residential Passive Asset Template
- ✓ Explanations of specific value calculations
- ✓ Other supporting documentation

\*\* If updating a Hybrid Asset, the Hybrid Tab of the Template must be revised as well



Updates must be submitted at least 5 business days prior to the desired effective date to allow ISO Asset Registration review. If multiple updates/new registrations are being submitted, this will require additional time than the 5 business days.

# Revised Aggregated Residential Passive Asset Template

- Additional installations listed on the Aggregated Residential Passive Asset spreadsheet should:
  - ✓ Be highlighted
  - ✓ Fall within the existing six (6) month grouping period for installations associated with the asset
  - ✓ Be located within the same load zone for existing installations associated with the asset
  - ✓ Have the same distribution company as existing installations associated with the asset
  - ✓ Have a **unique** utility retail account ID
    - The retail account ID should not be a duplicate of any other installations contained on the spreadsheet, or of installations contained on spreadsheets used in previous registrations
- Remove installations listed on the Aggregated Residential Passive Asset spreadsheet:
  - ✓ Delete any installations from the spreadsheet that no longer apply to the registration
- Update the “As Of Date” on the template with each revision



Tip: You can obtain the previous version of the populated Aggregated Residential Passive Asset template on the asset's Service Notes from when the asset was initially registered. Use this version of the template to update the list of installations.

# Calculation Explanations

- An explanation of how the **Maximum Interruptible Capacity (MIC)**, **Maximum Generation**, **Maximum Load**, and **Maximum Net Supply** are calculated will need to be uploaded to the asset's service notes



# Supporting Documentation

- Any other supporting documentation should be uploaded that will be helpful for ISO's review of the registration (i.e. a document that was used when calculating certain values associated with the asset)



# CAMS Service Notes

Passive Asset Details

<b>As Of *</b>	<b>Asset ID</b>	<b>Asset Name</b>	<b>Asset Status</b>	<b>Asset Type</b>	<b>Asset Sub-Type</b>	<b>Date Effective</b>
09/01/2022	73329	Sunny Days Agg SEMA 01	PENDING	ON_PEAK	Single Facility	08/18/2022

<b>Lead Participant (ID)</b>	<b>Meter Reader (ID)</b>	<b>Load Zone (ID)</b>
ISO New England Inc (50051)	ISO New England Inc (50051)	SEMA (4006)

**Demand Capacity Resource (ID)**

Sunny Days (1234)

Basic Facility Generator Contacts Change Log Change Requests Service Notes

Filter By: All

+ Create New

Service notes are not available for this asset.

1 After the change request(s) is submitted to ISO for review and approval, click the “Create New” button and follow the instructions to upload the following documents as attachments.

- ✓ \*\* Revised Aggregated Residential Passive Asset Template
- ✓ Explanations of specific value calculations
- ✓ Other supporting documentation

\*\* If updating a Hybrid Asset, the revised Hybrid Tab on the Template must also be included



# UPDATE EXISTING REGISTRATION

*Demand Capacity Resource*

# What You Will Need

- For updates to the [Demand Capacity Resource](#), include an explanation for the Resource re-mapping in the asset's CAMS Service Notes



# Questions?

- Please reach out to ISO Participant Support if you have any questions on the content of this presentation
- Email: [AskISO@iso-ne.com](mailto:AskISO@iso-ne.com)
- Call: (413) 540-4220

