



RIOO User Guide – Creating a New SODG

Version 2.0
November 11, 2024

ERCOT RIOO Interconnection Services

To create a new Settlement Only Distribution Generator (SODG) and to get it interconnected to the ERCOT Network Model, the Resource Entity (RE) representing the SODG must use the Resource Integration and Ongoing Operations – Interconnection Services (RIOO – IS) application. RIOO – IS allows the RE to create an Interconnection Request (INR) for a new SODG site. The ERCOT Demand Integration team will review and process the INR. And, the RE can view the current status of the INR in RIOO throughout the timeline from the initial submission to when the new SODG is loaded into the production Network Model.

About this guide

This guide provides information about performing the tasks in RIOO – IS to create and submit the INR that proposes a new SODG to interconnect to the ERCOT Network Model. Any sample data used to demonstrate the application is fictitious and does not represent actual SODG registration data or market activity for any Resource Entity or Transmission and/or Distribution Service Provider (TDSP) used in the samples. The samples are test data created to provide visual aids for this user guide.

Distributed Generation with installed capacity greater than 1 and up to 10 MW capable of providing a net export of energy into a TDSP's Distribution System (less than or equal to 60 kV) is required to register with ERCOT as an SODG. REs register SODGs using the [Resource Integration & Ongoing Operations \(RIOO\)](#) application. Instructions for setting up a RIOO user account can be found under RIOO Documentation on the [Resource Integration webpage](#). The SODG registration process allows for energy injections to a TDSP's Distribution System to be accounted for in ERCOT market settlements. Energy from a registered SODG is settled with the SODG's designated Qualified Scheduling Entity (QSE) per ERCOT Nodal Protocols section 6.6. Registering an aggregation of DG units across multiple points of delivery as a single SODG is not allowed.

Note that this guides only applies to SODGs. Transmission-connected Settlement Only Generators (Settlement Only Transmission Generators (SOTGs) and Settlement Only Transmission Self-Generators (SOTSGs)) should follow the registration processes under the “Creating an INR in RIOO Interconnection Services” section of the [Resource Integration webpage](#). Questions on these registrations should be sent to the ERCOT Resource Integration team (ResourceIntegrationDepartment@ercot.com).

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Before starting your INR

Before starting your INR, be sure that you have done the following tasks:

Sign up for a RIOO Services User Account for a Resource Entity

- The user must be associated with a registered RE.
- The RE's User Security Administrator (USA) must add the RIOORS_M_Operator role to the user's Market Participant Identity Management (MPIM) profile, commonly known as the digital certificate.
- After the role is added, an email request will be sent to complete the process of creating the user account, which involves changing the system-assigned password and associating your login information with a multifactor authentication (MFA) app on your mobile phone that verifies your login attempts.
- The **RE Sign Up Guide** provides more details for signing up for a RIOO Services User Account. This guide is available on the [Resource Integration webpage](#), under **RIOO Documentation**.

Check for electronic payment debit blocks

If you intend to submit INR payments by electronic checks drawn on your bank account (ACH payment instead of credit card), you should check with your financial institution to be sure you do not have an automatic debit block on your account for ACH transaction amounts. It may take at least two days to remove the block, which can cause processing delays for your INR. If you do have an automatic debit block on your account:

- Have your financial institution send you the form to authorize ACH transactions you will be making with ERCOT.
- On the form:
 - For Vendor, enter **Authorize.net**.
 - For Vendor ID, enter **1911718107**.
- Submit the form to your financial institution.

Have documents completed and ready to attach

While creating your INR for a new SODG, you may be required to attach a document.

- If the SODG will be using a meter read by a TDSP, the RE must request that the host TDSP completes a [TDSP Read Generation Metering Registration Form](#) and the RE must attach the form to the site registration submitted in RIOO.
- If the SODG will be using an ERCOT Polled Settlement (EPS) meter, then the TDSP Read Generation Metering Registration Form is not needed.
- Based on which type of metering is selected during the registration process in RIOO, the user will be alerted when a TDSP Read Form is required to be attached.

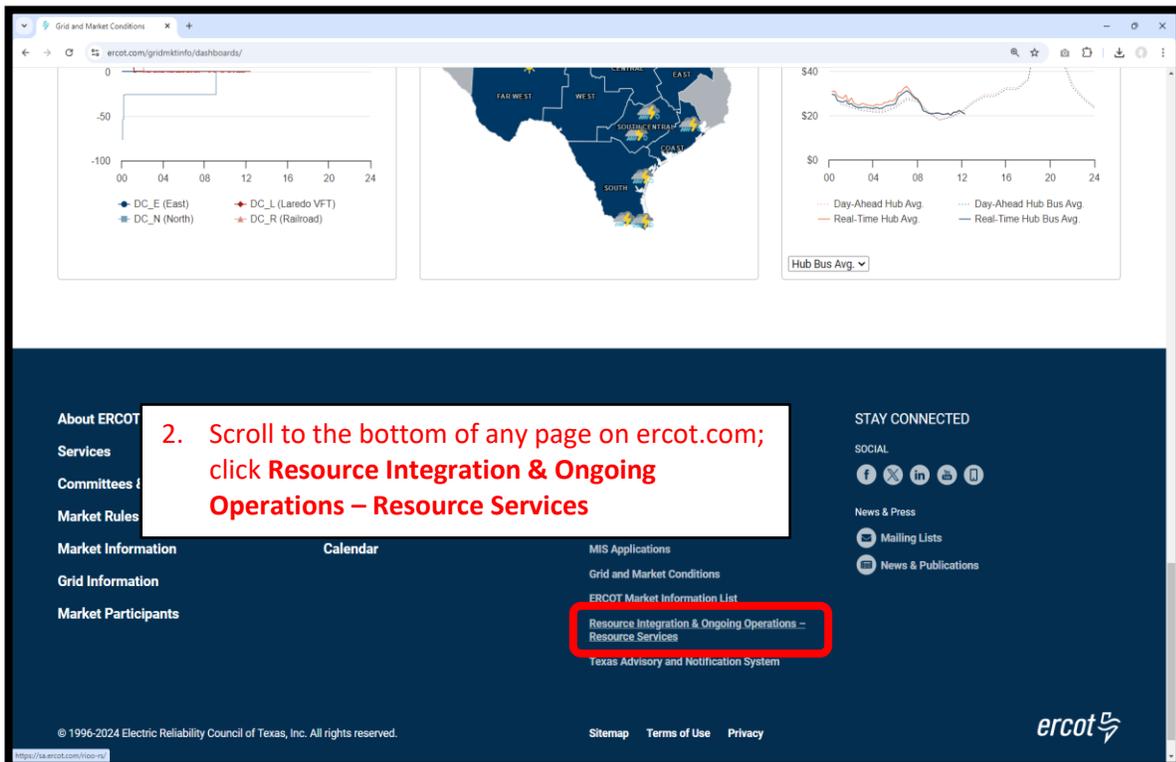
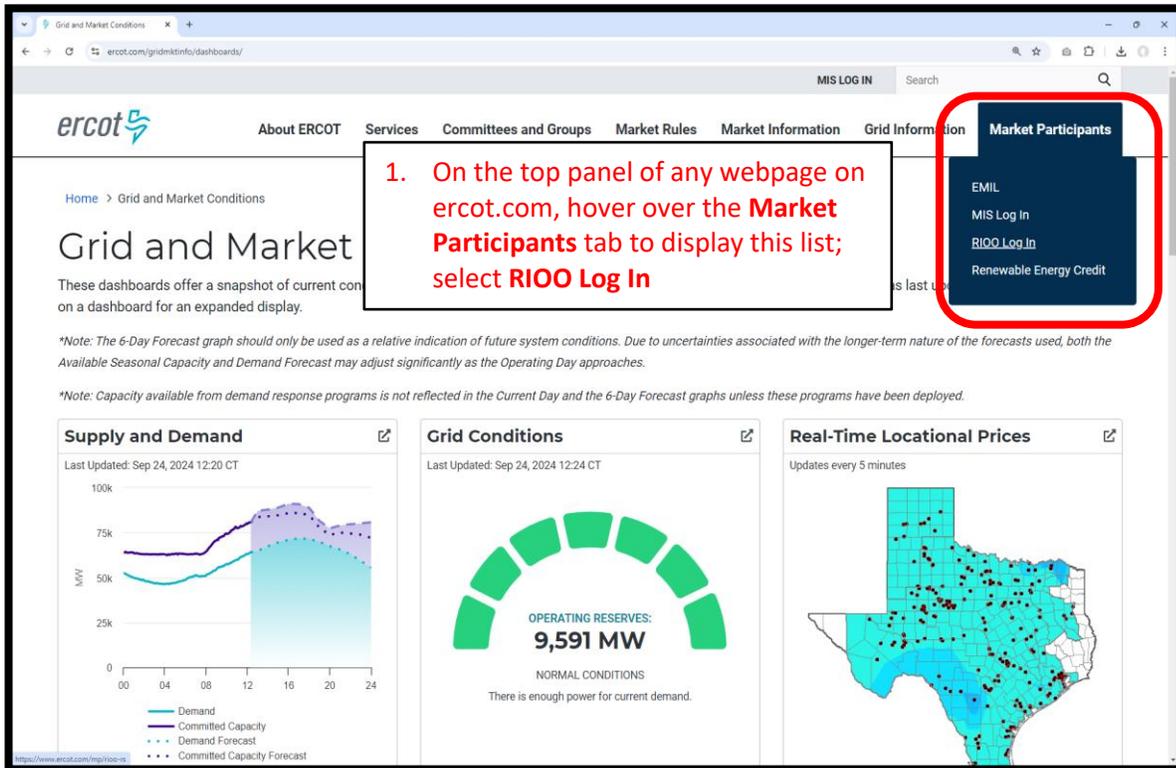
Coordinate a Production Load Date (PLD)

When creating an INR for a new SODG, the RE will need to request a PLD in RIOO during the registration process. The RE should coordinate the PLD via email with the ERCOT Demand Integration team (ERCOTLRandSODG@ercot.com). This coordination is not required, but it can help ensure that the requested PLD is acceptable for modeling the SODG.

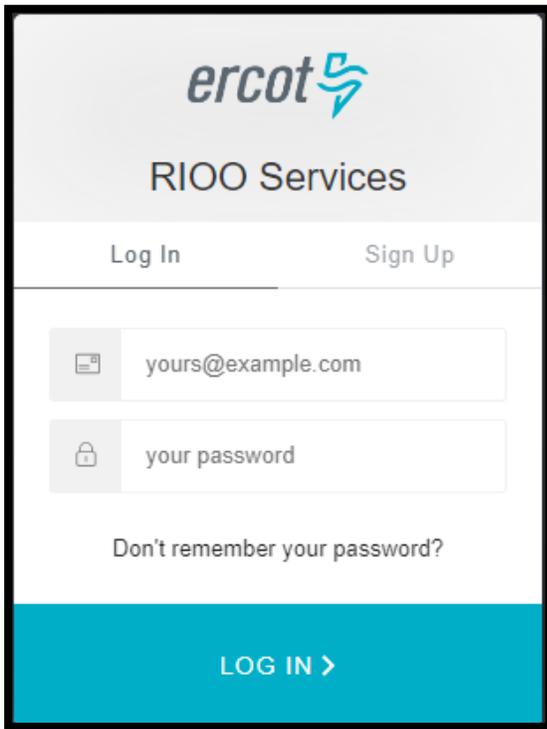
- The PLD must align with a scheduled production model load as listed on the current [Production Load Schedule](#).
- The PLD will be at least 30 days after the RIOO registration submission is accurately completed.
- The RIOO application will indicate that if the requested PLD is fewer than 90 days out, it is classified as an interim update. However, SODG submissions meeting the 30-day PLD schedule do not require the RE to submit the **RE_Model_Interim_Update_Request** form.

Logging into RIOO

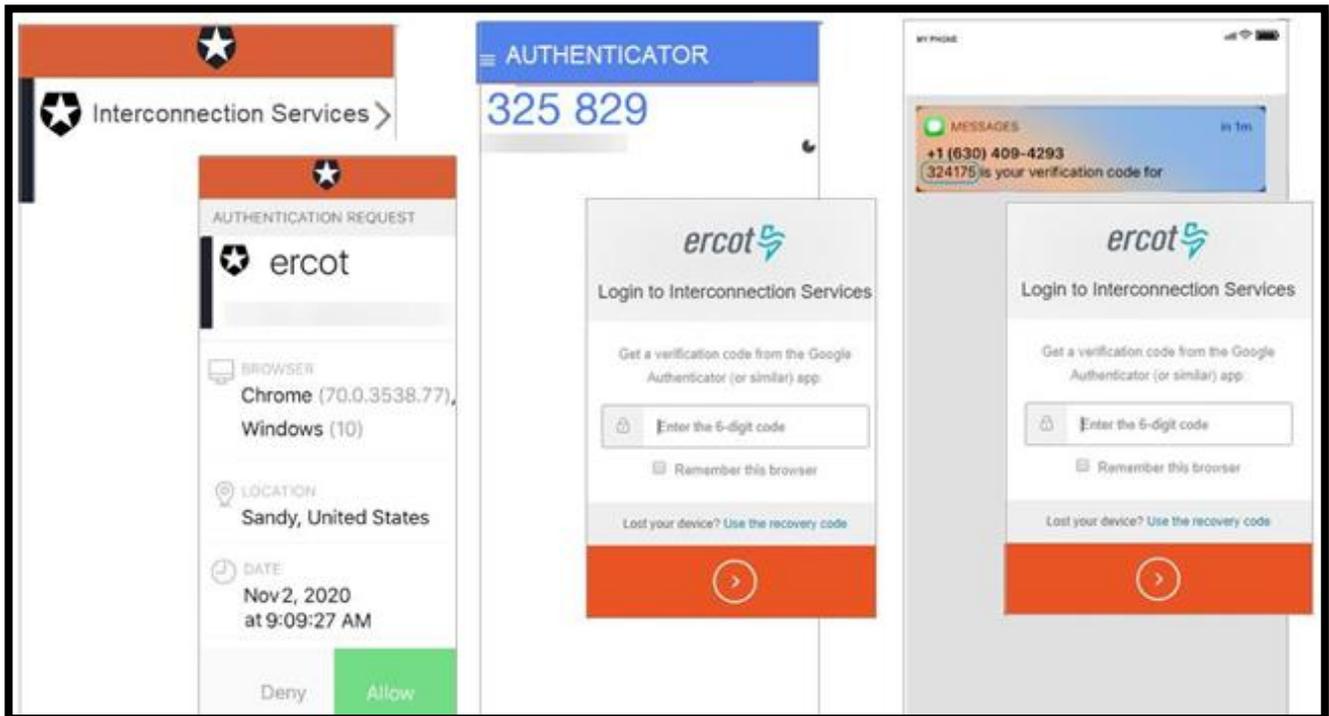
- There are two ways to access the RIOO application login screen. After a successful login, any of the RIOO application panels can be bookmarked for more direct access.



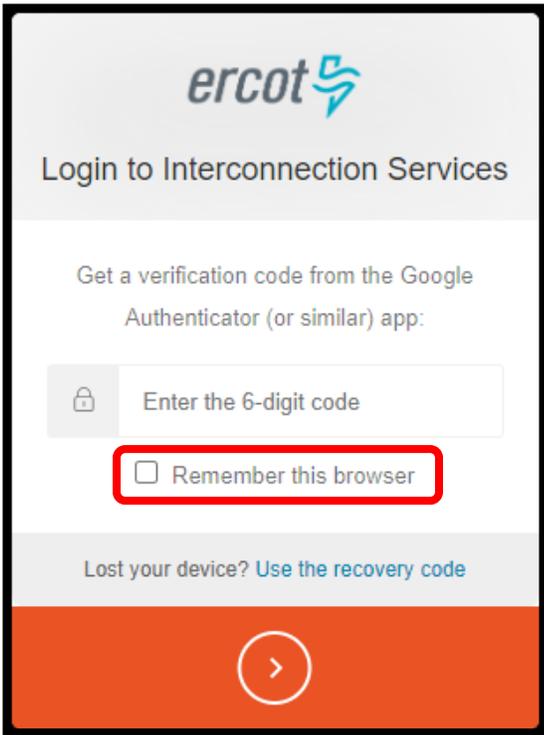
- Log into your RIOO account:



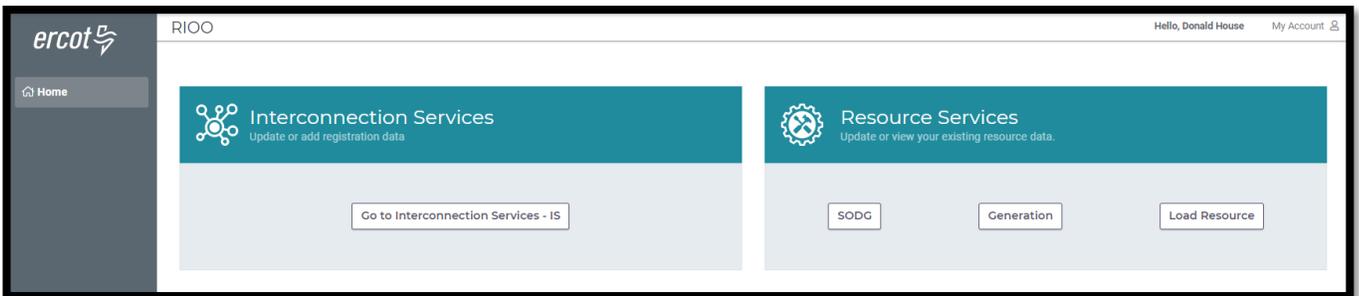
- You'll be prompted to enter a 6-digit code to complete the multi-factor authenticator (MFA). The MFA code will be sent to the app selected when setting up your account (Auth0 Guardian, Google Authenticator, SMS Text Authentication, or another authentication program that you chose to use).



- Select **Remember this browser** to avoid having to login multiple times:
 - *Note that if this selection is not made, there may be issues saving and submitting your data*



- After successfully logging in, you'll be taken to the RIOO home screen:

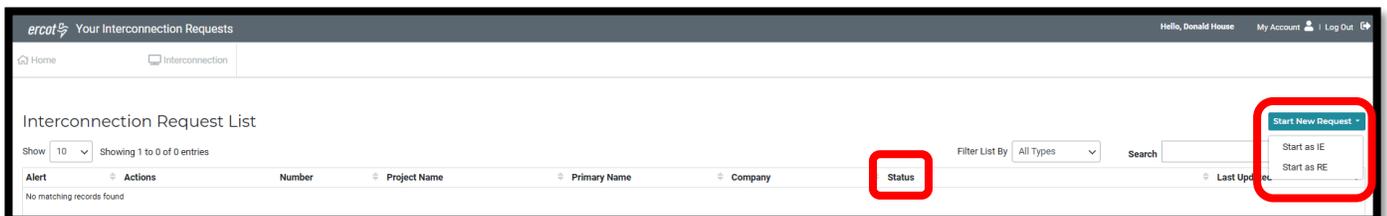


Creating request for a new SODG

- On the RIOO home screen, open Interconnection Services
 - Interconnection Services is used to create a new SODG
 - Resource Services is used to update an existing SODG
 - See **RIOO User Guide – Updating an Existing SODG** for details



- The Interconnection Request List displays all requests that have been created by the RE along with the status of the request
- To begin, click on **Start New Request** to display the drop-down list
 - Select **Start as RE**

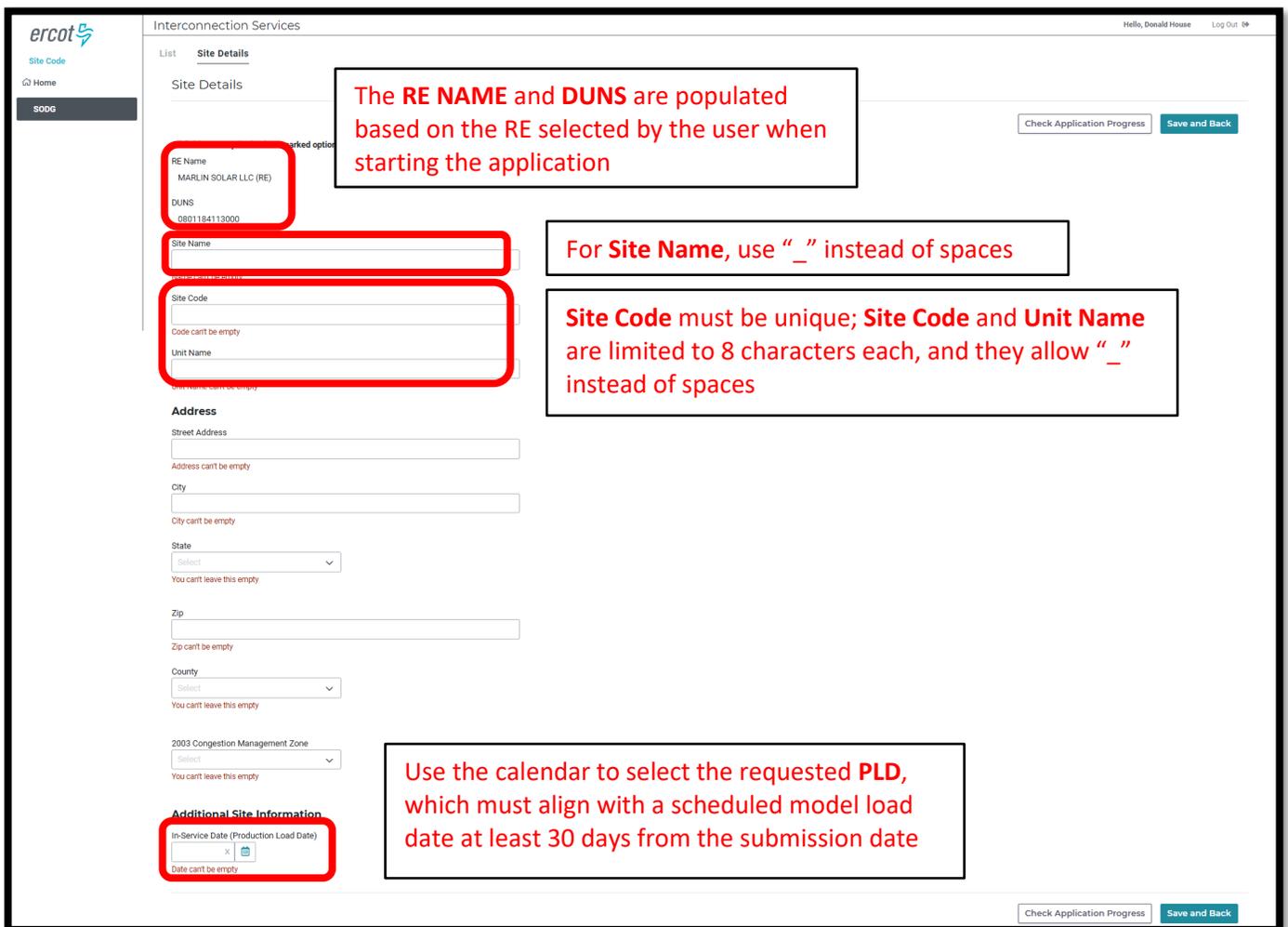
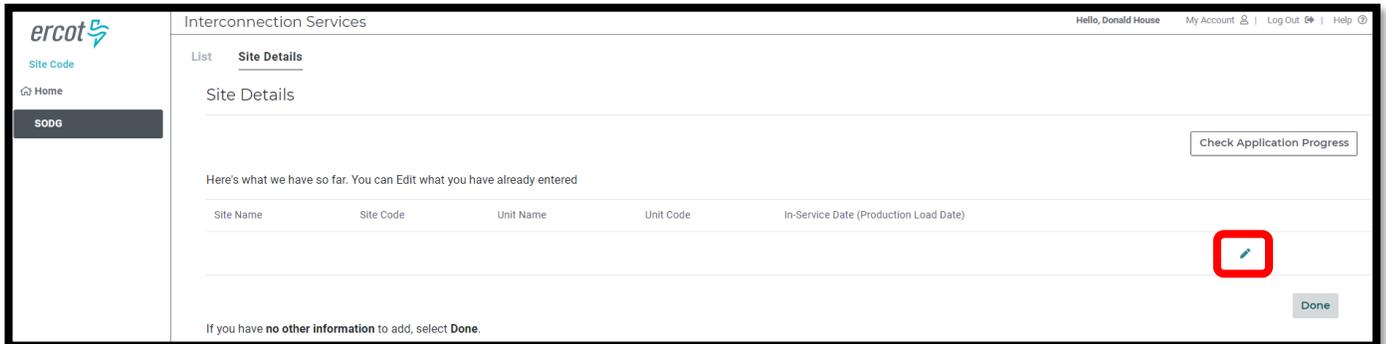


- Select the Company (RE) for this project
 - Note that if the user represents multiple REs, they will all be displayed in this drop-down list
- Select **Distribution Connected** under **How will your project be connected?**
- Select **No** under **Project has Load Resource (LR)?**
- Select **Yes** under **Is your project a settlement only generation project?**
 - Then, select **Settlement Only Distribution Generator – SODG** when the radial button appears
- Click **Let's Go!** to be taken to the SODG List screen

- On the SODG List screen, all data submission panels are listed
 - **Start** indicates that nothing has been added to that panel
 - **Edit** in red indicates that the panel is either missing required information or that something needs to be corrected
 - **Edit** in green indicates that the panel has been completed but the user has the option to go back to the panel to make revisions
 - Clicking on **Edit** or **Start** will open that panel for data entry
- The panels can be completed in any order, but the way they are arranged in the application provides an orderly flow through the process
 - Progress can be saved, allowing the user to return to the application later to finish the submission
 - This guide will provide details on each panel

Site Details

- On the SODG List screen, click on **Edit** to open the Site Details summary screen
- Click on the **pencil icon** to open the data entry panel



- Sample completed Site Details panel

ercot
Site Code
Home
SODG

Interconnection Services
Hello, Donald House Log Out

List Site Details

Site Details

All fields are required unless marked optional

RE Name
MARLIN SOLAR LLC (RE)

DUNS
0801184113000

Site Name
RIOO_SODG_TEST

Site Code
NEW_SODG

Unit Name
TEST1

Unit Code: NEW_SODG_TEST1

Address
Street Address
7 Sun St.

City
Bastrop

State
TX

Zip
78602

County
Bastrop

2003 Congestion Management Zone
South

Additional Site Information
In-Service Date (Production Load Date)
12-04-2024

Check Application Progress Save and Back

Check Application Progress Save and Back

Unit Code will be populated as the concatenation of the Site Code and Unit Name

Click Save and Back to return to the Site Details summary screen

ercot
Site Code
NEW_SODG
Home
SODG

Interconnection Services
Hello, Donald House Log Out

List

Here's what we have so far. You can Edit what you have already entered

Site Name	Site Code	Unit Name	Unit Code	In-Service Date (Production Load Date)
RIOO_SODG_TEST	NEW_SODG	TEST1	NEW_SODG_TEST1	12-04-2024

If you have no other information to add, select Done.

Check Application Progress Edit Done

Note that the SODG Site Code is now displayed

Click Edit to review the panel again or click Done to be taken back to the List screen

ercot
Site Code
NEW_SODG
Home
SODG
Back

Interconnection Services
Hello, Donald House Log Out

List

Settlement Only Distribution Generator

Site Details

Metering - TDSP Information

Unit Details

Mapping Information

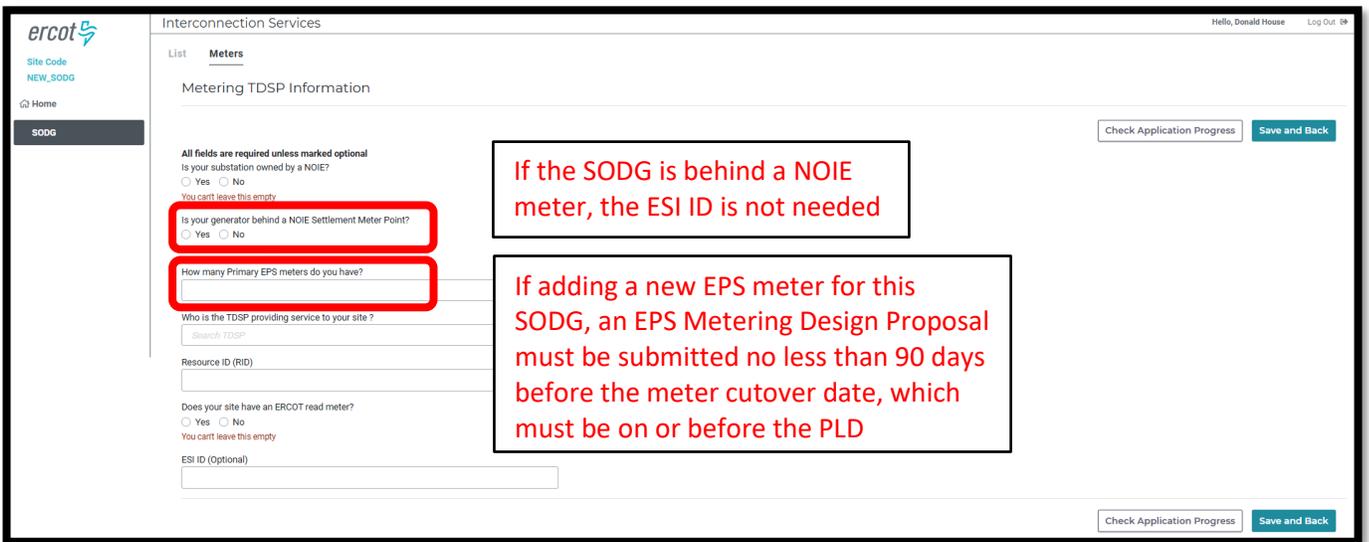
Required Edit Start Start Start Start

Check Application Progress

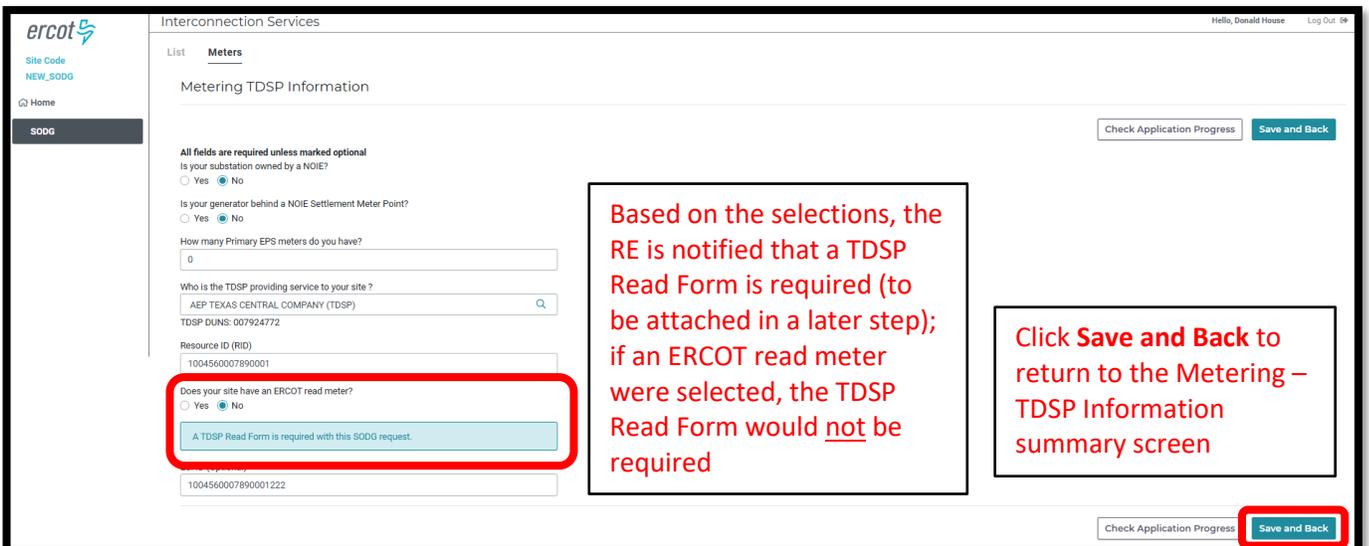
A green Edit button means that initial data validation is passed; no further edits are required on this panel

Metering – TDSP Information

- On the SODG List screen, click on **Start** to open the Metering – TDSP Information summary screen
- Click on **+ Add Metering Information** to open the data entry panel



- Sample completed Metering – TDSP Information panel



ercot
Site Code
NEW_SODG

Home
SODG

Interconnection Services

Hello, Donald House Log Out

List **Meters**

Metering TDSP Information

Here's what we have so far. You can Edit what you have already entered

Who is the TDSP providing service to your site ?

AEP TEXAS CENTRAL COMPANY (TDSP) (DUNS: 007924772)

+ Add Metering Information

If you have no other information to add, select Done.

Check Application Progress

Done

Click on the **pencil icon** to review the panel again, click on **Delete** to remove the metering info, or click **Done** to be taken back to the List screen

ercot
Site Code
NEW_SODG

Home
SODG
Back

Interconnection Services

Hello, Donald House Log Out

List

Settlement Only Distribution Generator

Site Details

Metering - TDSP Information

Unit Details

Mapping Information

Required Edit

Required Edit

Required Start

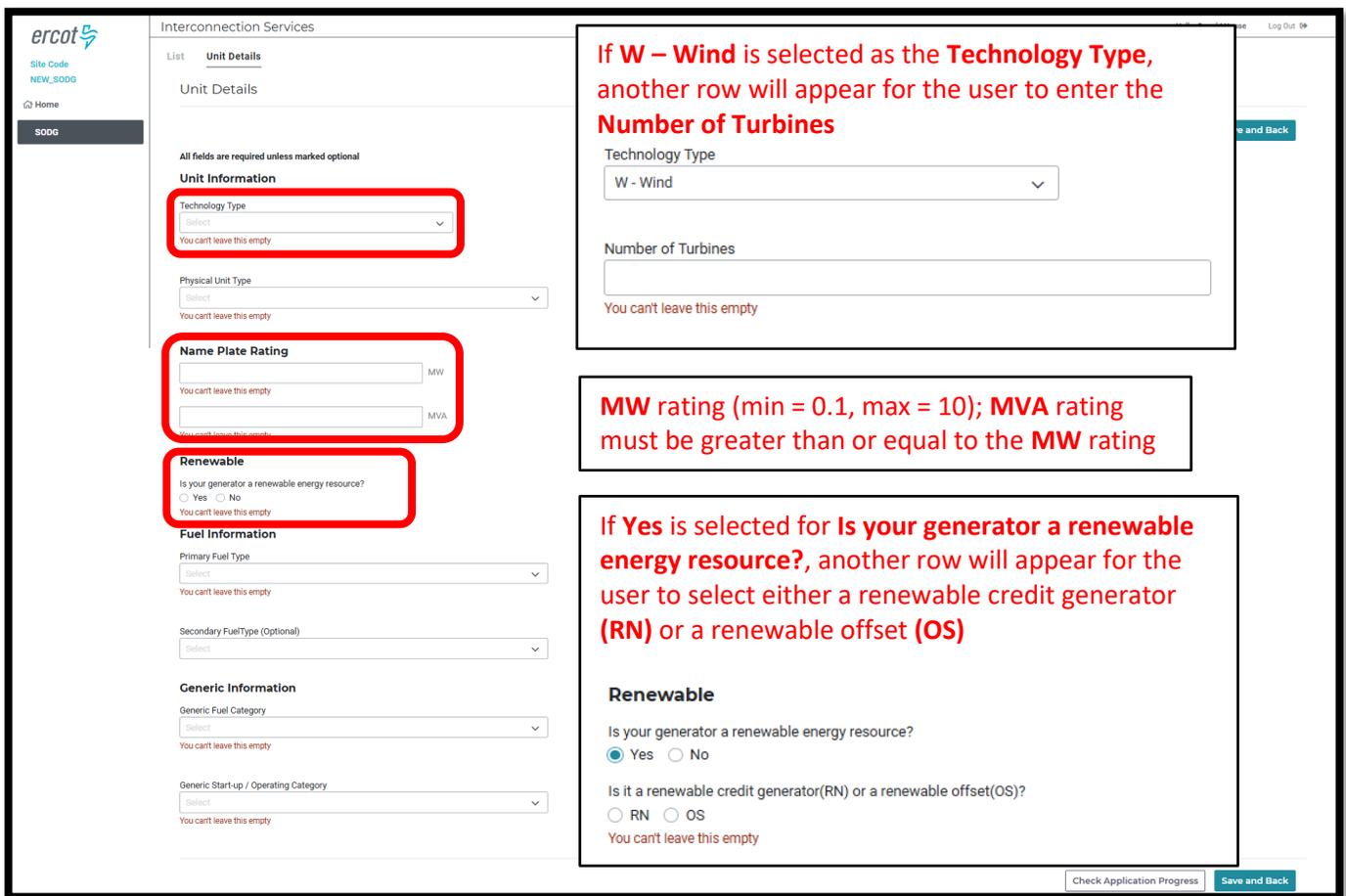
Required Start

Check Application Progress

A green **Edit** button means that initial data validation is passed; no further edits are required on this panel

Unit Details

- On the SODG List screen, click on **Start** to open the Unit Details summary screen
- Click on the **pencil icon** to open the data entry panel



- Sample completed Unit Details panel

ercot
Site Code
NEW_SODG
Home
SODG

Interconnection Services
Hello, Donald House Log Out

List **Unit Details**

Unit Details

Check Application Progress **Save and Back**

All fields are required unless marked optional

Unit Information

Technology Type
S - Solar

Physical Unit Type
PV - Photovoltaic

Name Plate Rating

5.5 MW
5.5 MVA

Renewable

Is your generator a renewable energy resource?
 Yes No

Is it a renewable credit generator(RN) or a renewable offset(OS)?
 RN OS

Fuel Information

Primary Fuel Type
SUN - Solar (photovoltaic, thermal)

Secondary FuelType (Optional)
NA - Not Applicable

Generic Information

Generic Fuel Category
Solar

Generic Start-up / Operating Category
Renewable (Including Hydro)

Check Application Progress **Save and Back**

Click **Save and Back** to return to the Unit Details summary screen

ercot
Site Code
NEW_SODG
Home
SODG

Interconnection Services
Hello, Donald House Log Out

List **Unit Details**

Unit Details

Check Application Progress

Here's what we have so far. You can Edit what you have already entered

Unit Name	Technology Type	Physical Unit Type
TEST1	Solar	Photovoltaic

If you have no other information to add, select Done.

Check Application Progress **Done**

Click on the **pencil icon** to review the panel again or click **Done** to be taken back to the List screen

ercot
Site Code
NEW_SODG
Home
SODG
Back

Interconnection Services
Hello, Donald House Log Out

List

Settlement Only Distribution Generator

Site Details Required **Edit**

Metering - TDSP Information Required **Edit**

Unit Details Required **Edit**

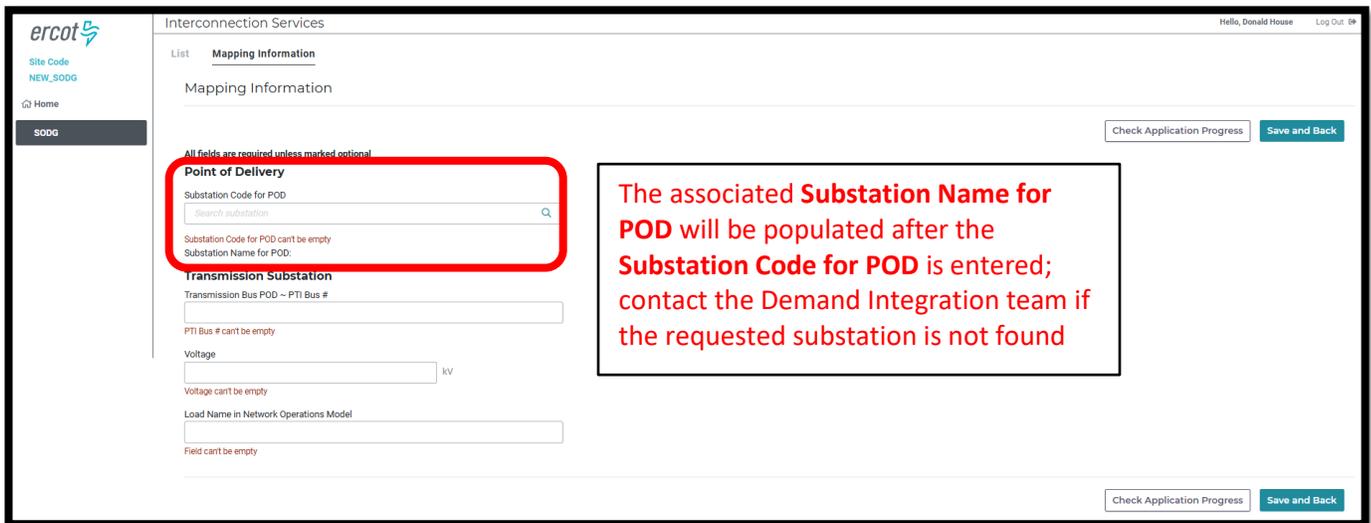
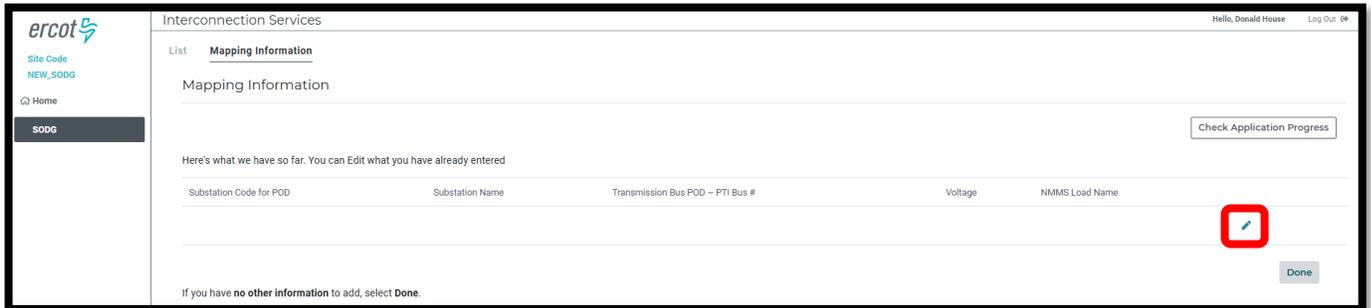
Mapping Information Required Start

Check Application Progress

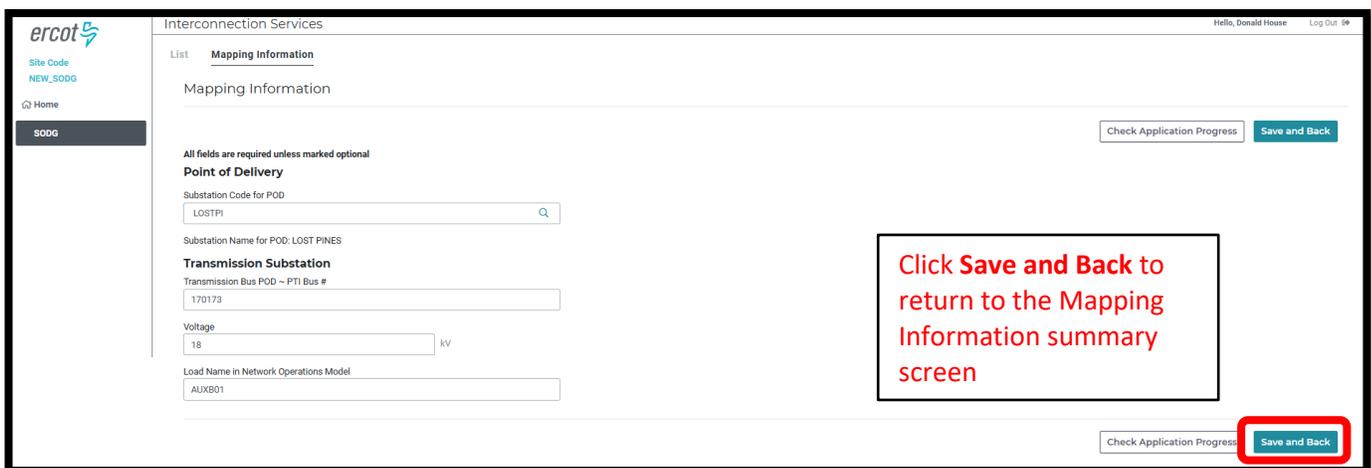
A green **Edit** button means that initial data validation is passed; no further edits are required on this panel

Mapping Information

- On the SODG List screen, click on **Start** to open the Mapping Information summary screen
- Click on the **pencil icon** to open the data entry panel



- Sample completed Mapping Information panel



ercot

Site Code
NEW_SODG

Home

SODG

Interconnection Services

Hello, Donald House Log Out

List **Mapping Information**

Mapping Information

Here's what we have so far. You can Edit what you have already entered

Substation Code for POD	Substation Name	Transmission Bus POD - PTI Bus #
LOSTPI	LOST PINES	170173

If you have no other information to add, select Done.

Check Application Progress

Done

Click on the **pencil icon** to review the panel again or click **Done** to be taken back to the List screen

ercot

Site Code
NEW_SODG

Home

SODG

Back

Interconnection Services

Hello, Donald House Log Out

List

Settlement Only Distribution Generator

Site Details

Metering - TDSP Information

Unit Details

Mapping Information

Required Edit

Required Edit

Required Edit

Required Edit

Check Application Progress

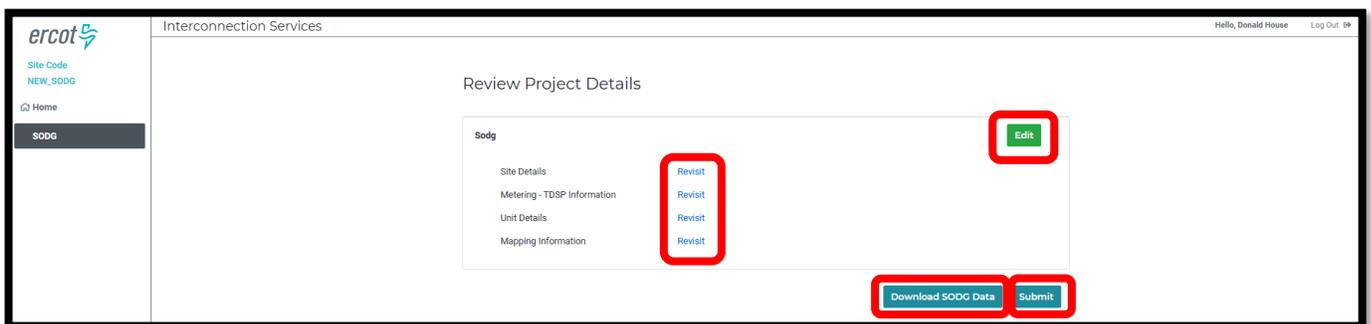
A green **Edit** button means that initial data validation is passed; no further edits are required on this panel

Check Application Progress

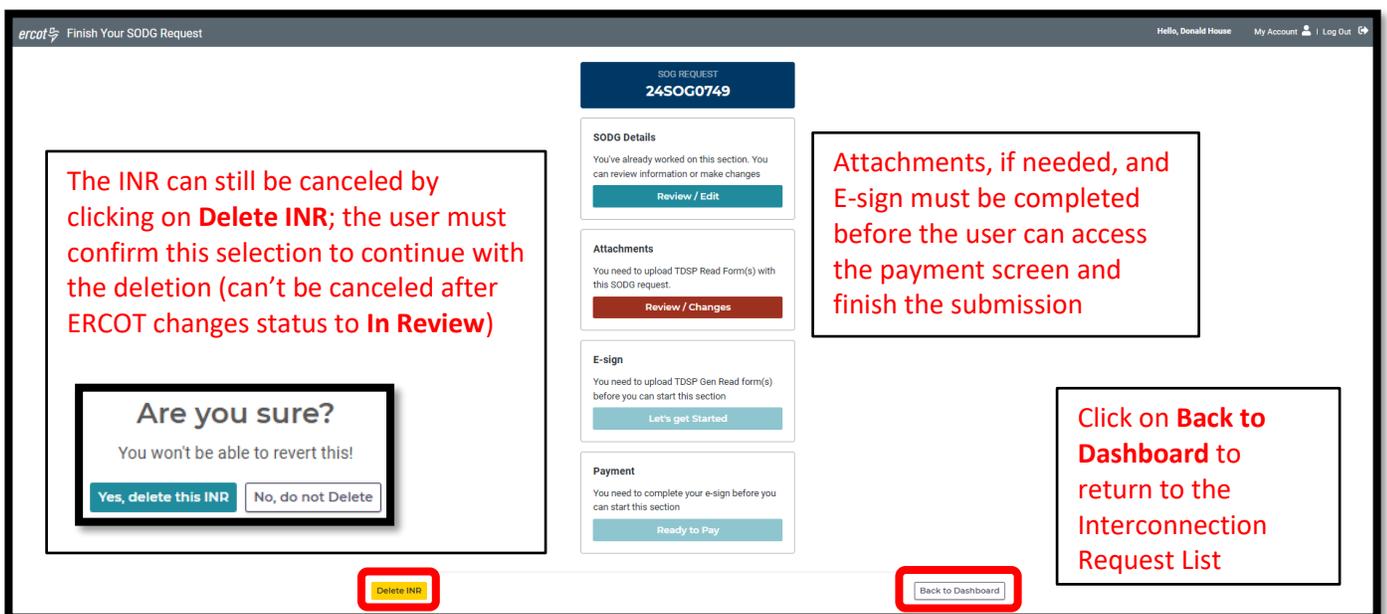
- On the SODG List screen, click on **Check Application Progress** to open the Review Project Details summary screen



- On the Review Project Details screen, all data submission panels are listed
 - Click on **Revisit** to return to any of the data entry panels
 - Make Corrections** in red indicates that the panel is either missing required information or that something needs to be corrected
 - Any needed corrections will also cause **Edit** to appear in a red box
 - Edit** in a green box indicates that all panels have been completed but the user has the option to go back to any panel to make revisions
 - Clicking on **Download SODG Data** will download an excel file with a separate tab containing the information added to each data entry panel
 - Clicking on **Submit** will save the request and move the user to the final requirements which must be completed before the submission is sent to ERCOT
 - Attachments
 - E-sign
 - Payment

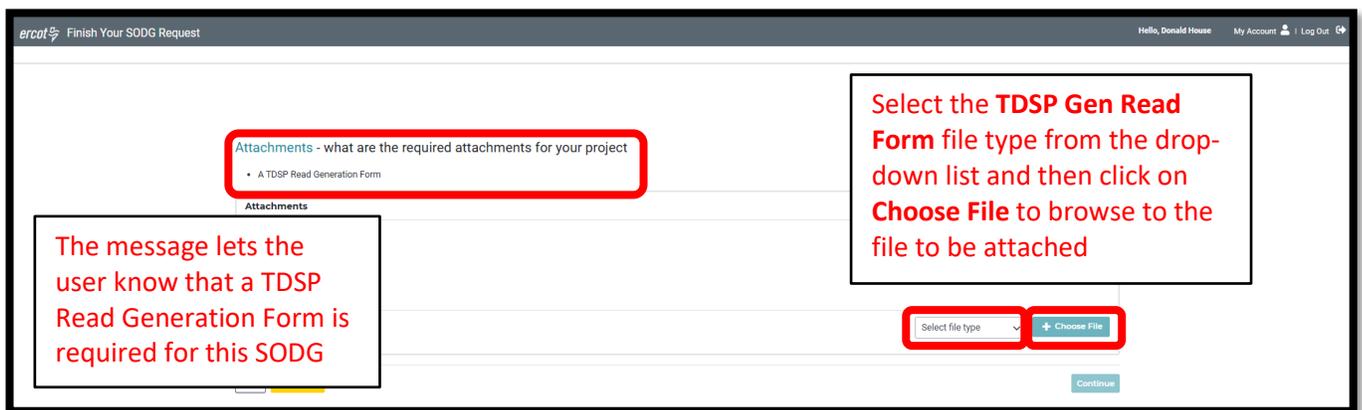
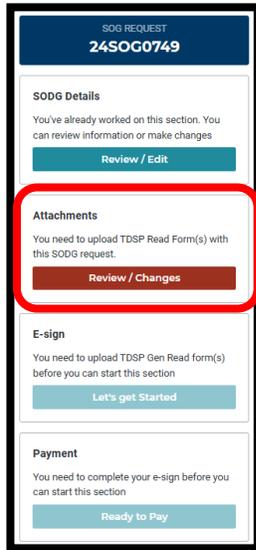


- When the data entry is complete, click **Submit** on the Review Project Details screen to move on to the final requirements
 - If you are taken back to the Interconnection Request List, click on **Finish** to view the **Finish Your SODG Request** screen

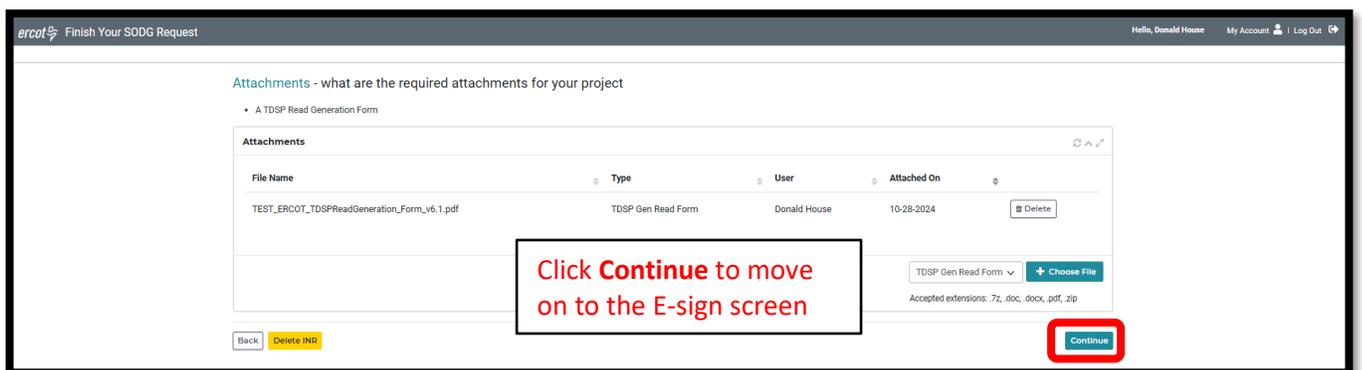


Attachments

- On the Finish Your SODG Request screen, click on **Review/Changes** in the Attachments box to open the Attachments panel
 - If an attachment is not needed, move on to the **E-sign** panel



- Sample attached TDSP Read Generation Form
 - Note that the start date for the TDSP meter data must match the requested PLD for the SODG



ercot Finish Your SODG Request Hello, Donald House | My Account | Log Out

SODG REQUEST
24SOG0749

SODG Details
You've already worked on this section. You can review information or make changes.
[Review / Edit](#)

Attachments
You've already provided attachments. You can review attachments or make changes.
[Review / Changes](#)

E-sign
You haven't entered any information yet. Let's get started!
[Let's get Started](#)

Payment
You need to complete your e-sign before you can start this section.
[Ready to Pay](#)

[Delete INR](#)[Back to Dashboard](#)

E-sign

- On the Finish Your SODG Request screen, click on **Let's get Started** in the E-sign box to open the E-sign panel
- ERCOT Planning Guide Section 8 Attachment D: Attestation Regarding Compliance with the Lone Star Infrastructure Protection Act is built into RIOO and must be completed by the RE as part of the submission

The screenshot shows the 'Finish Your SODG Request' page with the 'E-sign' tab selected. The form title is 'ATTESTATION REGARDING COMPLIANCE WITH THE Lone Star Infrastructure Protection Act'. It contains several fields and sections:

- Interconnecting or Resource Entity:** MARLIN SOLAR LLC (RE)
- IE/RE's Interconnection Request (INR) number:** 24SO60749
- Check the option that applies:** NONE OF THE FOLLOWING STATEMENTS IN PARAGRAPHS (A) - (C) ARE TRUE. ONE OR MORE OF THE FOLLOWING STATEMENTS IN PARAGRAPHS (A) - (C) ARE TRUE.
- Signature Section:** Name (Required) [Empty], Title (Required) [Empty], Signature Date [10-28-2024].

Annotations in red boxes and text:

- Left box:** The user must select an answer and provide a name and title to activate the Continue button
- Top right box:** The Resource Entity and INR number are pre-populated based on the SODG request
- Center box:** If A, B, or C is selected, further review will be needed by ERCOT Legal to determine if the SODG can be registered by this entity
- Bottom right box:** The Signature Date is pre-populated with the current day

- Sample completed E-sign form

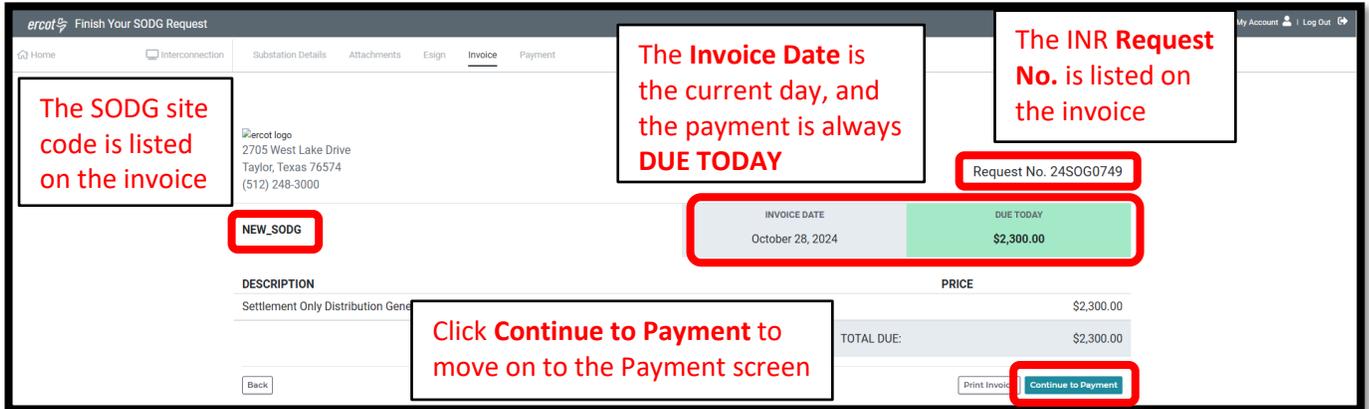
This screenshot shows the same form as above, but with the 'Continue' button highlighted in red. The signature section is now filled out:

- Name (Required):** Donald House
- Title (Required):** Authorized Representative
- Signature Date:** 10-28-2024

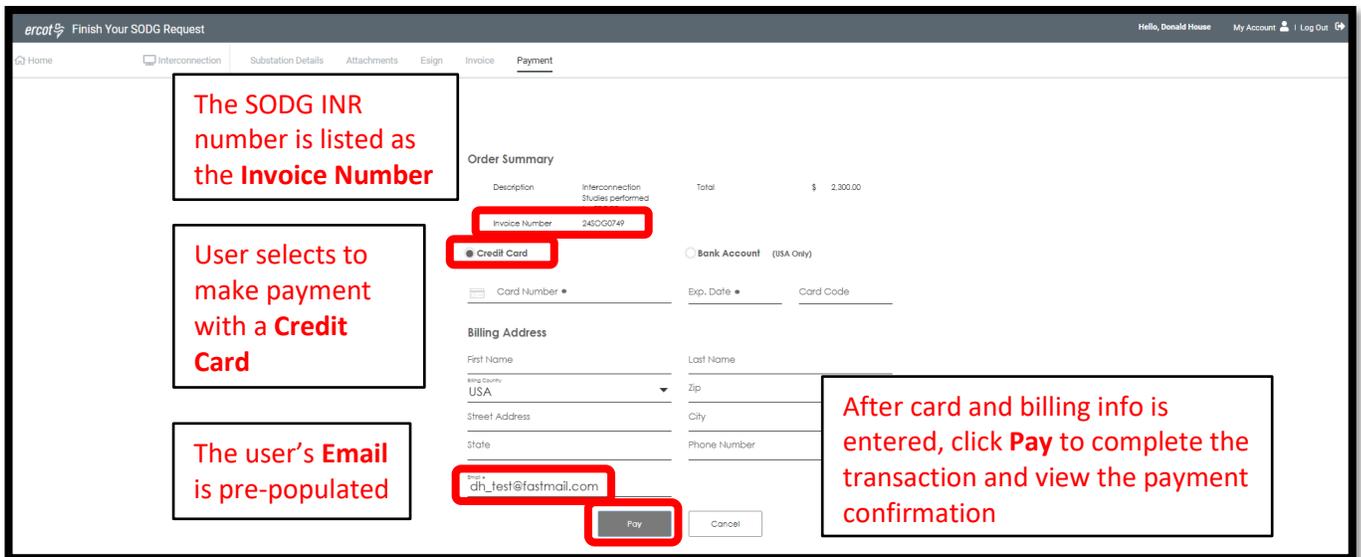
An annotation in a red box on the right says: **Click Continue to move on to the Invoice and Payment screens**

Invoice and Payment

- Based on the current [ERCOT Fee Schedule](#), REs will be charged **\$2,300 for each new SODG** to be added to the ERCOT Network Model
- This fee must be paid in RIOO to complete the SODG submission
- **Refunds of fees paid will not be considered unless ERCOT directs a change in the registration process that results in additional fees being charged**
- Sample invoice



- Sample payment screen using credit card



- Sample payment screen using bank account

The screenshot shows the 'Payment' screen in the ERCOT system. The page title is 'Finish Your SODG Request'. The user is logged in as 'Donald House'. The 'Payment' tab is selected in the navigation menu. The 'Order Summary' shows a total of \$2,300.00. The 'Invoice Number' is 245000749. The user has selected 'Bank Account (ISA Only)' as the payment method. The 'Billing Address' is pre-populated with 'dh_test@fastmail.com'. A 'Pay' button is highlighted.

The SODG INR number is listed as the Invoice Number

User selects to make payment with a Bank Account

The user's Email is pre-populated

After bank and billing info is entered, click Pay to complete the transaction and view the payment confirmation

- Sample payment confirmation

The screenshot shows the 'Thank you for your payment' confirmation screen. A green checkmark is displayed. The 'SODG INR number' is 245000749. A 'Back to Interconnection Request List' button is highlighted.

The SODG INR number is listed on the payment confirmation

Click Back to Interconnection List to return to your Interconnection Request List

- Back on the Interconnection Request List, the user can view the newly submitted SODG request
 - The status has changed to **INR submitted to ERCOT**

The screenshot shows the 'Your Interconnection Requests' page. The 'Interconnection Request List' table is displayed. The status of the request is 'INR submitted to ERCOT'.

The status is now INR submitted to ERCOT

Alert	Actions	Number	Project Name	Primary Name	Company	Status	Last Updated
	Continue	245000749		Donald House	MARLIN SOLAR LLC (RE)	INR submitted to ERCOT	10-28-2024

After submitting INR

INR status

The INR submitter will receive automated emails from ERCOT with status updates as the request moves through the modeling process as well as any requests for revisions to the INR. The user can also view status changes on the Interconnection Request List.

- Status updates for a submitted INR include:
 - **INR submitted to ERCOT**
 - The user can still update the submission when in this status
 - **In Review**
 - ERCOT changes to this status after completing an initial review of the submission
 - User can't make updates when the INR is in this status
 - If updates are required, ERCOT will change the status to **Incomplete** to allow the user to make changes and resubmit (ERCOT will email the user to identify the needed updates)
 - The INR status will stay as **In Review** until it is approved for the model load
 - **Approved for Production**
 - ERCOT changes to this status after the modeling request has been fully tested and approved for the requested model load snapshot (usually 2-3 weeks before the PLD)
 - **In Production**
 - INR will change to this status on the PLD

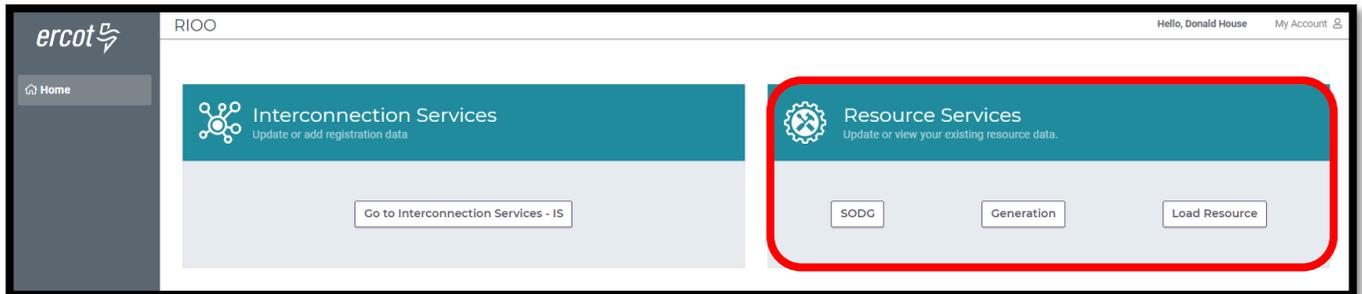
Confirming new SODG in production Network Model

After the PLD for the newly created SODG, the INR submitter is encouraged to verify that the SODG data is viewable in the RIOO Resource Services (RIOO – RS) part of the application. The user should also verify that the new SODG is included in the real-time settlements for the associated QSE. ERCOT will verify that the SODG is in the production Network Model, but it is the responsibility of the RE/QSE to notify ERCOT if they notice a settlements issue for the SODG. Real-Time SCED prices for SODGs and SOTGs are posted in the two files listed below under “Real-Time Prices Reports” on the [Real-Time Market webpage](#). Prices for a new SODG will be included in these reports starting on the PLD.

- [LMP By SOG Including Price Adders](#) (prices for each SCED interval)
- [Real-Time Price for SOG](#) (prices for each 15-minute Settlement Interval)

Updating an existing SODG

To update an existing SODG, the RE must use the RIOO Resource Services application (RIOO – RS), which is accessed using the same RIOO user account. Refer to the **RIOO User Guide – Updating an Existing SODG** on the [Distributed Generation webpage](#) for details.



Troubleshooting RIOO issues

User account

If a RIOO user can't access the registration entry screens in RIOO – IS or can't view the existing Resources in RIOO – RS, there are some common reasons for these issues. The list below does not include all possible causes of access problems, but these are the most common issues experienced.

- Users can only make registration changes for REs for which they have a digital certificate with the RIOORS_M_Operator role assigned
 - ERCOT can't create the digital certificates or assign the role. This must be done by the RE's User Security Administrator (USA).
- If the user represents multiple REs, they must be sure to use the correct email address when logging into RIOO. Often, accounts are set up with different email addresses for the same user. If this is the case, the user needs to know which email address to use for each RE.
- A RIOO user can't be registered as both an RE and a TDSP on the same account. If the user needs to access RIOO as both types, then separate RIOO accounts must be created for each, and a different email address must be used for each account.

Problems viewing data or completing submissions

Although the user may be able to access the RIOO application, sometimes the session becomes stale and needs to be refreshed to view data correctly or to complete a submission. This often leads to the user being stuck in a loop of being sent back to the login screen or the main dashboard when navigating through the application.

- If the user experiences such an issue, and after any application outage (planned or unplanned), the user should logout of the application, clear their browser history cache, and then log back into the application.
 - Select “Remember this browser” when logging in
- If the user starts an INR but doesn’t attempt to submit it until sometime later (multiple days or more into the future), the user may not be able to submit the INR due to changes in the application from an update release or other registration data and/or network model changes that happened after the INR was started.
 - Data edits may not be validated, and the data panels won’t turn “green” even if all the required fields have been populated
 - The user may not be able to access the E-sign panel or to complete the payment processing
 - Any of these issues prevent the “submit” button from being activated
 - The logout/login process above is recommended to resolve any of these issues
 - If this doesn’t work, the submission may have to be canceled/withdrawn and a new submission will be needed
- If the payment process has been completed, but the user can’t submit the INR, there may be an issue with the third-party payment vendor. Sometimes, the payment confirmation isn’t sent correctly from the vendor to ERCOT.
 - If this occurs, the RIOO team can verify if the payment was received by the vendor. If payment was received, then the RIOO team will manually update the payment status in the database. This will allow the user to submit the INR.

Reporting issues

Any access problems, functionality issues, or suggestions for improvements to the application can be sent via email to RIOO-Help@ercot.com and ERCOTLRandSODG@ercot.com. Significant updates to the application may be communicated through market notices.