



# **RIOO User Guide – Updating an Existing Load Resource**

**Version 1.0**  
**January 17, 2023**

# ERCOT RIOO Resource Services

To update an existing Load Resource (LR) site and to get the change into the ERCOT Network Model, the Resource Entity (RE) representing the site must use the Resource Integration and Ongoing Operations – Resource Services (RIOO – RS) application. RIOO – RS allows the RE to submit a Change Request (CR) online to update the registration information for an existing Load Resource. The ERCOT Demand Integration team will review and process the CR and provide status updates to the RE throughout the timeline from the initial review of the request to getting the update loaded into the production Network Model.

## About this guide

This guide provides information about performing the tasks in RIOO – RS to create and submit the online CR that proposes updates to an existing LR in the ERCOT Network Model. Any sample data used to demonstrate the application is fictitious and does not represent actual LR 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.

Customers who can change their load in response to an instruction and can meet certain performance requirements may qualify to become LRs. Qualified LRs may participate in ERCOT's real-time energy market (Security-Constrained Economic Dispatch, or SCED) and/or qualify to provide any of the following Ancillary Services: Non-Spinning Reserve (Non-Spin), Regulation Down Service (Reg-Down), Regulation Up Service (Reg-Up) and Responsive Reserve (RRS).

In the ERCOT markets, the value of a Load Resource's load reduction is equal to that of an increase in generation by a generating plant. LRs in SCED submit bids to buy power up to their specified level and are instructed by ERCOT to reduce Load if wholesale market prices equal or exceed that level. LRs that are scheduled or selected in the ERCOT Day-Ahead AS Market are eligible to receive a capacity payment regardless of whether they are actually curtailed.

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## Before starting your Change Request

Before starting your CR, 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 Resource Entity (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**.

### Coordinate a Production Load Date (PLD)

When creating a CR to update an existing LR, 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](mailto:ERCOTLRandSODG@ercot.com)). This coordination is not required, but it can help ensure that the requested PLD is acceptable for modeling the LR update.

- The PLD must align with a scheduled production model load as listed on the current [Production Load Schedule](#).
- The PLD will be at least 45 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, LR submissions meeting the 45-day PLD schedule do not require the RE to submit the **RE\_Model\_Interim\_Update\_Request** form.

### Important notes on Change Requests

- Once a CR is submitted for an LR, no other CRs can be submitted for that same LR until the in-progress CR is effective in the production Network Model. This restriction is to prevent conflicting changes that couldn't be properly validated against an unknown model state.
- When a CR is submitted to stop an LR, no other CRs can be submitted for that same LR. See further details on [Stopping an existing LR](#) in this guide.
- Based on the current [ERCOT Fee Schedule](#), there is no charge for submitting a CR for an LR.
- An RE can't stop one LR and start another LR on the same RIOO submission. RIOO – Interconnection Services (RIOO – IS) must be used to start a new LR, and RIOO – Resource Services (RIOO – RS) must be used to stop an existing LR.

# Logging into RIOO

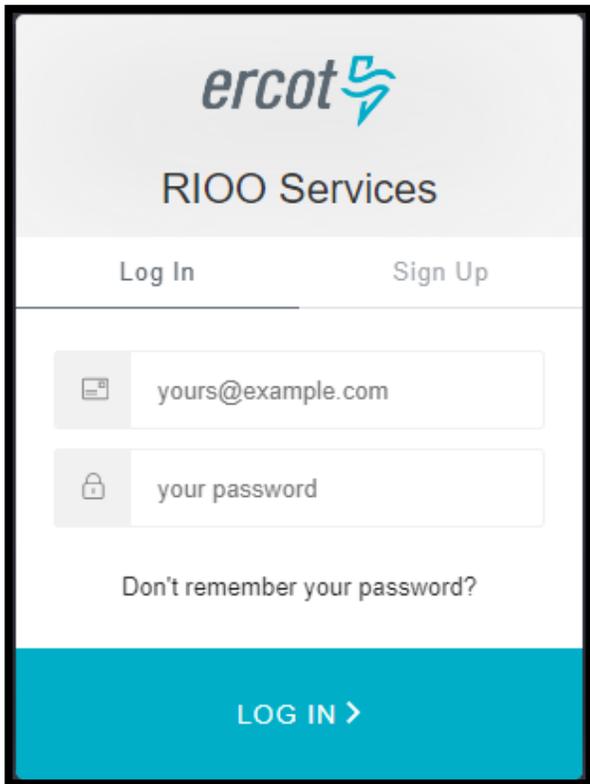
- There are two ways to access the RIOO application login screen:

**1. On the top panel of any webpage on ercot.com, hover over the **Market Participants** tab to display this list; select **RIOO Log In****

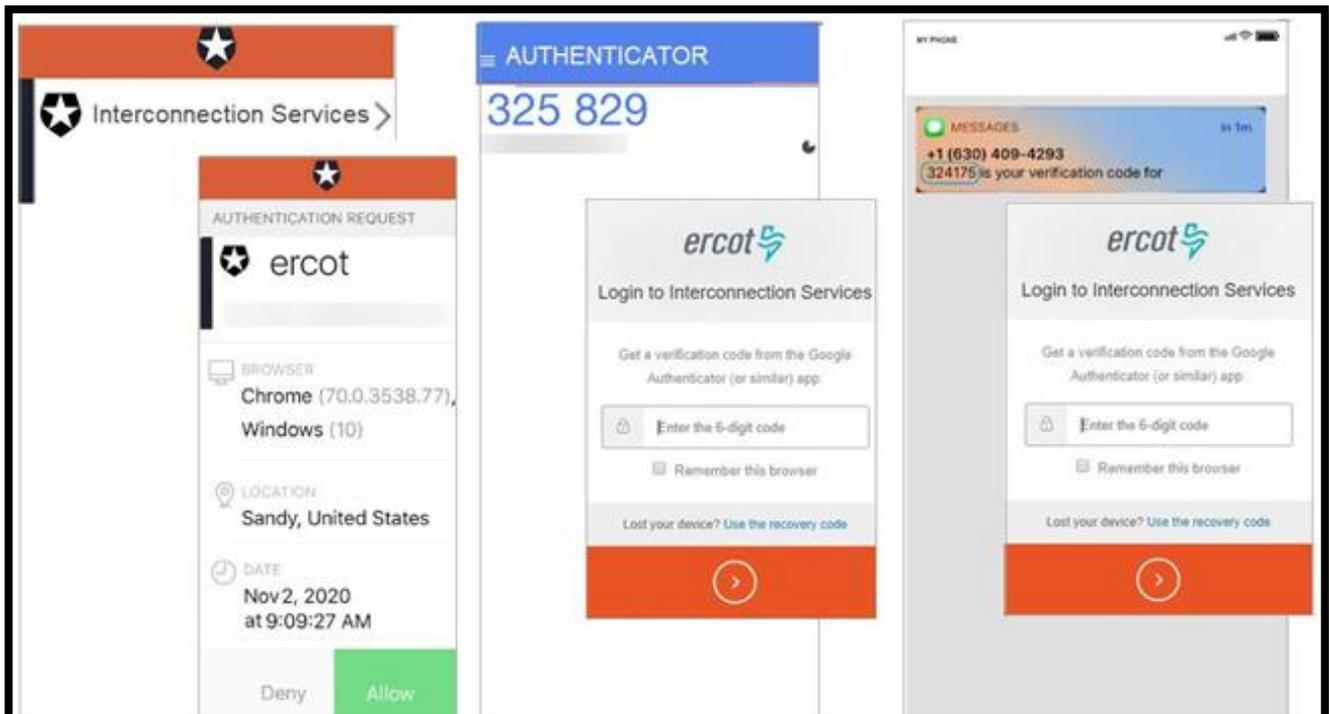
**2. Scroll to the bottom of any page on ercot.com; select **Resource Integration & Ongoing Operations – Resource Services****

The screenshot displays the ERCOT website interface. At the top, there is a navigation bar with the ERCOT logo and a search bar. Below the navigation bar, a large banner features the text "We manage 1 90% of Texas power load 1,030 power generation units 52,700 miles of transmission lines managed and monitored". A red box highlights the "Market Participants" dropdown menu, which includes options for "EMIL", "MIS Log In", "RIOO Log In", and "Renewable Energy Credit". Below the banner, there are three main data panels: "Supply and Demand", "Grid Conditions", and "Combined Wind and Solar". The "Grid Conditions" panel shows "OPERATING RESERVES: 7,271 MW". At the bottom of the page, a footer contains various links, including "Resource Integration & Ongoing Operations – Resource Services", which is highlighted with a red box.

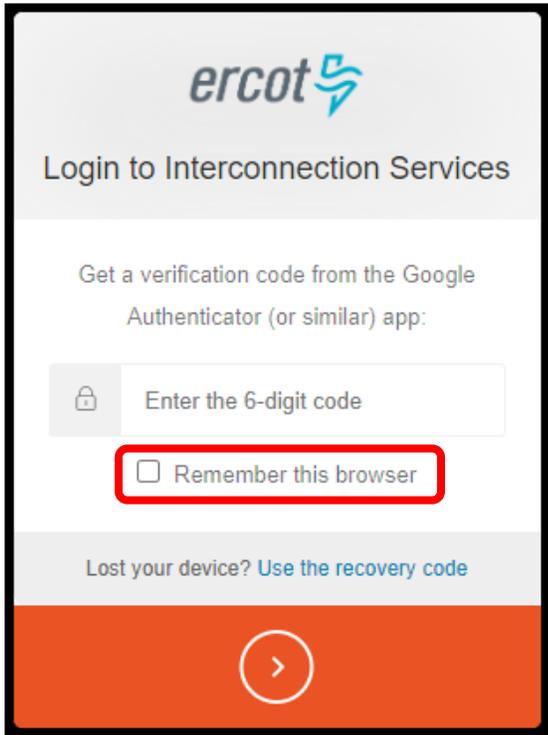
- Log into your RIOO account:



- 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:

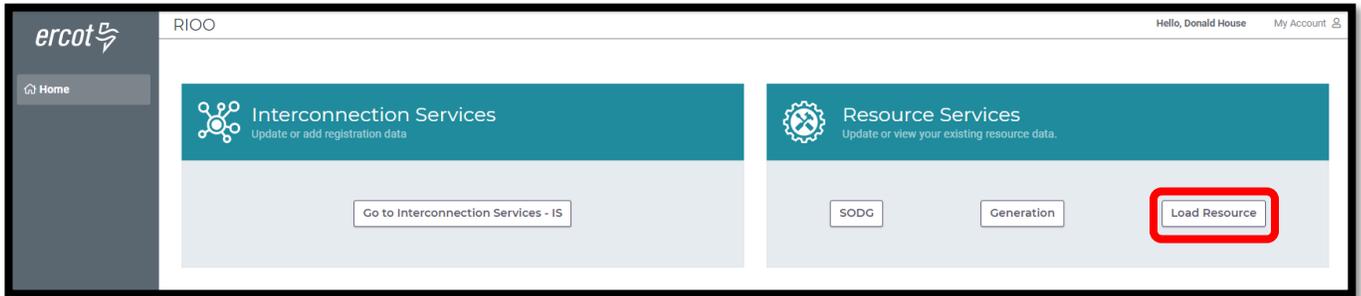


- After successfully logging in, you'll be taken to the RIOO home screen:

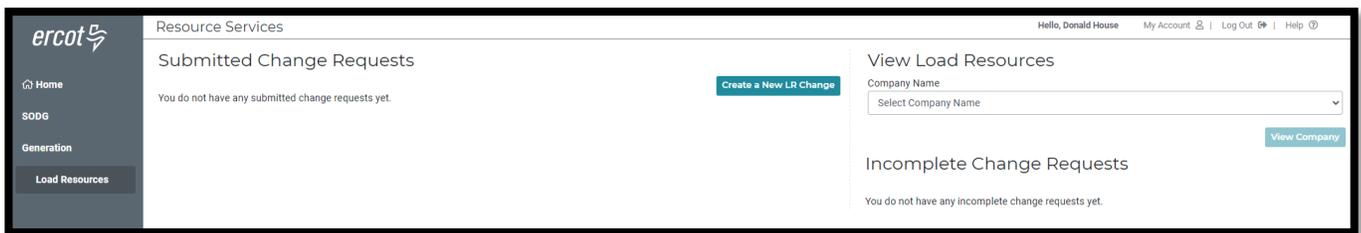


# Overview of RIOO Resource Services

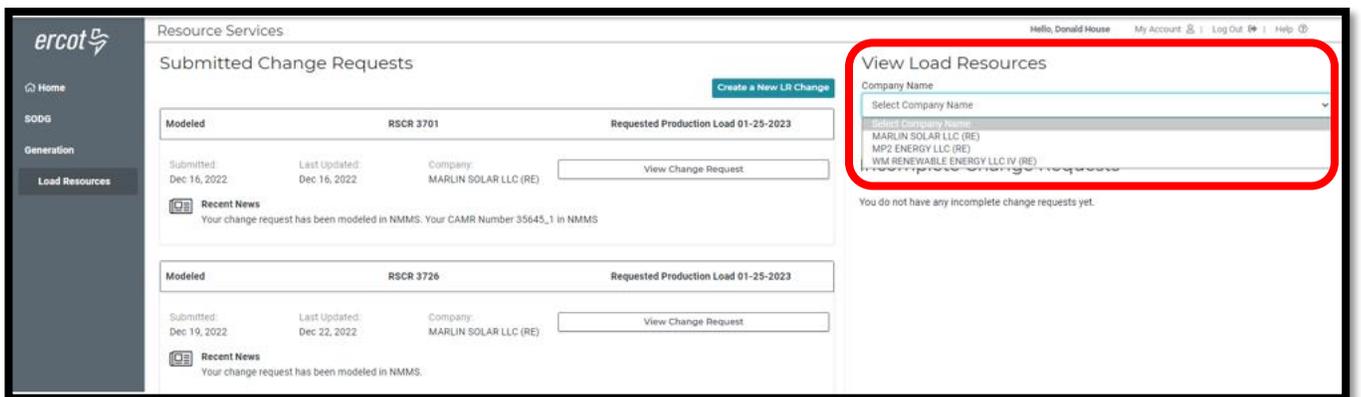
- On the RIOO home screen, open Resource Services by clicking on the **Load Resource** button
  - Resource Services is used to update an existing LR
  - Interconnection Services is used to create a new LR
    - See [RIOO User Guide – Creating a New Load Resource](#) on the [Distributed Generation webpage](#) for details



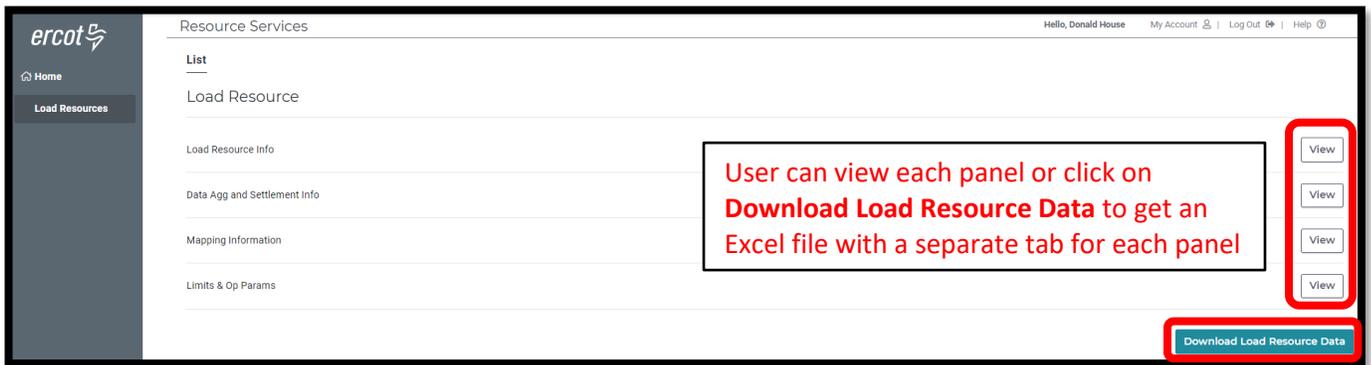
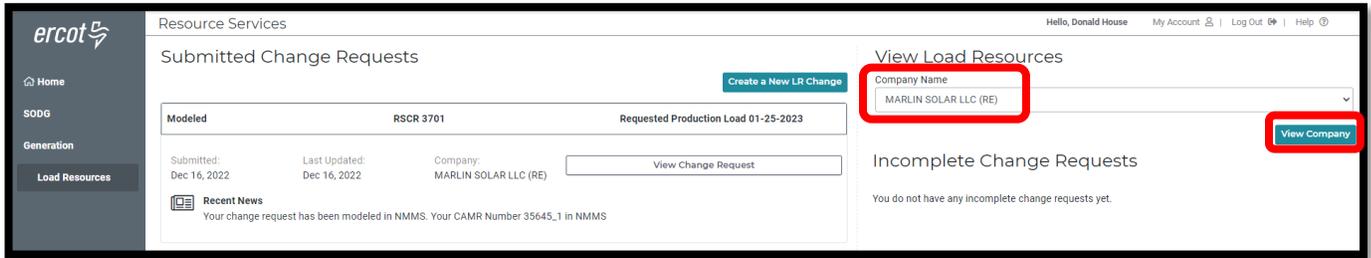
- The change request dashboard is displayed



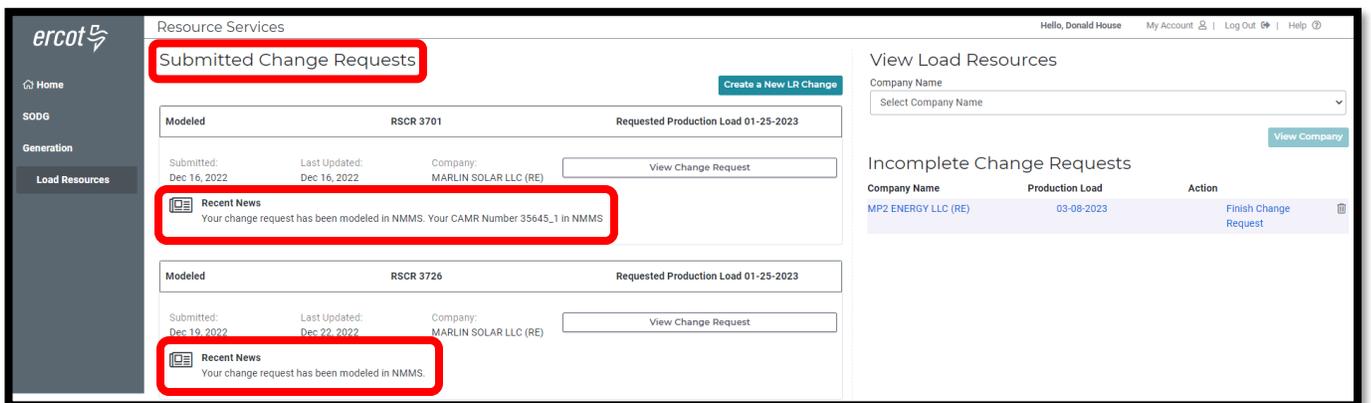
- The dashboard allows the user to view their existing LRs and their current CRs
  - View all existing LRs associated with each Resource Entity represented by the user in the dropdown list under **Company Name**
  - **Users are highly encouraged to verify their existing LR data periodically, especially after a CR is processed and updated in the Network Model**



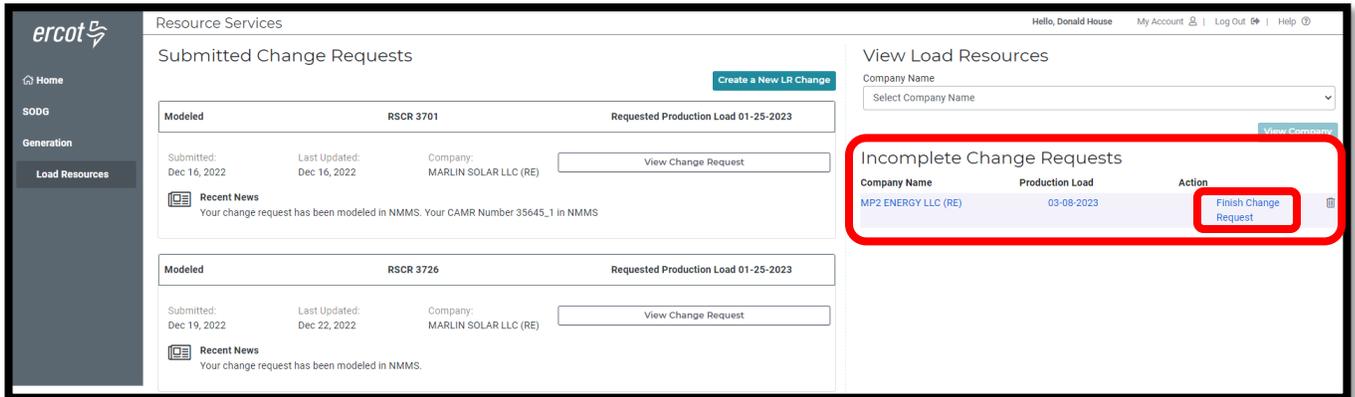
- If the user selects one of the listed REs, and then clicks on **View Company**, the user can view all existing registration data for the LRs represented by that RE



- The user can view CRs that have been submitted but not yet added to the Network Model; the associated status is displayed in the **Recent News** text (more details on the status changes will be provided later in this guide)

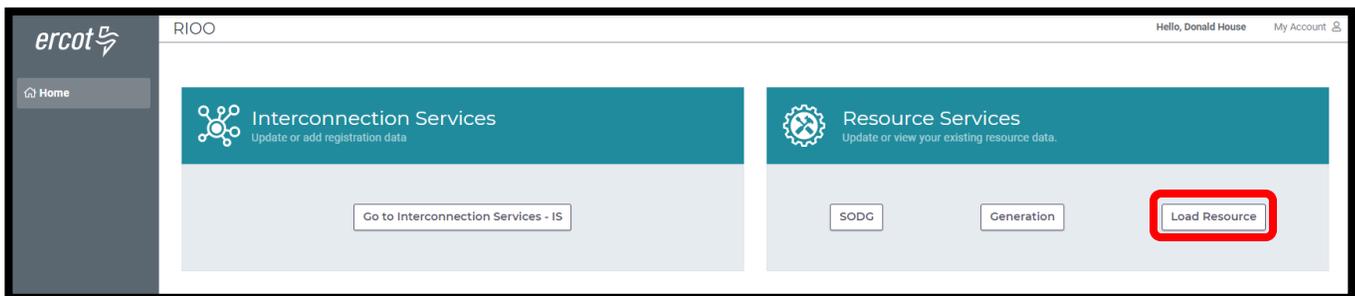


- The user can also view CRs that have been started but not yet submitted to ERCOT
  - The user can click on **Finish Change Request** to open and continue the CR

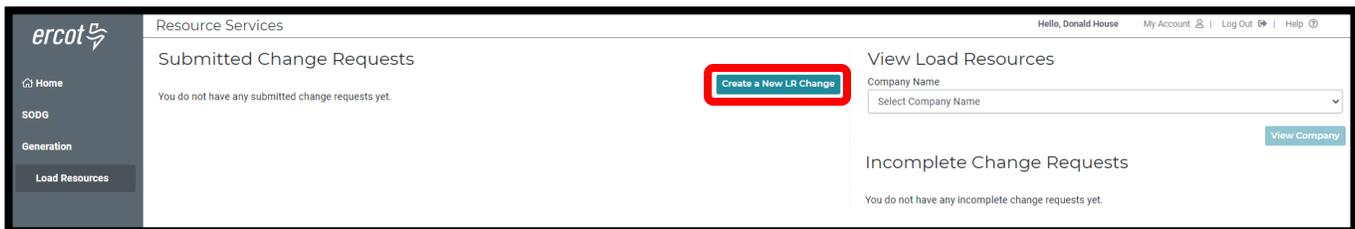


## Change request for an existing LR

- On the RIOO home screen, open Resource Services by clicking on the **Load Resource** button



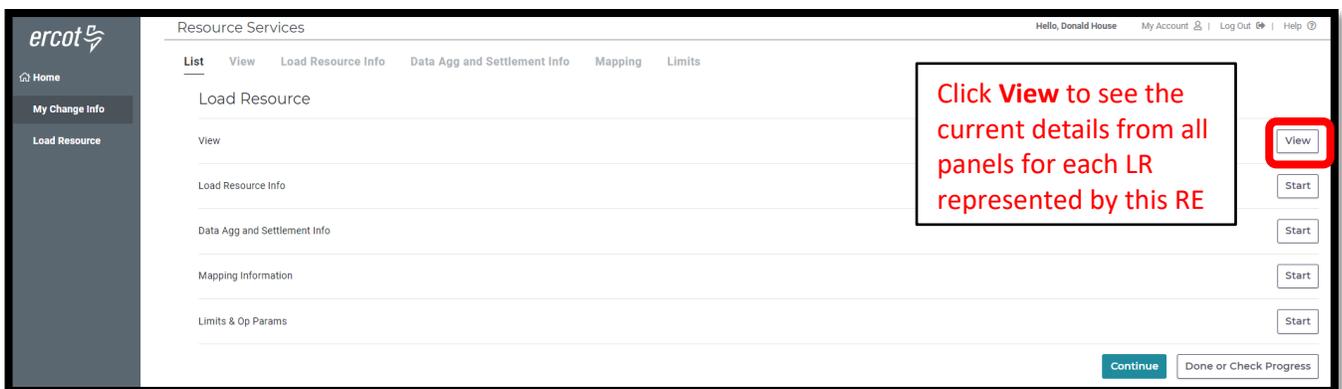
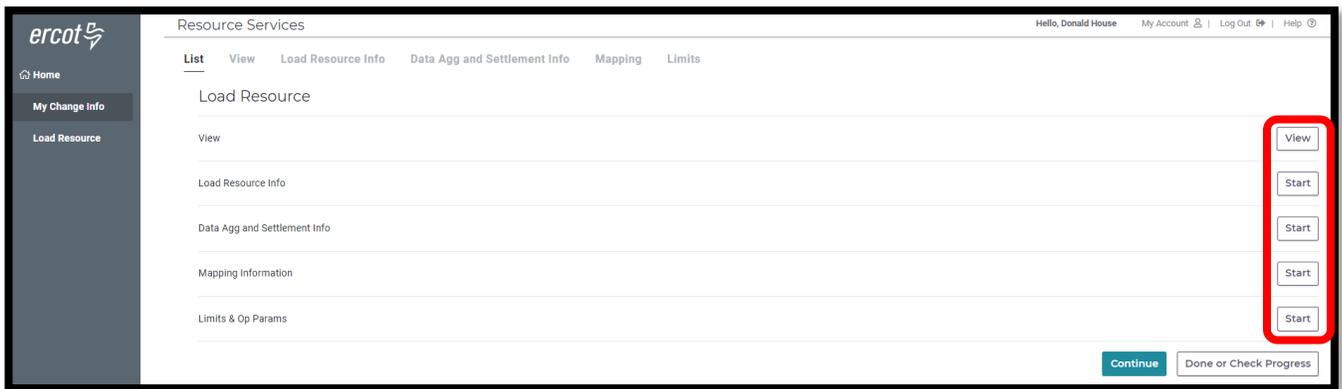
- On the change request dashboard, click on **Create a New LR Change**



- Select which RE the update is for from the **What Company is this change for today?** drop-down list
  - Note that the user will see a list of all REs represented by the user in their RIOO account
- Enter the contact information and a brief description of the requested changes

- Sample completed Start Your Change Request panel

- On the LR List screen, all data submission panels are listed along with a **View** panel to see all data at once
  - **Start** indicates that nothing has been updated on 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 user only needs to open the panels for which updates will be submitted
  - ***This guide will provide one example of an update; there are too many possible scenarios to capture all of them or to determine which examples would be the most helpful***
    - The same data validation rules will be applied as they are when a new LR is created
    - Any questions or issues with specific updates can be directed to the ERCOT Demand Integration team ([ERCOTLRandSODG@ercot.com](mailto:ERCOTLRandSODG@ercot.com)) for assistance
  - Progress can be saved, allowing the user to return to the application later to finish the submission



- Sample of View details for the selected RE



[Home](#)  
[My Change Info](#)  
[Load Resource](#)

Resource Services Hello, Donald House | My Account | Log Out | Help

List **View** Load Resource Info Data Agg and Settlement Info Mapping Limits

View

Back
Continue
Done or Check Progress

**Load Resource Information**

Go To Section	RAYBURN_LD1
Common Name for LR	CONTROL
Physical Street Address for Point of D...	123 Power Place
Name of City for Point of Delivery (PO...	NEW TOWN
Stop Date	

**Data Agg and Settlement Info**

Go To Section	RAYBURN_LD1
ERCOT Load Zone	Rayburn
Meter Reading Entity (MRE)	ONCOR ELECTRIC DELIVERY COMPANY LLC (TDSP)
TSP	ONCOR ELECTRIC DELIVERY COMPANY LLC (TDSP)
ESI ID Assigned to Meter	123CONTROL321
Resource ID (RID)	NEW_RIDE_FOR_UPDATE_TEST
Effective Date	12-08-2022
Is load behind a NOIE settlement met...	No
Is load netted from generation at ERC...	No
Is this a wholesale delivery point?	No
Load Resource Controlling Device	Control Technology / Interruptible Switch / Circuit Breaker

**Mapping Info**

Go To Section	RAYBURN_LD1
Transmission Service Provider	ONCOR ELECTRIC DELIVERY COMPANY LLC (TDSP)
Is this a Private Use Network (PUN)?	No
<b>Substation Information</b>	
Substation Code for POD	RAYBURN
<b>Transmission Information</b>	
Transmission Bus POD – PTI Bus #	730011
Transmission Station Voltage	138
Transmission Station Load Name in N...	AUX_B
Dispatch Asset Code	RAYBURN_LD1

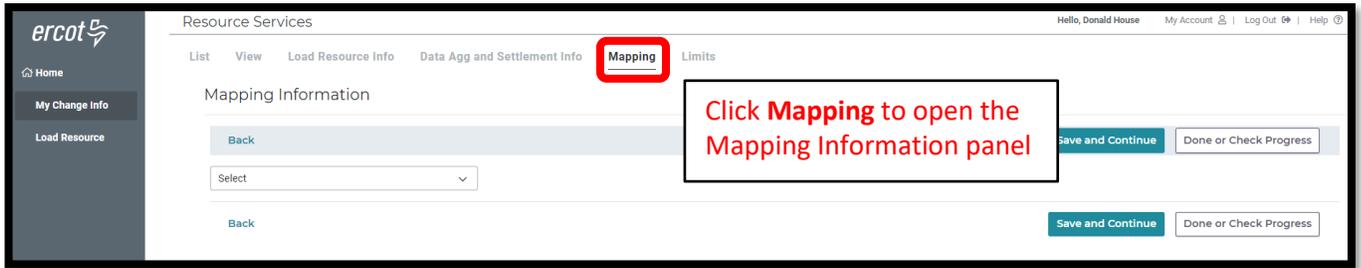
**Load Resource Limits Info**

Go To Section	RAYBURN_LD1
Load Resource Type	CLR
Is this Load Resource an aggregated ...	No
<b>Maximum Loads</b>	
Total Load at POD	75
Interruptible Load	65
<b>Reasonability Limits</b>	
High Reasonability Limit	75
Low Reasonability Limit	5
<b>Reasonability Ramp Rate Limits</b>	
High Reasonability Ramp Rate Limit	50
Low Reasonability Ramp Rate Limit	5
Minimum Interruption Time	
Minimum Restoration Time	
Max Weekly Deployments	
Max Interruption Time	
Max Daily Deployments	
Max Weekly Energy	
Min Notice Time	
<b>CLR Resource Parameters</b>	
Max Deployment Time	12
Max Weekly Energy	1200
<b>Normal Ramp Rate Curves</b>	
MW Rating	75
Upward	50
Downward	50
<b>Emergency Ramp Rate Curves</b>	
MW Rating	75
Upward	50
Downward	50

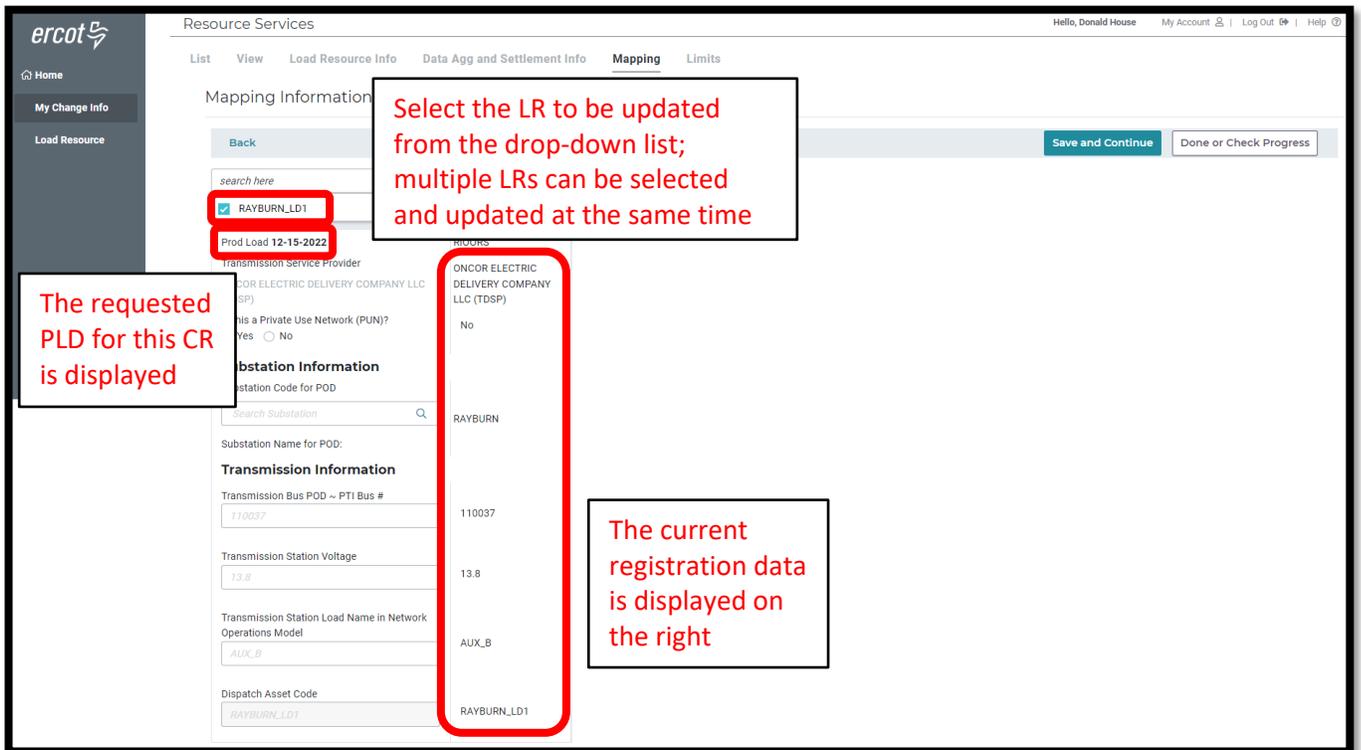
Back
Continue
Done or Check Progress

## Change Request example

- This example will update both the Mapping Information and the Limits & Ops Params



- When selecting the LR, multiple LRs can be selected on the panel and updated at the same time
  - Different data can be updated for each LR
    - For example, the user can update the **PTI Bus #** for one LR and update the **Voltage** for another LR on the Mapping Information panel at the same time



The LR being updated by this CR is displayed

Click Save and Continue to move to the next panel or click on Done or Check Progress to return to the LR List screen

Updates to the PTI Bus # and Voltage are entered by the user

- Clicking **Save and Continue** on the Mapping Information panel will take the user to the Limits & Ops Params panel; or the user can select this panel from the LR List screen

Limits & Op Params

- The user can select different LRs to update on each panel
  - For example, the user may update LR\_1 on the Mapping Information panel and update LR\_2 on the Limits & Ops Params panel in the same CR

Select the LR to be updated from the drop-down list; multiple LRs can be selected and updated at the same time

The current registration data is displayed on the right

**ercot** Resource Services

Home | My Change Info | Load Resource

Back | **Save and Continue** | Done or Check Progress

1 Selected

**BARBURLLN1**

Prod Load 12-18-2022 80000

Load Resource Type CLR

Is this Load Resource an aggregated Resource? No

**Maximum Loads**

Total Load at POD 75 MW 55

Interruptible Load 65 MW 40

**Reasonability Limits**

High Reasonability Limit 75 MW 40

Low Reasonability Limit 5 MW 5

**Reasonability Ramp Rate Limits**

High Reasonability Ramp Rate Limit 50 M/min 50

Low Reasonability Ramp Rate Limit 5 M/min 5

**CLR Resource Parameters**

Max Deployment Time 12 Hours 10

Max Weekly Energy 1000 MWhrs 1200

**Normal Ramp Rate Curves**

MW Rating 75 MW 50

Upward 50 M/min 50

Downward 50 M/min 50

**Emergency Ramp Rate Curves**

MW Rating 75 MW 50

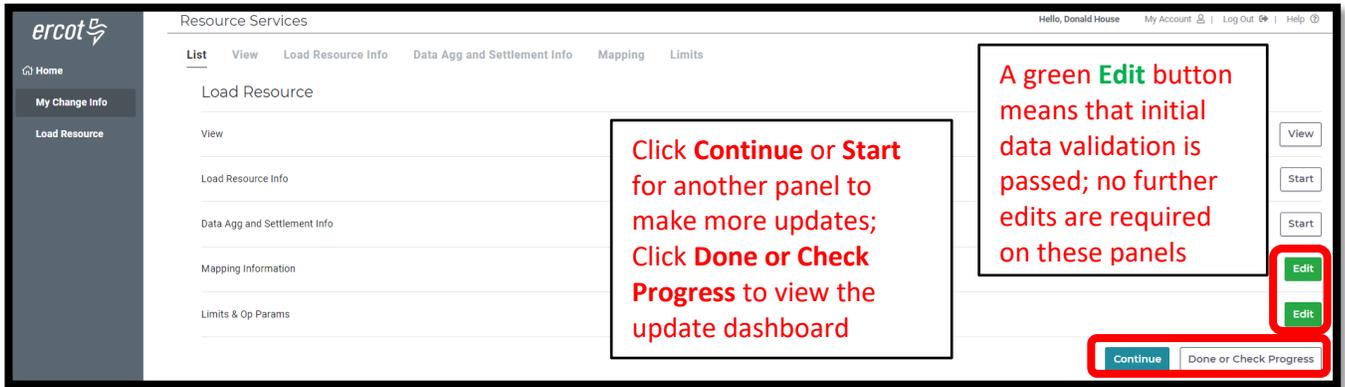
Upward 50 M/min 50

Downward 50 M/min 50

Back | **Save and Continue** | Done or Check Progress

Click **Save and Continue** to return to the LR List screen

Multiple updates are entered by the user (**Total Load at POD, Interruptible Load, HRL, HRRL, NRRC MW Rating, ERRC MW Rating**)



- On the update dashboard, all data submission panels that have been updated will be displayed
  - 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 updated panels pass initial validations, but the user has the option to go back to any panel to make revisions



- The user has an option to click **Download Load Resource Data** to download an excel file containing the existing information on each panel
  - Note that this download does not show before and after data; it is intended to be a record of all existing data for this LR before the CR is submitted

The screenshot displays the 'Resource Services' page for a change request (RSCR 3660). The page is divided into several sections:

- Header:** Shows the user's name (Hello, Donald House) and account options (My Account, Log Out, Help).
- Request Summary:** Displays 'RSCR 3660', 'Requested Load Date' (12-15-2022), and 'Load Resource' (LR Update Test).
- Buttons:** Two buttons are highlighted with red boxes: 'Download Load Resource Data' and 'Submit to ERCOT'. A callout box points to the 'Submit to ERCOT' button with the text: 'Click **Submit to ERCOT** to complete the CR submission'.
- My Change Info:** A table containing details about the change request:
 

Requested Production Load Date	12-15-2022
Contact Name	Donald House
Email	fake@email.com
Phone Number	555-867-5309
Description of your Change Request	LR Update Test
- Limits & Op Params:** A table showing updated parameters for 'RAYBURN\_LD1'. A red rounded rectangle highlights this table. A callout box states: 'All updated panels and fields will be displayed with **Before** and **After** data for the user to make a final review'.
 

	Before	After
Total Load at POD	55	75
Intermittible Load	40	65
High Reasonability Limit	40	75
High Reasonability Ramp Rate Limit	50	50
Normal MW Rating	50	75
Emergency MW Rating	50	75
- Mapping Information:** A table showing mapping details for 'RAYBURN\_LD1':
 

	Before	After
Transmission Bus POD ~ PTI Bus #	110037	730011
Transmission Station Voltage	13.8	138
- Footer:** A text area for additional information and a character count (Characters Remaining 1000). The 'Download Load Resource Data' and 'Submit to ERCOT' buttons are repeated at the bottom.

The screenshot shows the 'Resource Services' page in the ERCOT system. At the top, a green banner states: 'Your change request has been submitted to ERCOT. Click [here](#) to return to your dashboard.' Below this, the details for 'RSCR 3660' are shown, including the 'Requested Load Date' (12-15-2022) and 'Load Resource' (LR Update Test). A yellow button labeled 'Withdraw Change Request' is highlighted with a red box. A blue button labeled 'Download Load Resource Data' is also visible. A text box on the left says: 'Click **Home** to return to the RIOO home screen'. A larger text box in the center explains: 'The CR can still be canceled by clicking on **Withdraw Change Request**; the user must confirm this selection to continue with the cancellation (can't be canceled after ERCOT changes status to **In Review**)'. Below the main content, there are two tables: 'Params & Op Params' and 'Mapping Information', both comparing 'Before' and 'After' values for various parameters.

	Before	After
Total Load at POD	55	75
Interruptible Load	40	65
High Reasonability Limit	40	75
High Reasonability Ramp Rate Limit	50	50
Normal MW Rating	50	75
Emergency MW Rating	50	75

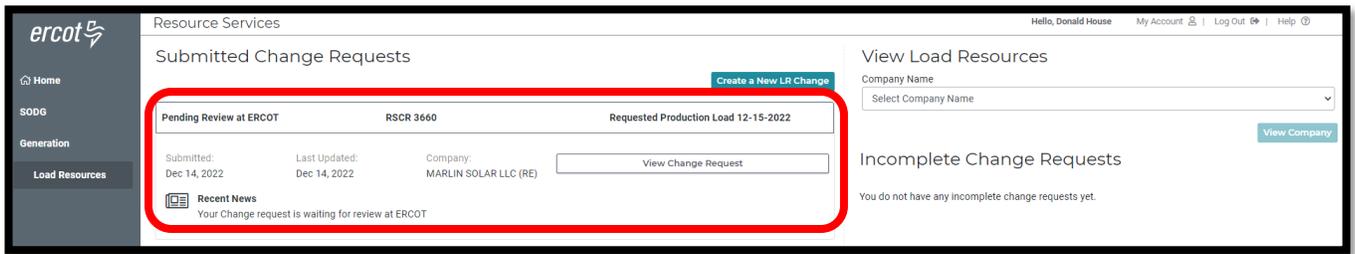
  

	Before	After
Transmission Bus POD - PTI Bus #	110037	730011
Transmission Station Voltage	13.8	138

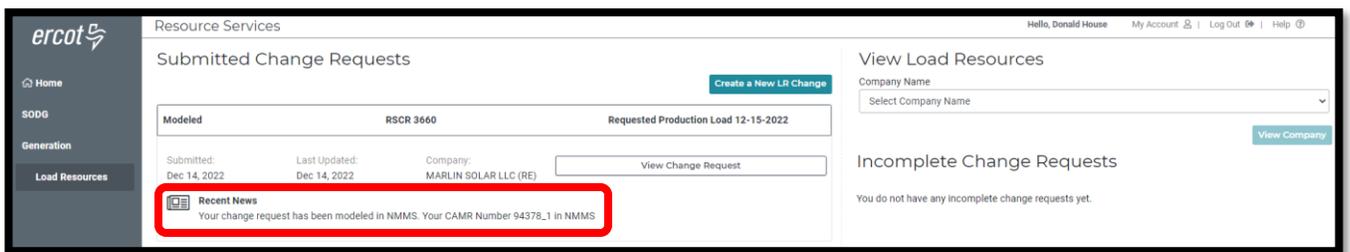
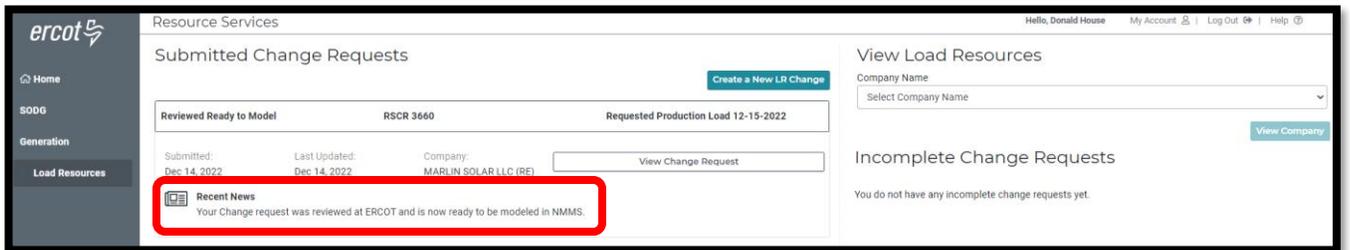
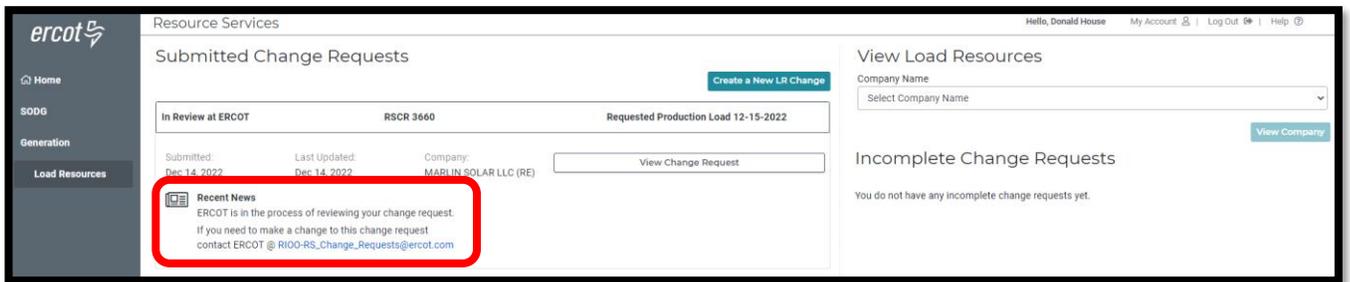
- Back on the RIOO home screen, open Resource Services again by clicking on the **Load Resource** button

The screenshot shows the RIOO home screen. On the left is a navigation menu with a 'Home' button. The main content area has two large cards: 'Interconnection Services' and 'Resource Services'. The 'Resource Services' card contains three buttons: 'SODG', 'Generation', and 'Load Resource'. The 'Load Resource' button is highlighted with a red box.

- The change request dashboard is displayed, and the submitted CR is listed (note that under **Recent News**, the status of the CR is **waiting for review at ERCOT**)
- As the CR is processed by ERCOT, the Recent News display is updated to let the user know the status



- Examples of other status updates for this CR
  - The final status of **modeled in NMMS** (network model management system) signifies that ECOT has verified the change took effect as requested on the PLD
  - The CR will no longer appear on this display after it has been modeled
  - The changes can be verified by viewing the LR data again



## Stopping an existing LR

- To stop an existing LR, only the **Stop Service Date** on the Load Resource Info panel needs to be updated
  - The **Stop Service Date** needs to be a PLD coordinated with the ERCOT Demand Integration team ([ERCOTLRandSODG@ercot.com](mailto:ERCOTLRandSODG@ercot.com))
    - **Note that the Stop Date entered should be one day before the PLD to align with the timing of the database load**
  - The rest of the CR process is the same as the example above
  - **NOTE: Once the Stop Service Date is populated in the CR, the user cannot edit any other information in the data panels**
    - **After the CR is submitted, no other CRs can be created for this LR**
    - If a mistake is noticed before the PLD, the RE can contact ERCOT Demand Integration to request for the CR to be canceled

The screenshot shows the 'Load Resource Info' panel for 'RAYBURN\_LD1'. The 'Stop Date' field is highlighted with a red box and a calendar icon. A red callout box contains the following text: 'Use the calendar to select the requested Stop Service Date (1 day before the PLD); reminder to coordinate the PLD to align with a production model load'. The 'Stop Date' field currently displays '03-07-2023'.

## After submitting Change Request

### Change Request status

In addition to the Recent News updates on the CR dashboard, the CR 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 CR.

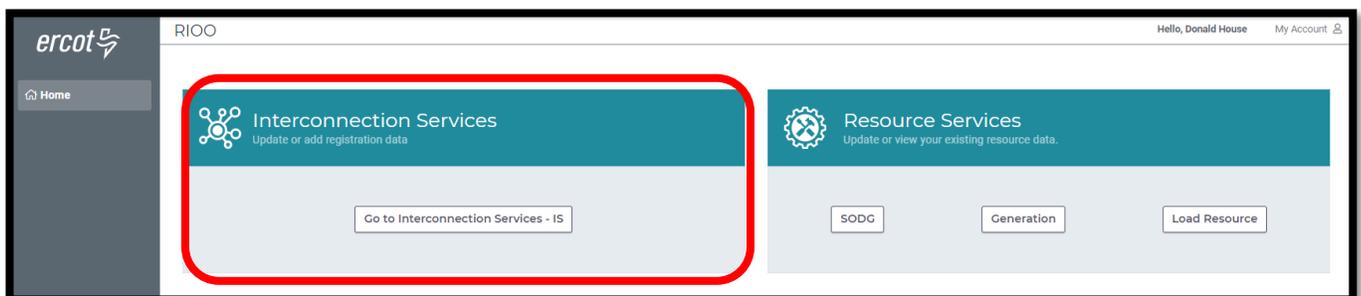
- Status updates for a submitted CR include:
  - Pending Review
  - In Review
  - Ready for Modeling
  - Modeled

### Confirming updated LR in production Network Model

After the PLD for the CR, the submitter is encouraged to verify that the updates are visible in the View Load Resources data in RIOO-RS. ERCOT will verify that the LR changes are in the production Network Model, but it is the responsibility of the RE/QSE to notify ERCOT if they notice any market dispatch or settlements issues related to the CR.

### Creating a new LR

To create a new LR, the RE must use the RIOO Interconnection Services application (RIOO – IS), which is accessed using the same RIOO user account. Refer to the **RIOO User Guide – Creating a New Load Resource** on the [Distributed Generation webpage](#) for details.



### Reporting issues

As ERCOT continues to develop the RIOO application, any functionality issues or suggestions for improvements can be sent via email to [RIOO-Help@ercot.com](mailto:RIOO-Help@ercot.com). Any significant updates to the application will be communicated through market notices.