



## **RIOO Workshop – Creating and Updating Load Resources**

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# Agenda

- Antitrust Admonition
- Introduction – What is RIOO and who should attend this workshop?
- Getting started – Setting up a RIOO user account
- Documentation – RIOO user guides
- Action item for REs – Verify existing data in RIOO
- RIOO tutorial – Creating a new Load Resource
- RIOO tutorial – Updating an existing Load Resource
- Questions – Contact info for interface issues or user suggestions
- Reminder – Documents posted from January 18 SODG workshop

## Antitrust Admonition

- To avoid raising concerns about antitrust liability, participants in ERCOT activities should refrain from proposing any action or measure that would exceed ERCOT's authority under federal or state law. For additional information, stakeholders should consult the [Statement of Position on Antitrust Issues](#) for Members of ERCOT Committees, Subcommittees, and Working Groups, which is posted on the ERCOT website.

# Introduction – What is RIOO and who should attend this workshop?

- RIOO is the Resource Integration & Ongoing Operations application that has replaced the Resource Asset Registration Forms (RARFs) for Load Resource (LR) registrations
- **ERCOT will no longer accept LR registrations using RARFs**
  - RIOO is now the required submission format
  - Exceptions may apply if there are technical issues or design limitations found in RIOO

# Introduction – What is RIOO and who should attend this workshop?

- Resource Entities (REs) who represent LRs should have staff members responsible for managing their LR registrations attend this workshop
- We will demonstrate how to access and use RIOO
  - But, we will not be discussing market-related reasons for registering LRs into the ERCOT model
  - Note that all examples will use fake test data

## Getting started – Setting up a RIOO user account

- Users must set up an account, which includes adding the RIOORS\_M\_Operator role to their ERCOT digital certificate
- The RIOO login uses a multifactor authentication (MFA) app
- See the **RE Sign Up Guide** on the [Resource Integration webpage](#)
- Previously, RARFs had to be submitted by either the Authorized Representative (AR) for the RE or the back-up AR
  - RIOO user accounts will allow anyone given access by the RE through their digital certificate to submit registration information on the RE's behalf
    - Access will be managed by the RE's User Security Administrator (USA)

## Documentation – RIOO user guides

- User guides specific to managing LR registration are posted on the [Load Resource webpage](#) and on the workshop calendar page ([RIOO Workshop – Creating and Updating Load Resources](#))
  - RIOO User Guide – Creating a New Load Resource
  - RIOO User Guide – Updating an Existing Load Resource
- Note that these guides may be updated often as the use of RIOO matures and the application continues to evolve
  - ERCOT will learn more as we use RIOO to process LR registrations
  - Users will be a great source of feedback for improving the application

## Action item for REs – Verify existing data in RIOO

- REs are highly encouraged to verify their existing LR data in RIOO
- ERCOT anticipates that there will be some issues with the data migration from the RARF database to the new RIOO database
  - Some older LRs may have outdated registration information that doesn't align with the most recent RARFs, which could result in data errors
  - Some LRs may have inaccurate data in RIOO or may not have been migrated to RIOO at all
- We will demonstrate how to view existing data for verification
- Notify the Demand Integration team ([ERCOTLRandSODG@ercot.com](mailto:ERCOTLRandSODG@ercot.com)) if you notice any data issues



# RIOO tutorial – Creating a new Load Resource

- At least 40 new LRs can be added with the same RIOO submission
  - This number was confirmed in testing, but more may be possible
  - Each LR must be added by completing the data entry panels one at a time (will be shown in the upcoming tutorial)
- There is no fee for creating or updating an LR
  - Subject to change per [NPRR1153](#)
- RE should coordinate a Production Load Date (PLD) with Demand Integration that is at least 45 days after the registration is submitted
  - Please use this email address for coordinating PLDs and for general LR registration questions ([ERCOTLRandSODG@ercot.com](mailto:ERCOTLRandSODG@ercot.com))

# RIOO tutorial – Creating a new Load Resource

A couple of ways to access the RIOO application login screen....

The screenshot displays the ERCOT website's navigation menu. The 'Market Participants' dropdown menu is open, showing the following options: EMIL, MIS Log In, RIOO Log In (highlighted with a red box and a mouse cursor), and Renewable Energy Credit. The main content area features a large banner with the text 'We manage the flow of Texas' power' and three statistics: 90% of Texas power load, 1,030+ power generation units, and 52,700+ miles of transmission lines managed and monitored. Below the banner are three data visualization panels: 'Supply and Demand' (line chart), 'Grid Conditions' (gauge showing 7,271 MW of operating reserves), and 'Combined Wind and Solar' (line chart).

# RIOO tutorial – Creating a new Load Resource

....or scroll to the bottom of any page on ercot.com


The screenshot displays three data visualization widgets from the ERCOT website:

- Left Widget:** A line chart showing power flow in MW over a 24-hour period. The y-axis ranges from -300 MW to 100 MW. The x-axis shows hours from 00 to 24. Four data series are plotted: DC\_E (East) in blue, DC\_L (Laredo VFT) in red, DC\_N (North) in light blue, and DC\_R (Railroad) in pink. A 'Full View' button is at the bottom right.
- Middle Widget:** A map of Texas divided into regions: FAR WEST, WEST, NORTH CENTRAL, EAST, SOUTH CENTRAL, SOUTH, and COAST. Yellow star icons are placed on the map. A 'Full View' button is at the bottom right.
- Right Widget:** A line chart showing Hub Bus Average (HBA) in \$/MWh over a 24-hour period. The y-axis ranges from -\$20 to \$40. The x-axis shows hours from 00 to 24. Four data series are plotted: Day-Ahead Hub Avg. (dotted red), Day-Ahead Hub Bus Avg. (dotted blue), Real-Time Hub Avg. (solid red), and Real-Time Hub Bus Avg. (solid blue). A dropdown menu labeled 'HB\_BUSAVG' is at the bottom left, and a 'Full View' button is at the bottom right.

Below the widgets is a dark blue footer with the following sections:

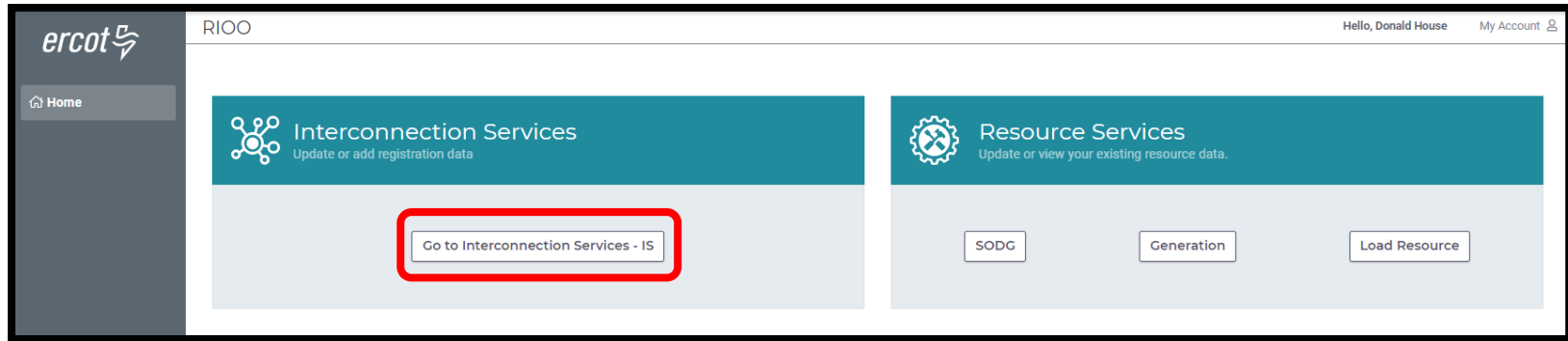
- About ERCOT:** Services, Committees & Groups, Market Rules, Market Information, Grid Information, Market Participants.
- Contact Us:** Glossary, Careers, Locations, Calendar.
- Quick Links:** Ethics Point, Operations Messages, Project Status, Service Level Agreements, MIS Applications, Grid and Market Conditions.
- STAY CONNECTED:** SOCIAL (Facebook, Twitter, LinkedIn, YouTube, RSS), News & Press, Mailing Lists, News & Publications.

The link **Resource Integration & Ongoing Operations – Resource Services** is highlighted with a red rectangle in the Quick Links section.

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# RIOO tutorial – Creating a new Load Resource

Let's create a new Load Resource



Interconnection Services is used to create a new LR

- 2 examples:
  - Create a Controllable Load Resource (CLR)
  - Create an Under-Frequency Relay Load Resource (UFR/Interruptible)

# RIOO tutorial – Updating an existing Load Resource

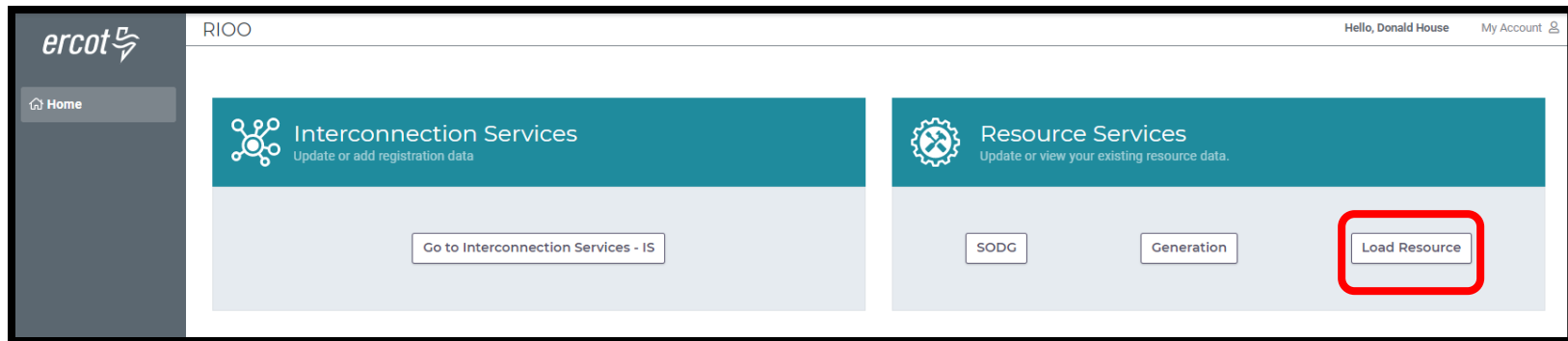
Multiple LR's can be updated with the same RIOO submission

2 important things to note:

1. Once a Change Request (CR) is submitted for a 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 prevents conflicting changes that couldn't be validated against an unknown model state
2. When a CR is submitted to stop an existing LR, no other CRs can be created for that same LR
  - If a mistake is noticed before the PLD, the RE can contact Demand Integration to request for the CR to be canceled

# RIOO tutorial – Updating an existing Load Resource

Let's update an existing Load Resource



Resource Services is used to update an existing LR

- 3 examples:
  - Update a CLR
  - Update a UFR/Interruptible
  - Stop an existing LR

## Questions – Contact info for interface issues or user suggestions

- Any functionality issues or suggestions for improvements can be sent via email to [RIOO-Help@ercot.com](mailto:RIOO-Help@ercot.com)
  - Significant updates to the application will be communicated through market notices
  - User guides will be updated, as needed
- RIOO users can also contact their assigned Account Manager or the Demand Integration team ([ERCOTLRandSODG@ercot.com](mailto:ERCOTLRandSODG@ercot.com)) for assistance
  - Let us know if you see issues with your existing LR data

## Reminder – Documents posted from January 18 SODG workshop

- Held a similar workshop yesterday (January 18) for REs who represent Settlement Only Distribution Generators (SODGs)
  - Presentation and user guides from SODG workshop are posted on the calendar page ([RIOO Workshop – Creating and Updating SODGs](#))
- Presentation and user guides from today's LR workshop are posted on the calendar page ([RIOO Workshop – Creating and Updating Load Resources](#))