Enabling Demand Response: Demand Response Location Registration

Pre-Market Simulation Training Session

January 27, 2015 (updated with new screenshots on 3/19/15)

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Customer Service Department

Agenda

- Terms and acronyms
- Review business process changes
- New Demand Response Registration System
- Changes to existing Demand Response System
- Registration management

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Terms and Acronyms

Terms and Acronyms

- Demand Response Provider (DRP)
- Load Serving Entity (LSE)
- Utility Distribution Company (UDC)
- Locations
  - Physical location of the demand response entity
  - Includes customer data such as service account number, physical service location, curtailable load amounts

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Terms and Acronyms

- Aggregate Location (ALOC)
  - A grouping of one or more locations
  - Aggregate locations must be served by the same LSE and located in same Sub-LAP for approval by LSE and UDC
- Service Account Number (SAN)
  - Unique number assigned to a location by the UDC
- Load Reduction Capacity Value (LRCV)
  - total available kW load reduction

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Terms and Acronyms

- Registration
  - May be comprised of a single location or an aggregation of many locations
  - Registration submitted for LSE, UDC review and ISO approval
  - Meter Data information submitted at registration level for baseline calculation prior to market participation
- PDR/RDRR Resource ID
  - Assigned by ISO
  - One ID per registration
  - Unique ID used for participation in the ISO wholesale markets (scheduling/bidding and settlement)
  - Resource specific information for the ID resides in the ISO Master File

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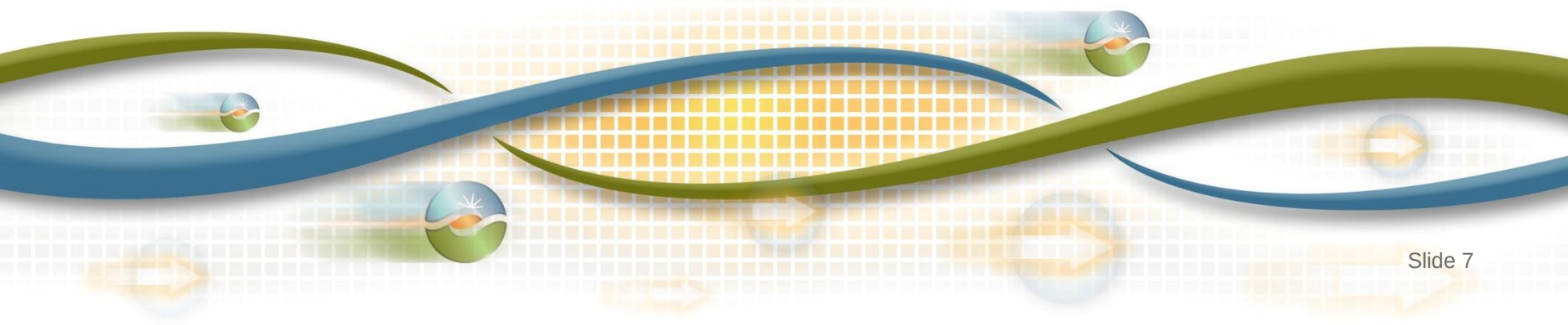
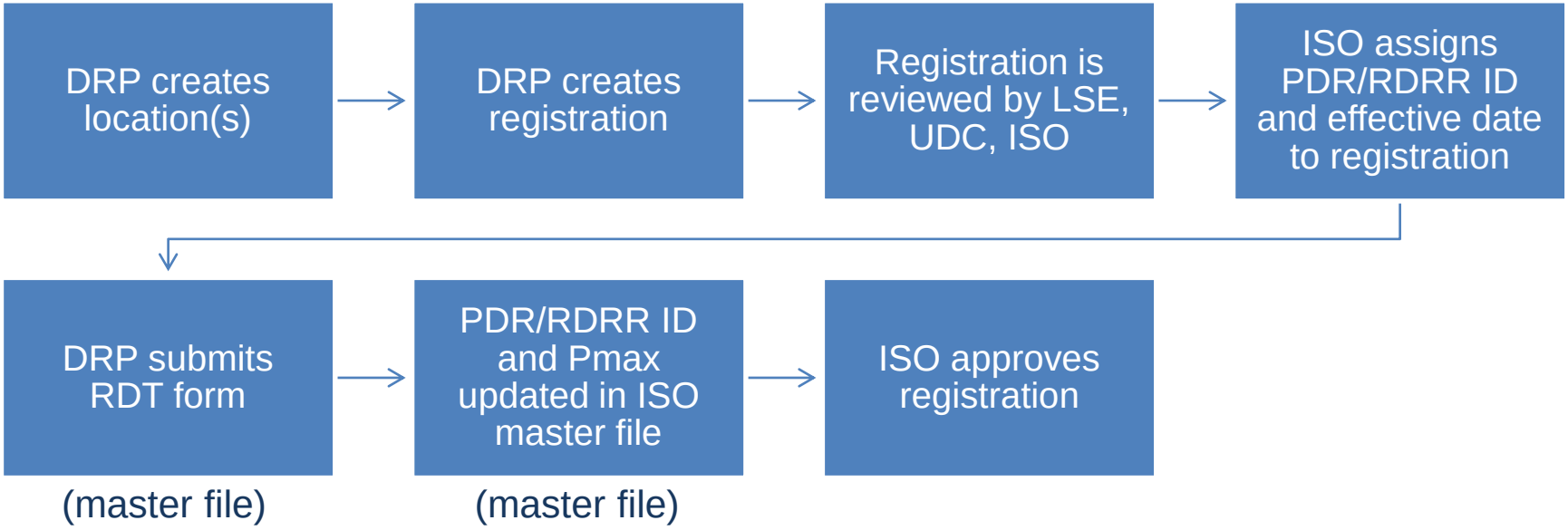
Review Business Process Changes



As-Is Business Process

- Locations are created, registered, reviewed, verified, and approved in the Demand Response System (DRS)
- No API functionality



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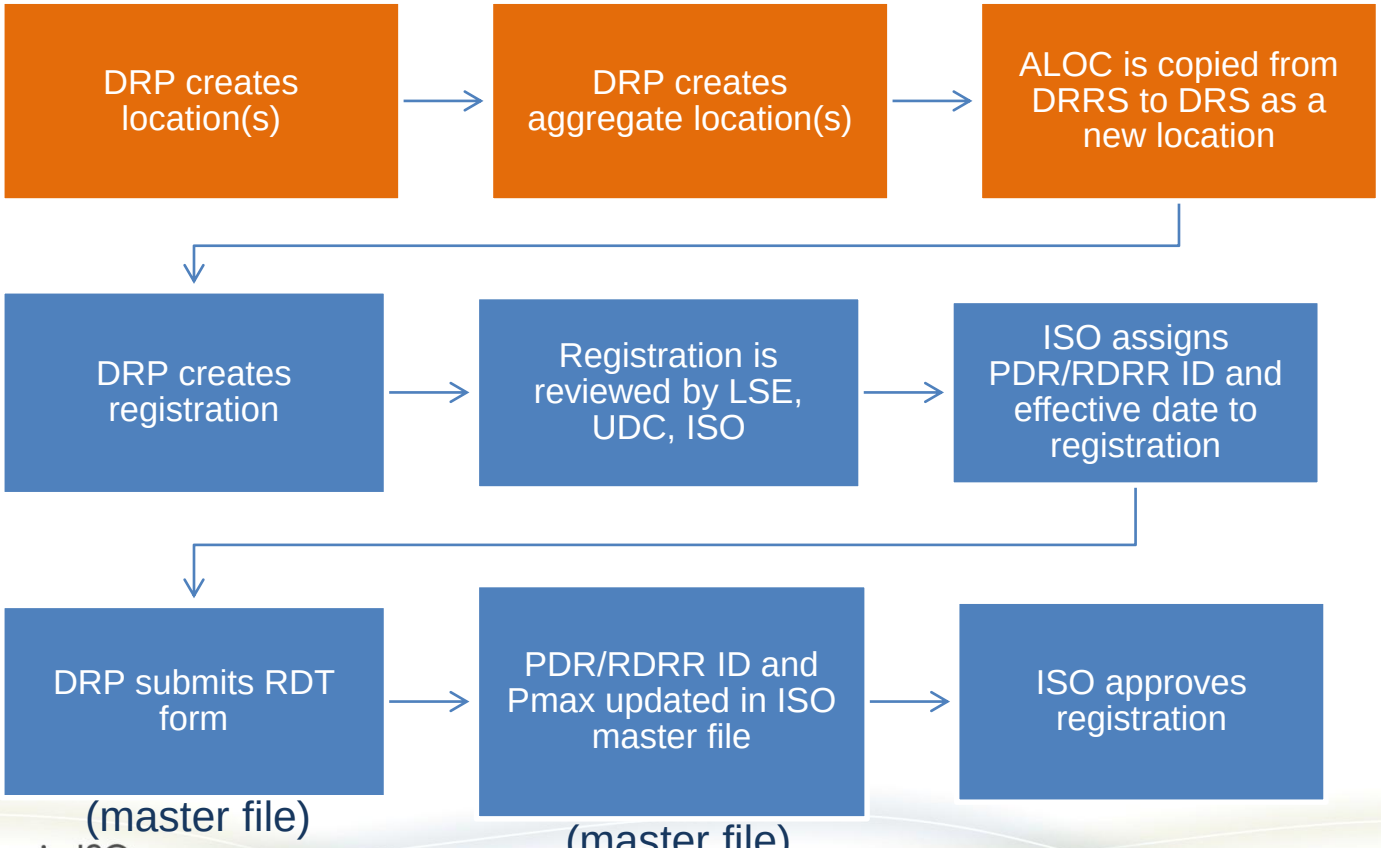
To-Be Business Process

- Locations and aggregate locations are created in the Demand Response Registration System (DRRS) via user interface or API
- Locations are registered, reviewed, verified, and approved in the Demand Response System (DRS) via user interface



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New Demand Response Registration System (DRRS)

High-level Goals for DRRS Implementation

Application Access

DRRS Functionality

High-level Goals for DRRS Implementation

- New application to provide bulk upload/download of locations for market participants
- Provides scalability to accommodate input of the volume of locations participating in demand response programs
- Maintain duplication check of a location within active registrations

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Application Access

- Work with your application access Point of Contact (POC) to obtain access to DRRS
- Access to DRRS is managed using the Access and Identity Management (AIM) application
  - Access for endorsed users is managed using the Application Access Request Form (AARF)
- Submit requests for access to DRRS in market simulation and production environments
  - Look for market notice with additional instructions
- Request DRS access if you do not have it today
  - DRS is a legacy application; access is managed using the Application Access Request Form (AARF)

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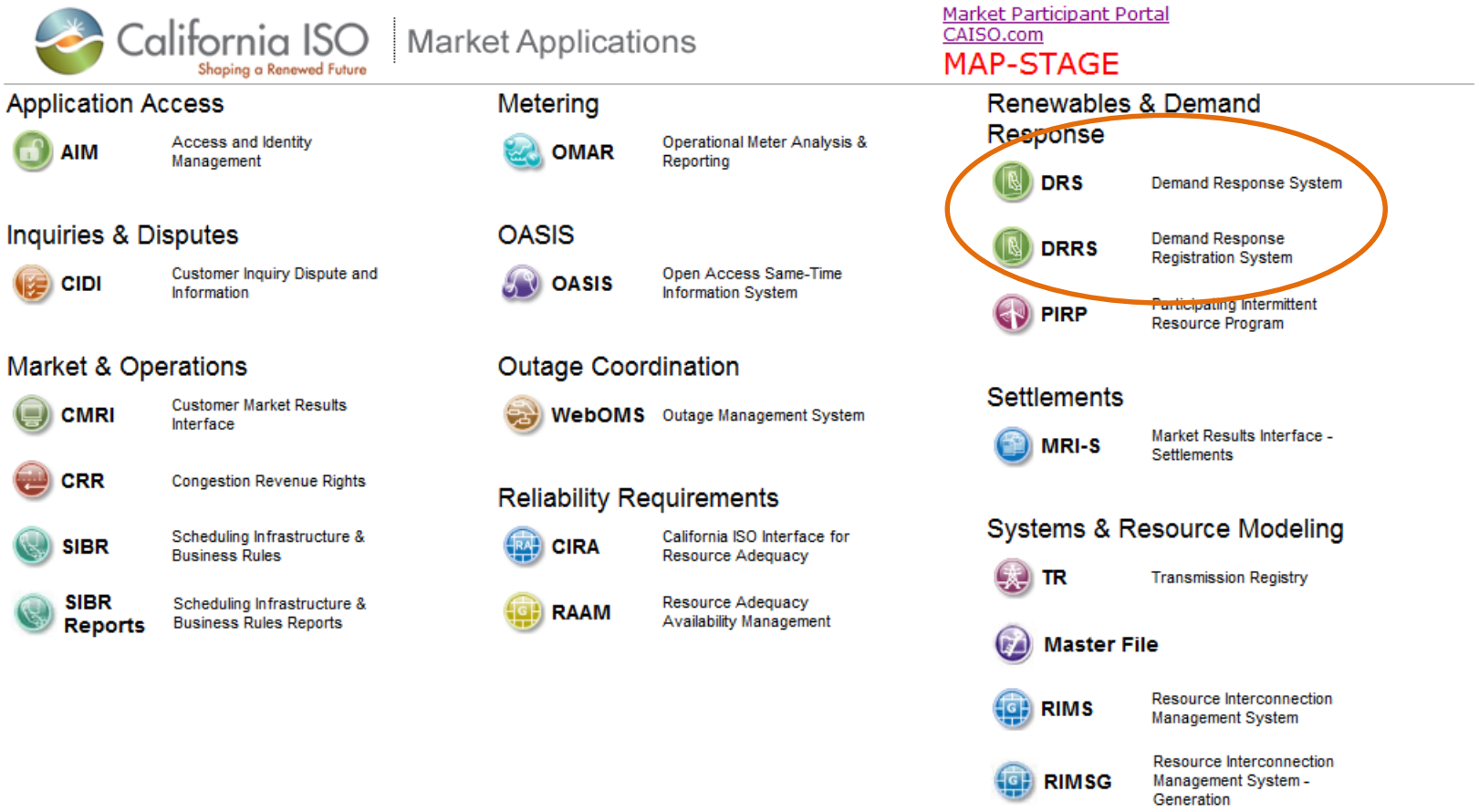
Application Access

- Icons for both applications will be visible in the market simulation environment for users who have access



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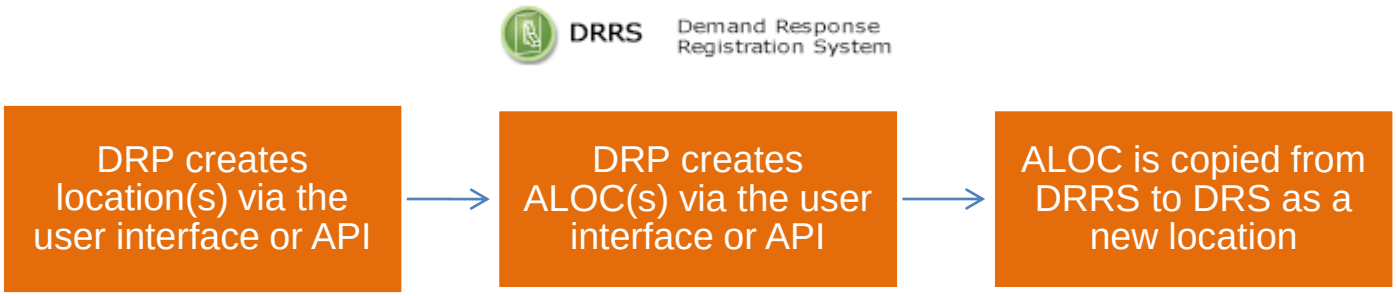
DRRS Application Functionality



- DRRS is built using the common UI framework
- Application functionality
  - Create new location
  - Create new aggregate location (ALOC)
  - Manage locations and ALOCs
- ALOCs are copied to DRS once completed

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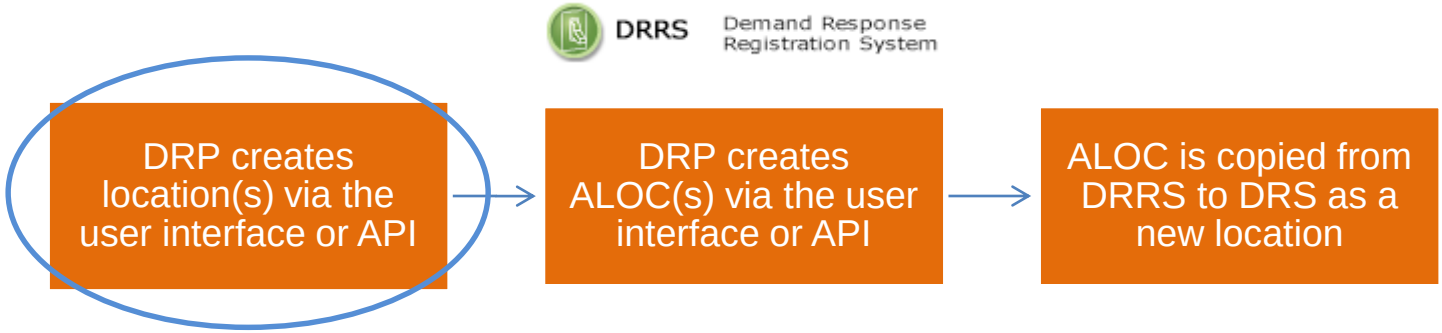
DRRS Application Functionality



- Application functionality
  - Create new location

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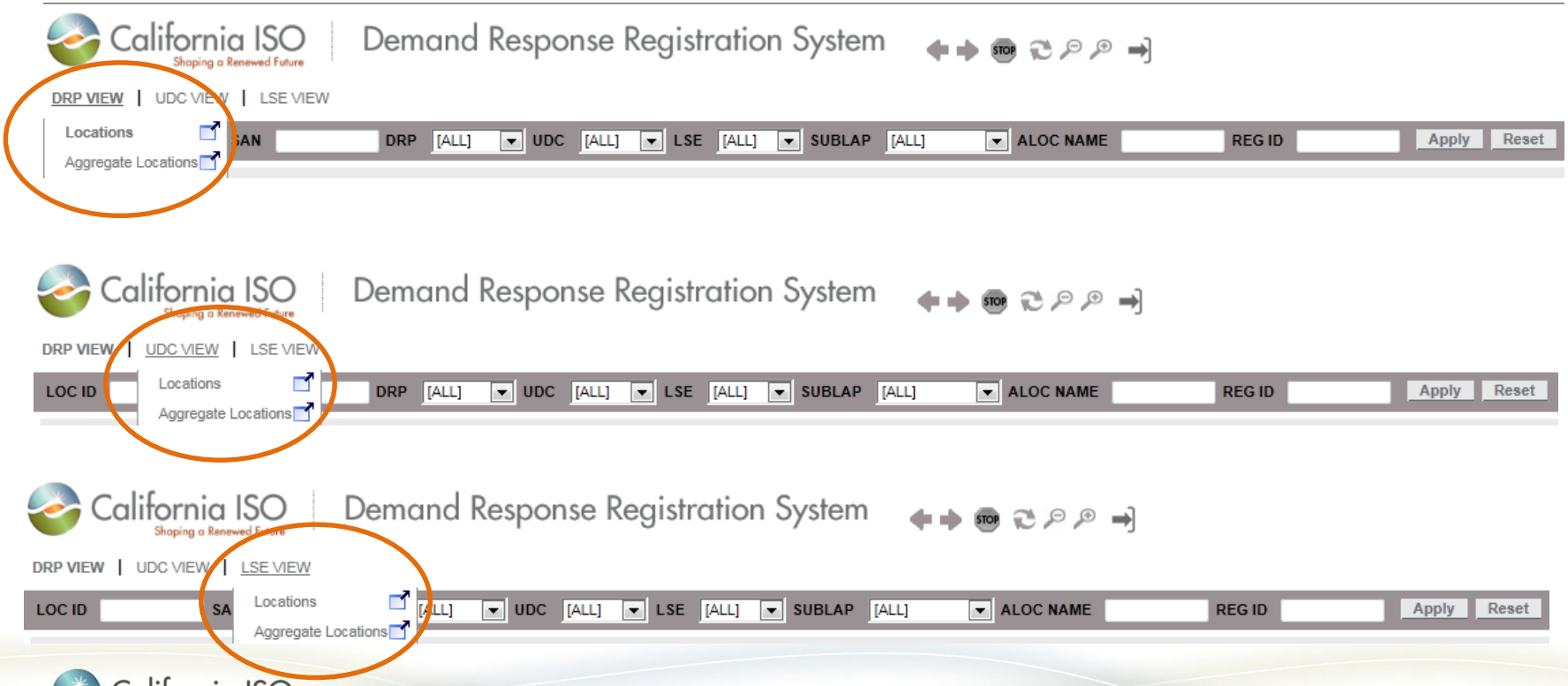
Role-based Tabs

- Users will see one or more tab(s) based on their roles
- Users with multiple tabs should select the tab that corresponds with the role they are performing at that moment
  - For example, select **UDC VIEW** to see all locations that are assigned to you as the UDC



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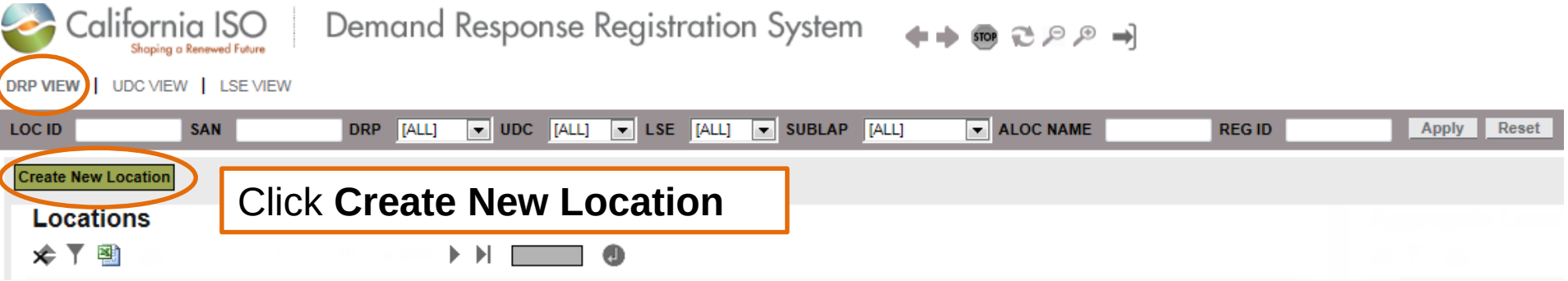
DRRS Application: Create New Location

- Functionality for DRP only



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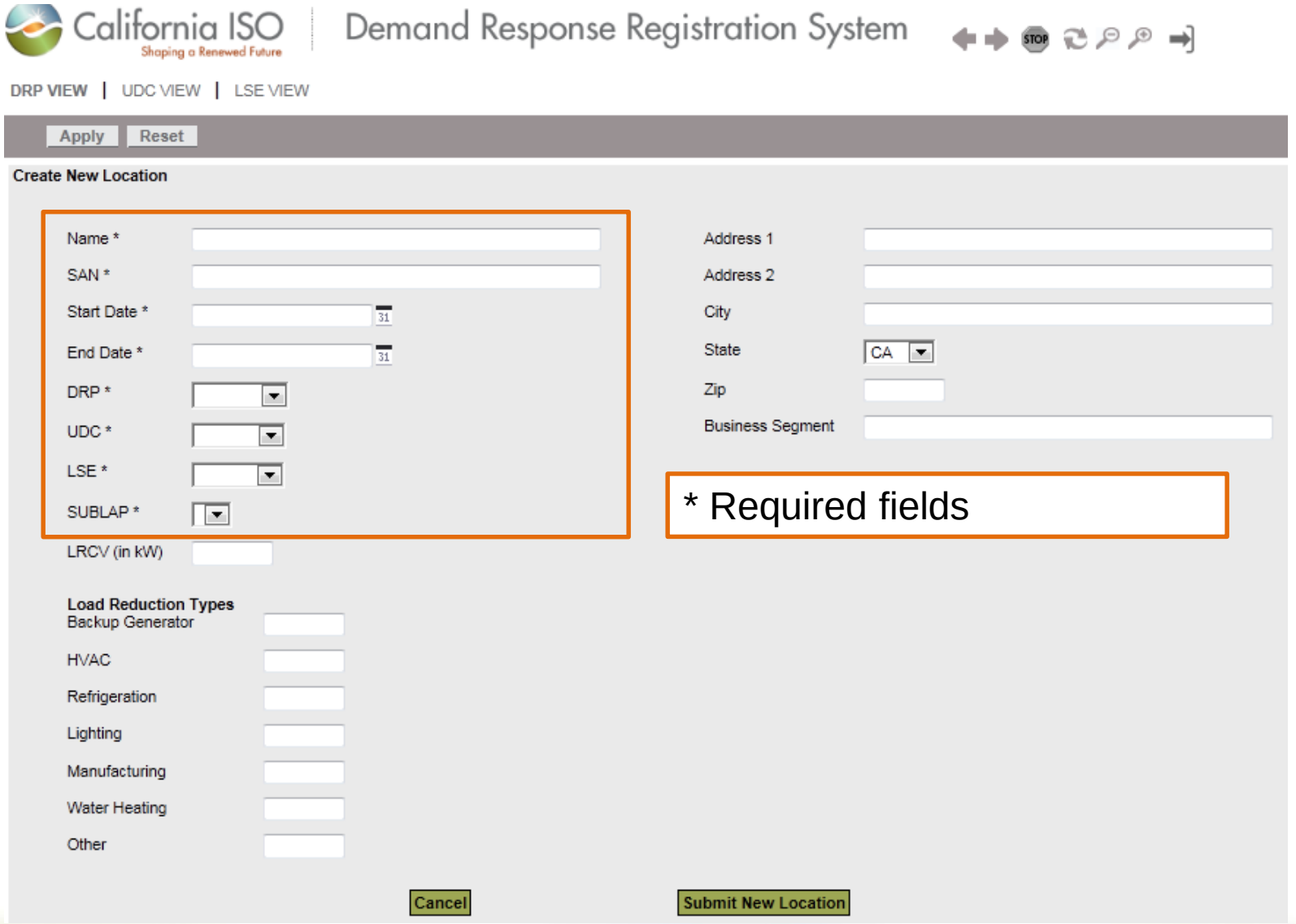
DRRS Application: Create New Location



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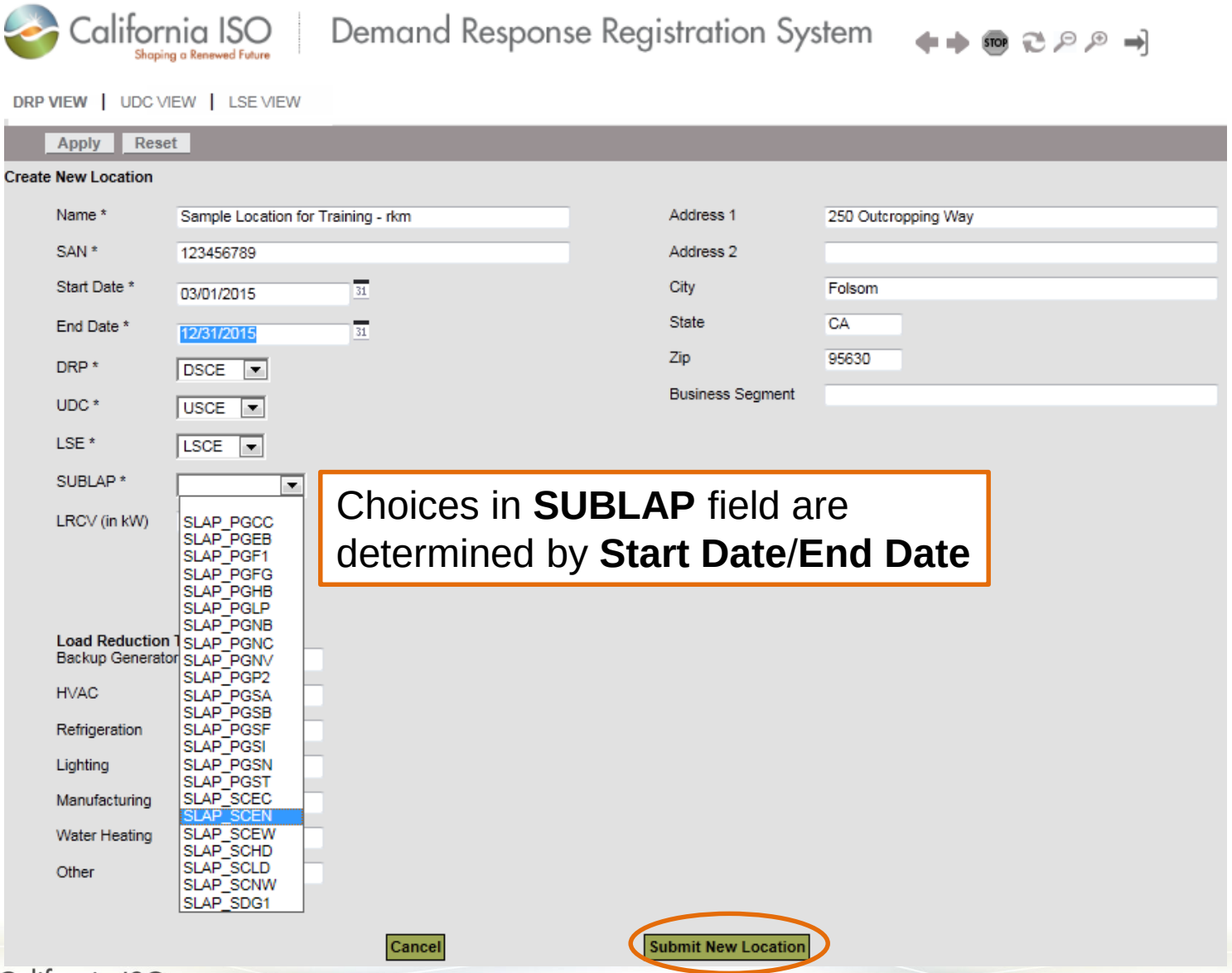
DRRS Application: Create New Location



Choices in **SUBLAP** field are determined by **Start Date/End Date**

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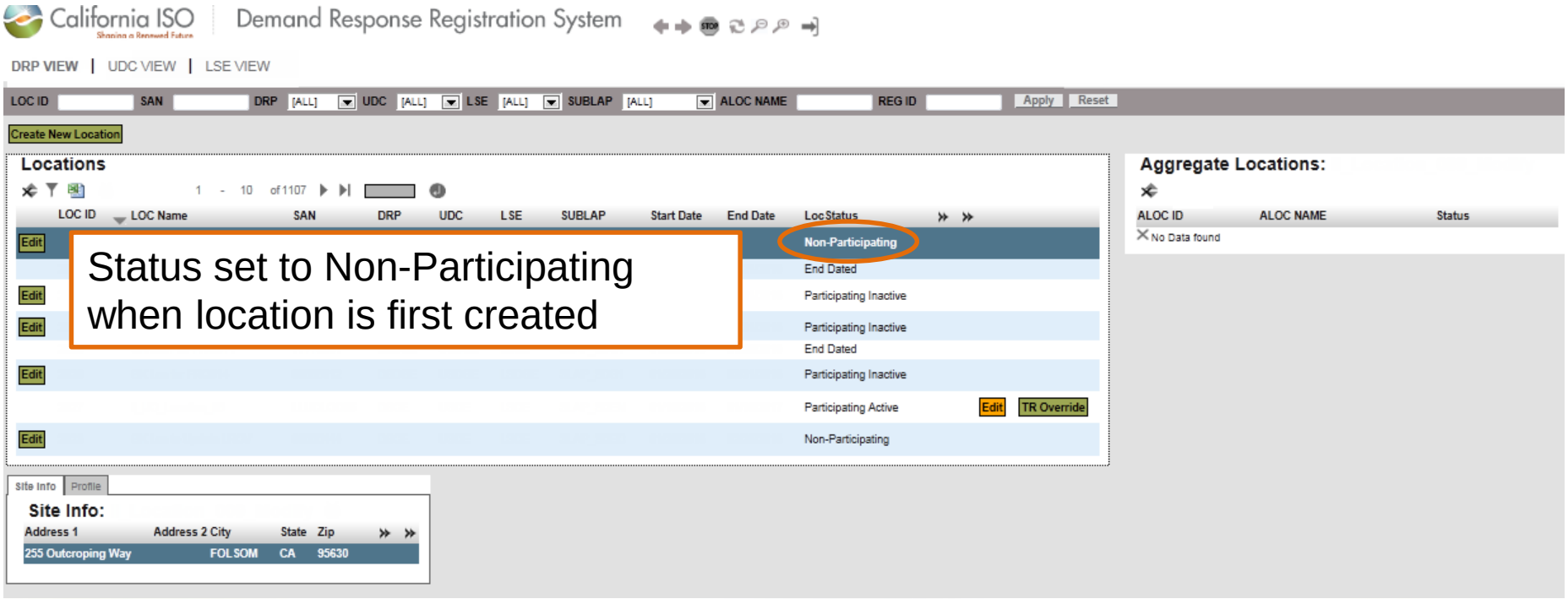
DRRS Application: Locations menu option (full screen)

- A location is Non-Participating if it does not belong to an ALOC
- Status changes to Participating Active or Participating Inactive when added to an ALOC



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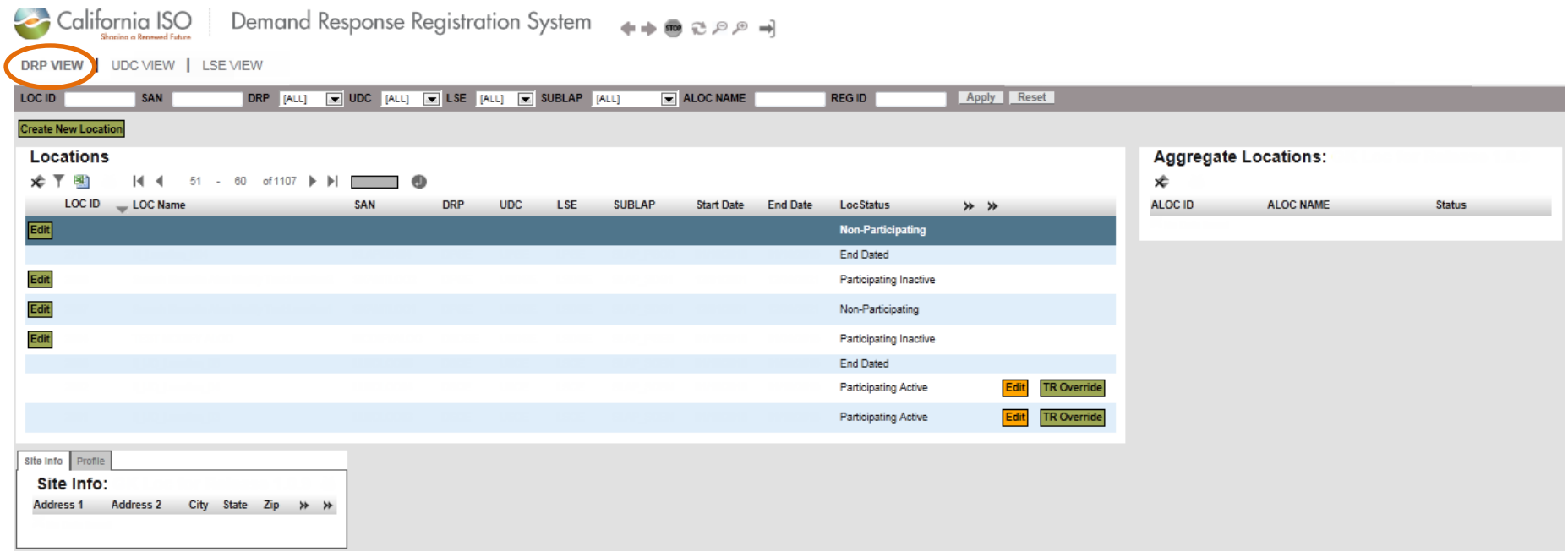
DRRS Application: Locations menu option (full screen)

- This screen displays a list of locations
- DRP can create new locations
- DRP can modify information (in some cases)
- LSE and UDC have read-only access



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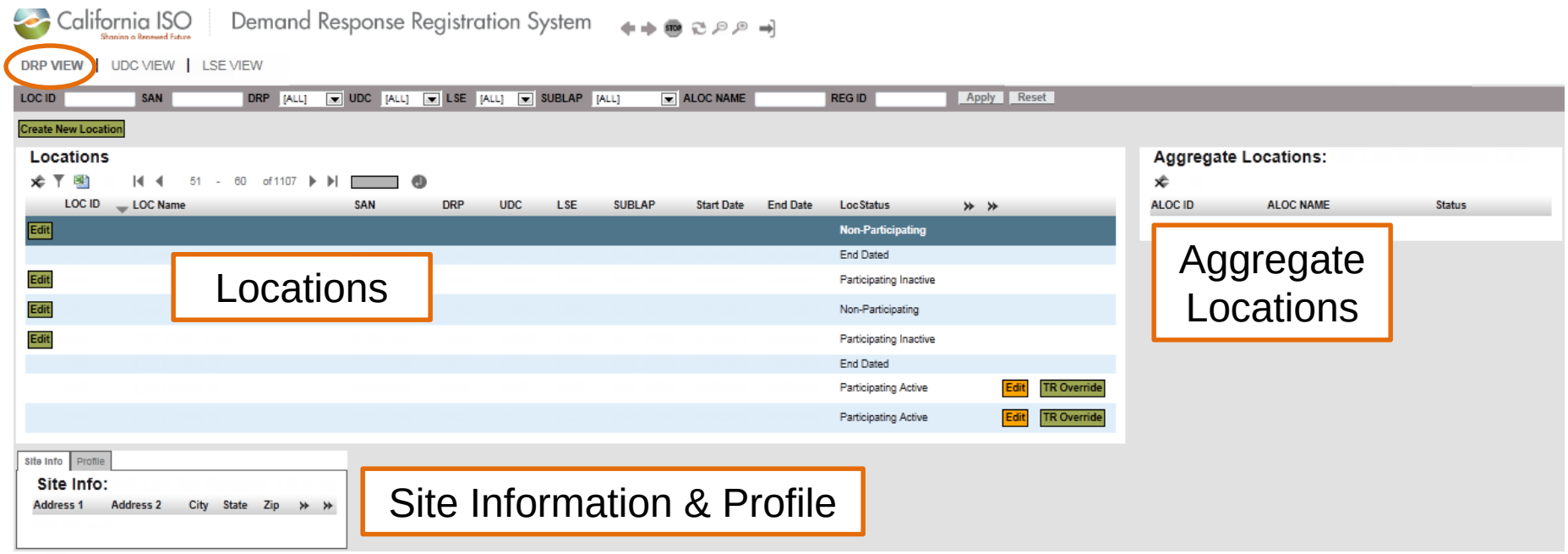
DRRS Application: Locations menu option (full screen)

- Locations are displayed on the left
- Click on a location to see
  - What aggregate location it belongs to (if any) – right side
  - Site Information (address) – bottom
  - Profile (type of load reduction) – bottom



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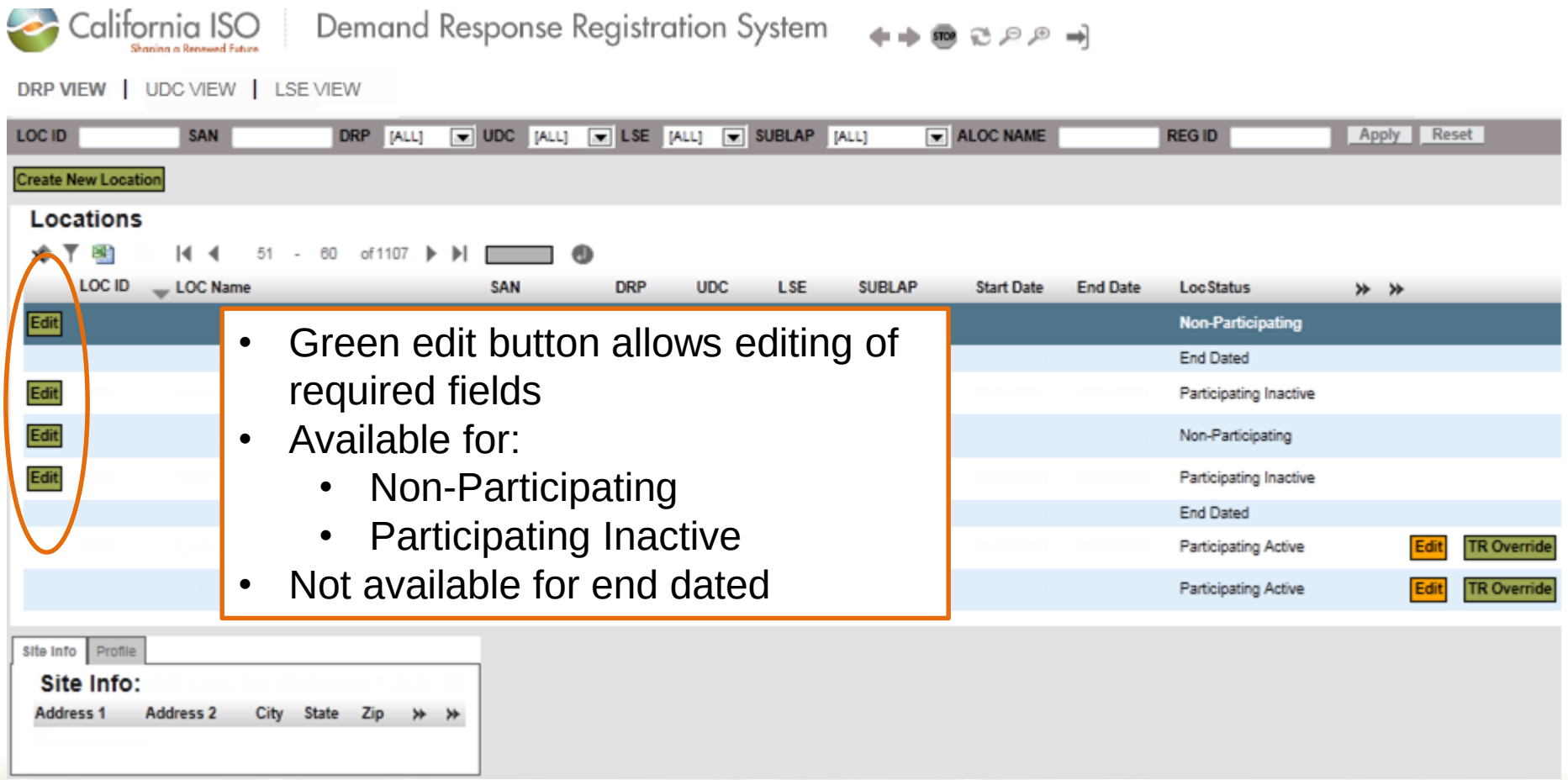
DRRS Application: Locations menu option (left side)

- Edit buttons are available to DRP based on location status



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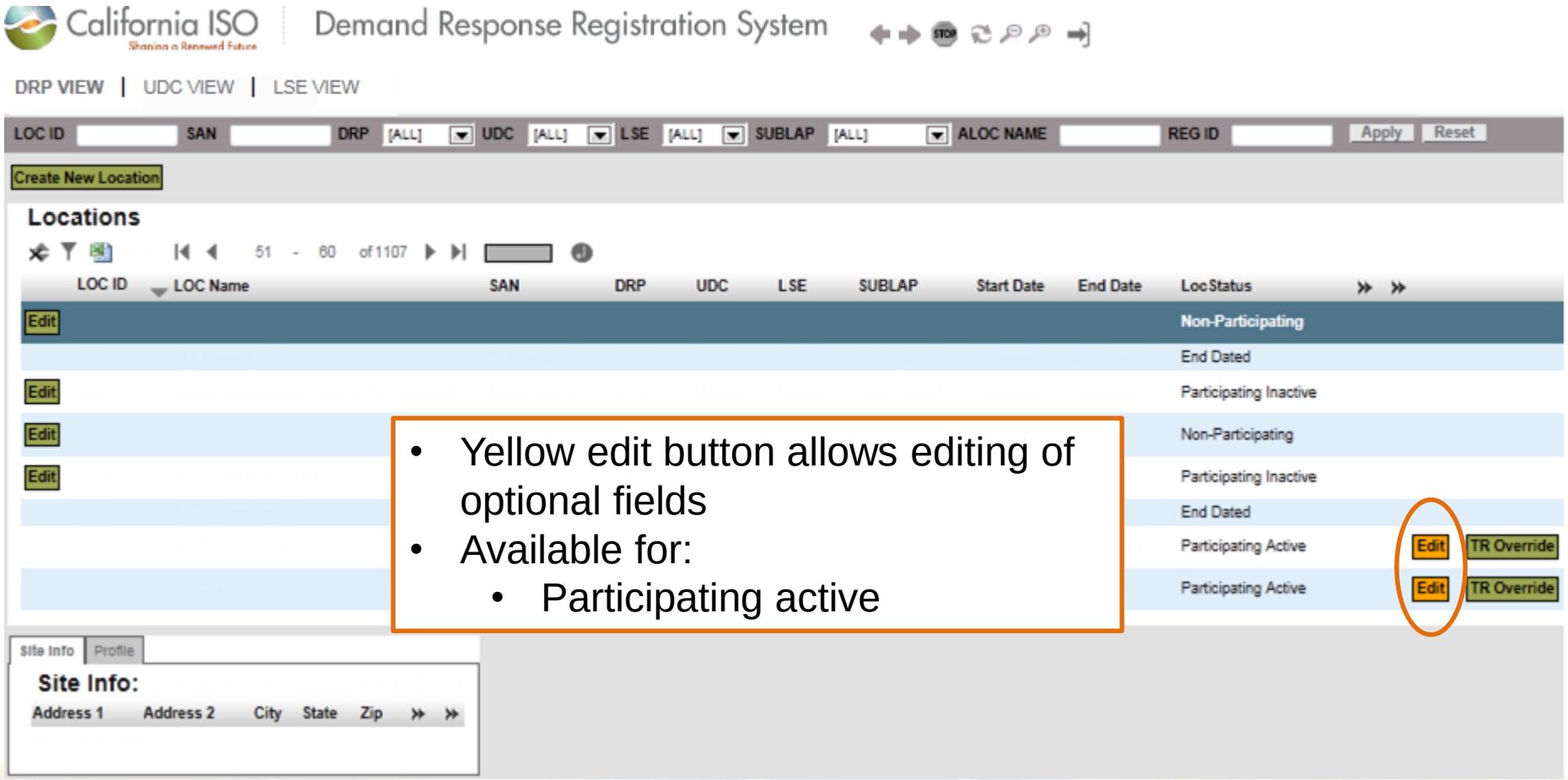
DRRS Application: Locations menu option (left side)

- Edit buttons are available to DRP based on location status



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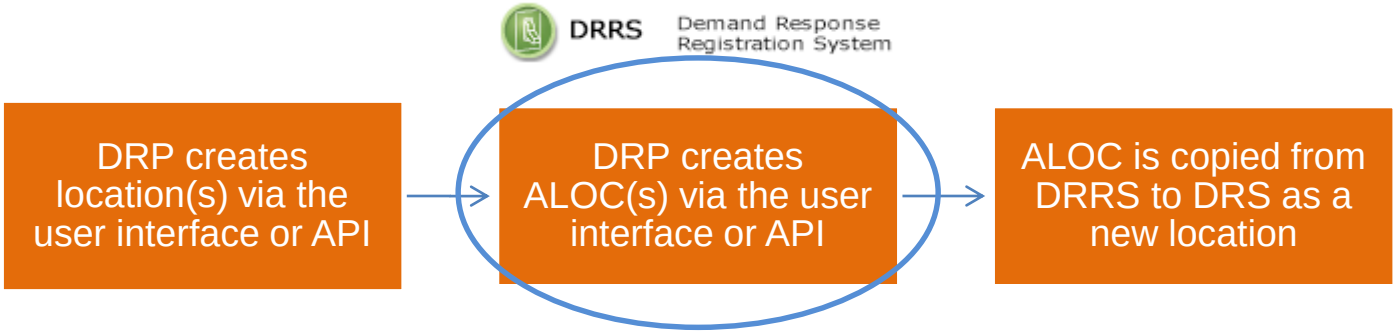
DRRS Application Functionality



- Application functionality
  - Create new aggregate location (ALOC)

- An aggregate location must be created for all locations, even if there is only one location to register

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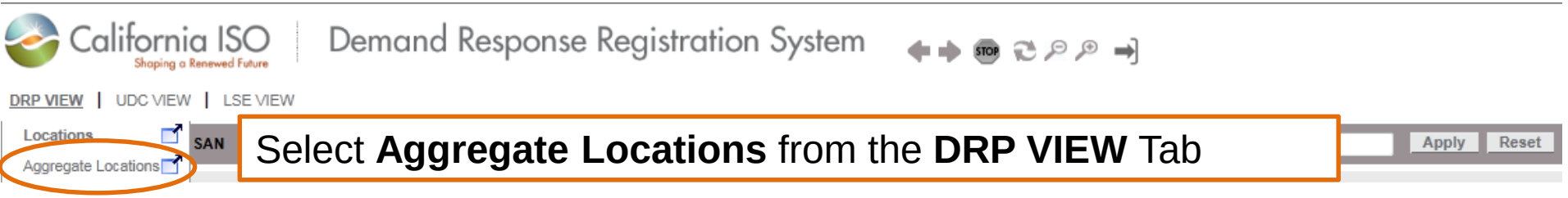
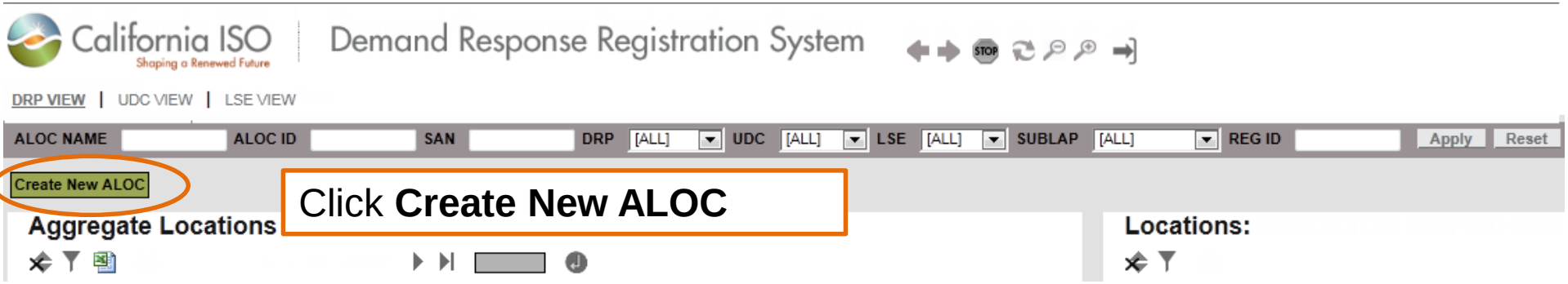
DRRS Application: Create New ALOC

- Functionality for DRP only





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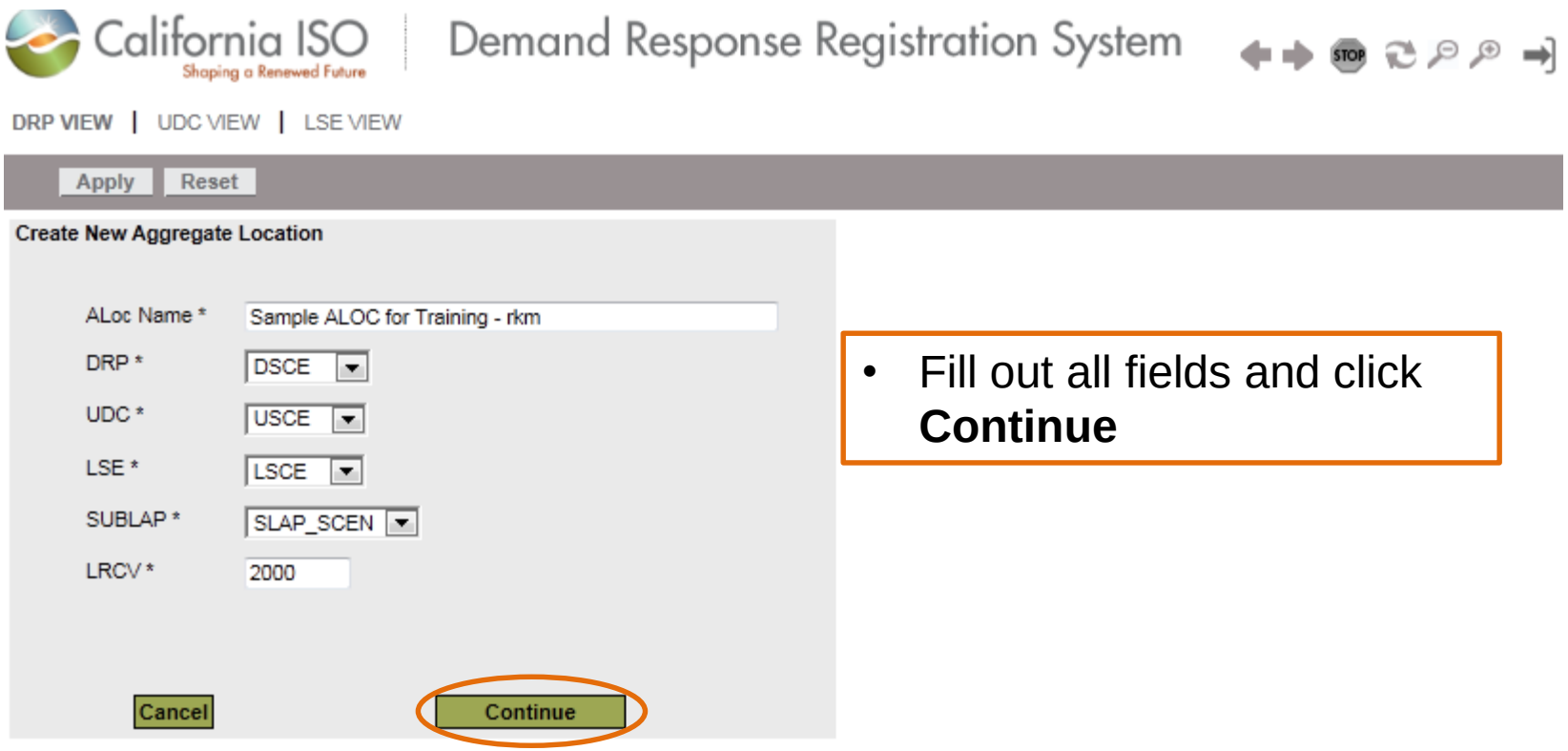
DRRS Application: Create New ALOC



- Fill out all fields and click **Continue**

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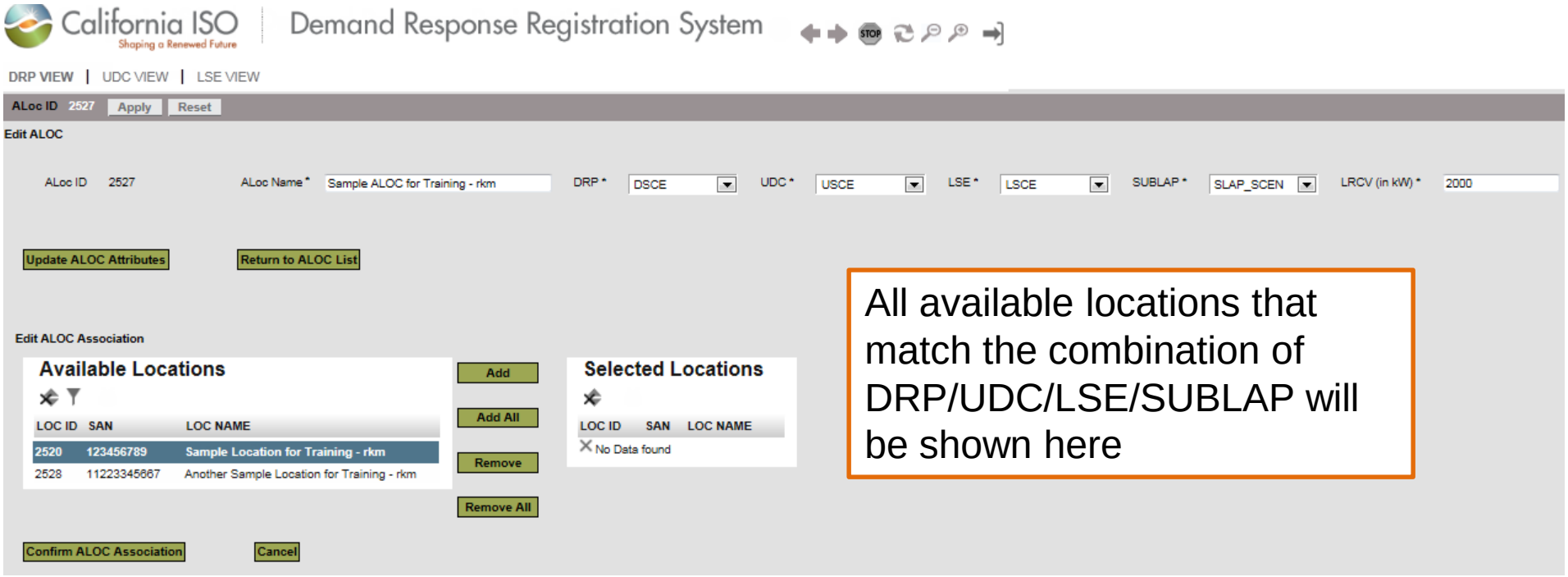
DRRS Application: Create New ALOC



All available locations that match the combination of DRP/UDC/LSE/SUBLAP will be shown here

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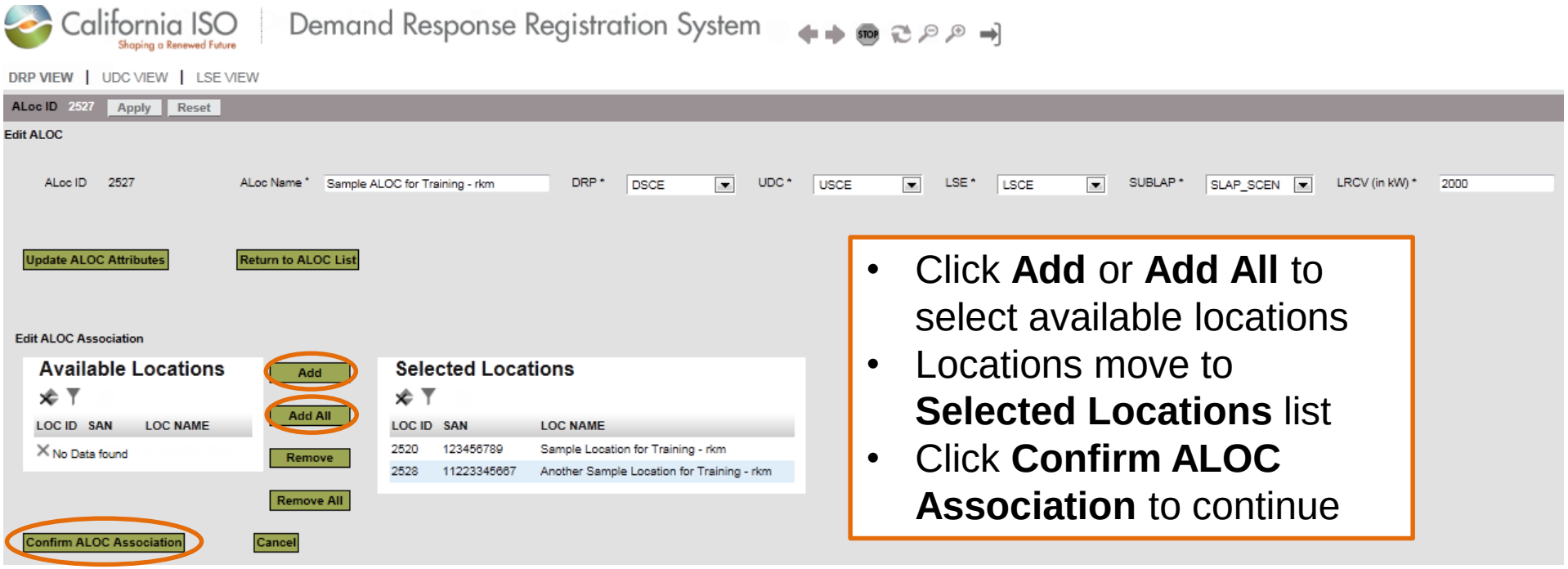
DRRS Application: Create New ALOC



- Click **Add** or **Add All** to select available locations
- Locations move to **Selected Locations** list
- Click **Confirm ALOC Association** to continue

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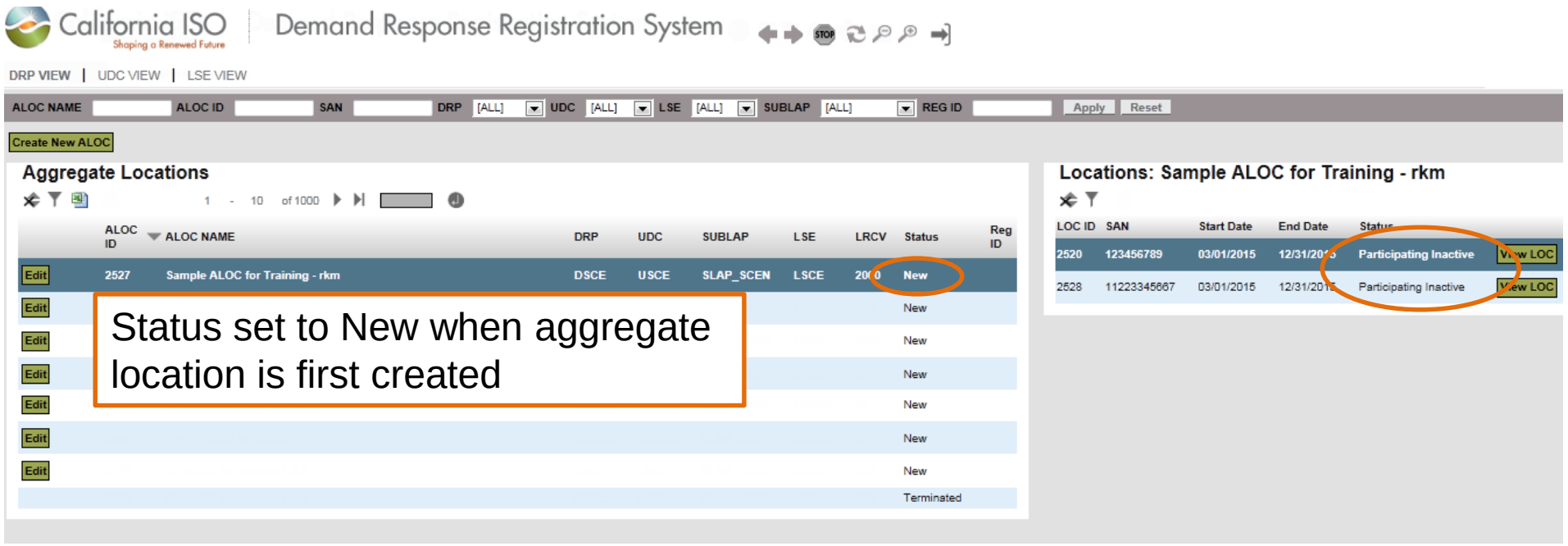
DRRS Application: Create New ALOC

- Aggregate location status set to New upon creation
- Location status changes to Participating Inactive when added to a new ALOC



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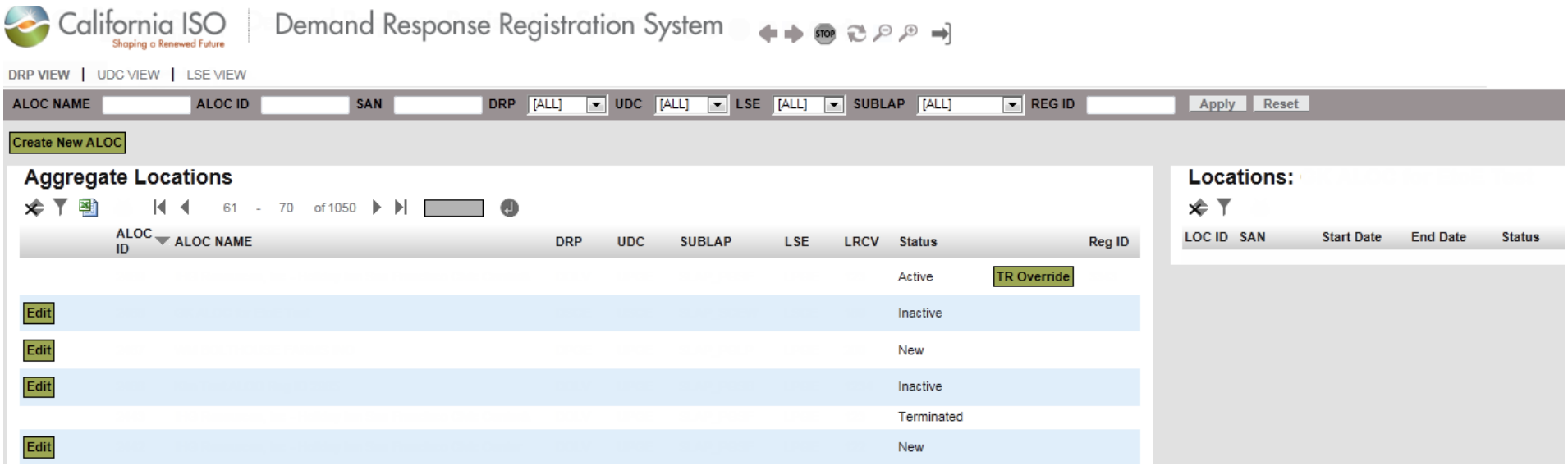
DRRS Application: Aggregate Locations menu option (full screen)

- This screen displays a list of aggregate locations
- DRP can create new aggregate locations
- DRP can modify information (in some cases)
- LSE and UDC have read-only access



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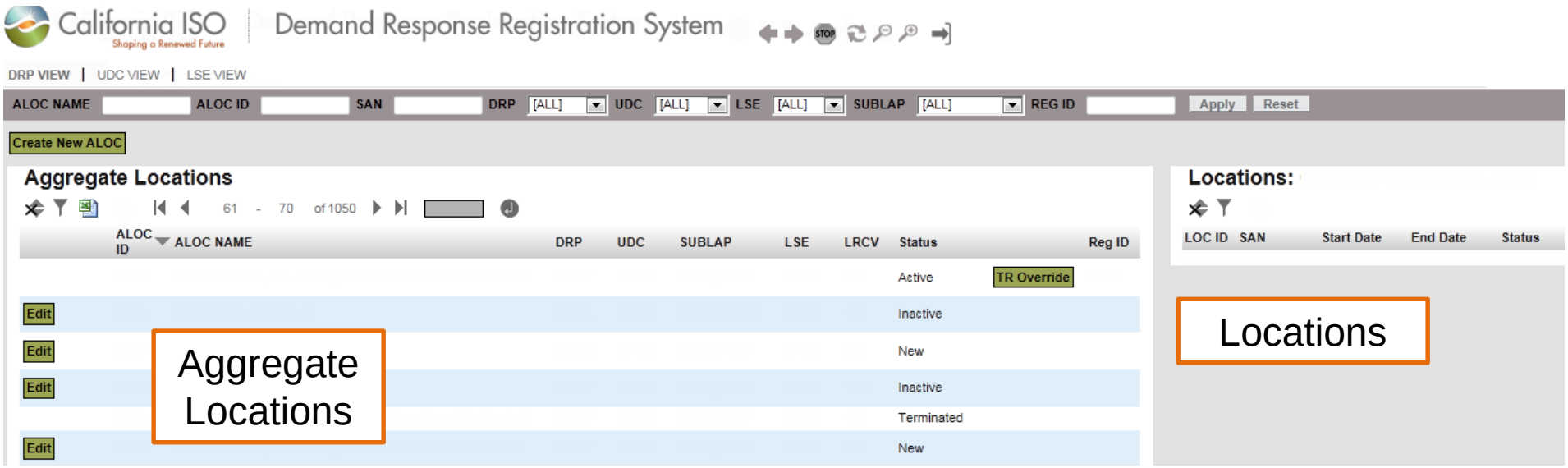
DRRS Application: Aggregate Locations menu option (full screen)

- Aggregate locations are displayed on the left
- Click on an aggregate location to see
  - What location(s) are included (if any) – right side



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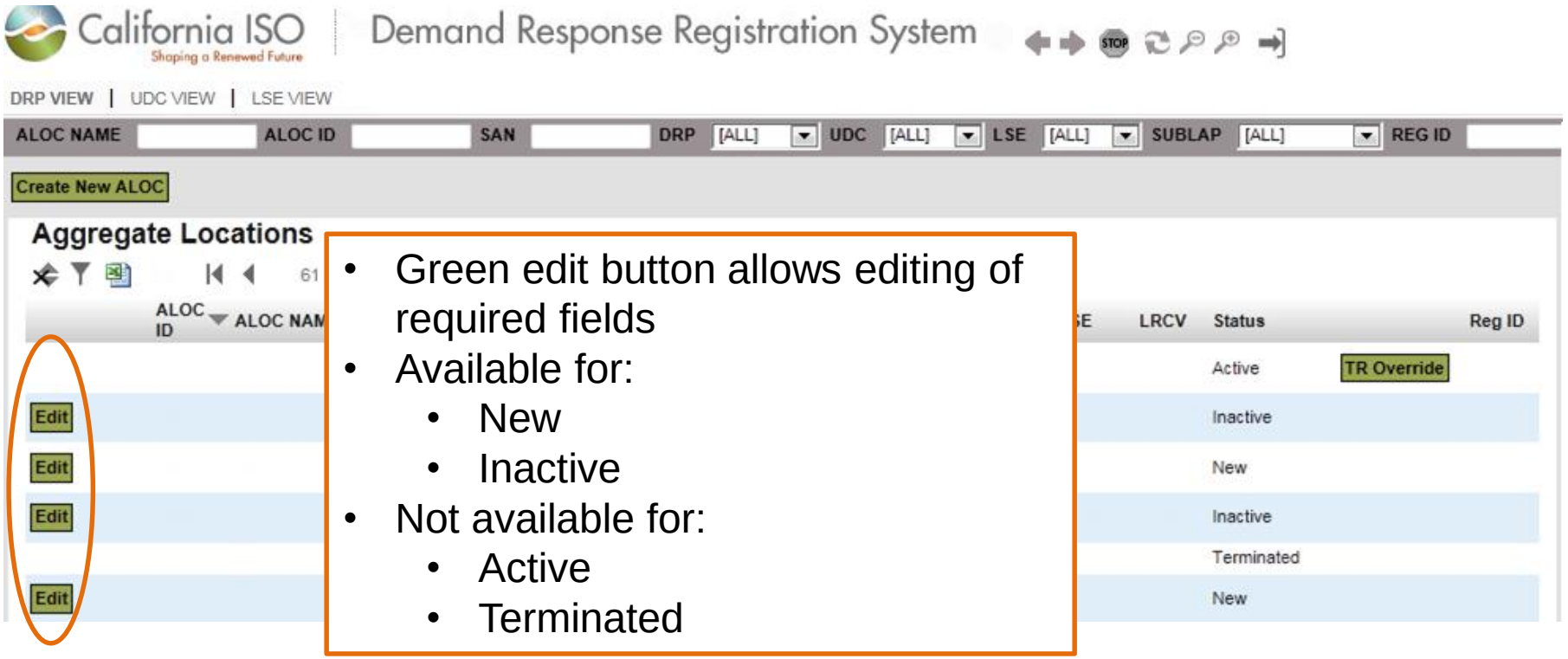
DRRS Application: Aggregate Locations menu option (left side)

- Edit button is available to DRP based on status



- Green edit button allows editing of required fields
- Available for:
  - New
  - Inactive
- Not available for:
  - Active
  - Terminated

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DRRS Application Functionality

- ALOCs are copied to DRS once completed

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Changes to Existing Demand Response System (DRS)

As-Is DRS Functionality

Create & modify locations

Create & modify registrations

Review and comment by LSE and UDC

ISO review and assignment of PDR/RDRR ID

Upload & download meter data

Calculate & download customer baseline information

Evaluate compliance and event information

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To-Be DRS Functionality

View aggregate locations

Create & modify registrations

Review and comment by LSE and UDC

ISO review and assignment of PDR/RDRR ID

Upload & download meter data

Calculate & download customer baseline information

Evaluate compliance and event information

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DRS Application Functionality

DRP creates registration → LSE, UDC review of registration → ISO review of registration → ISO assigns PDR/RDRR ID and effective date to registration

DRP submits RDT form → PDR/RDRR ID and Pmax updated in ISO master file → ISO approves registration

(master file)

(master file)

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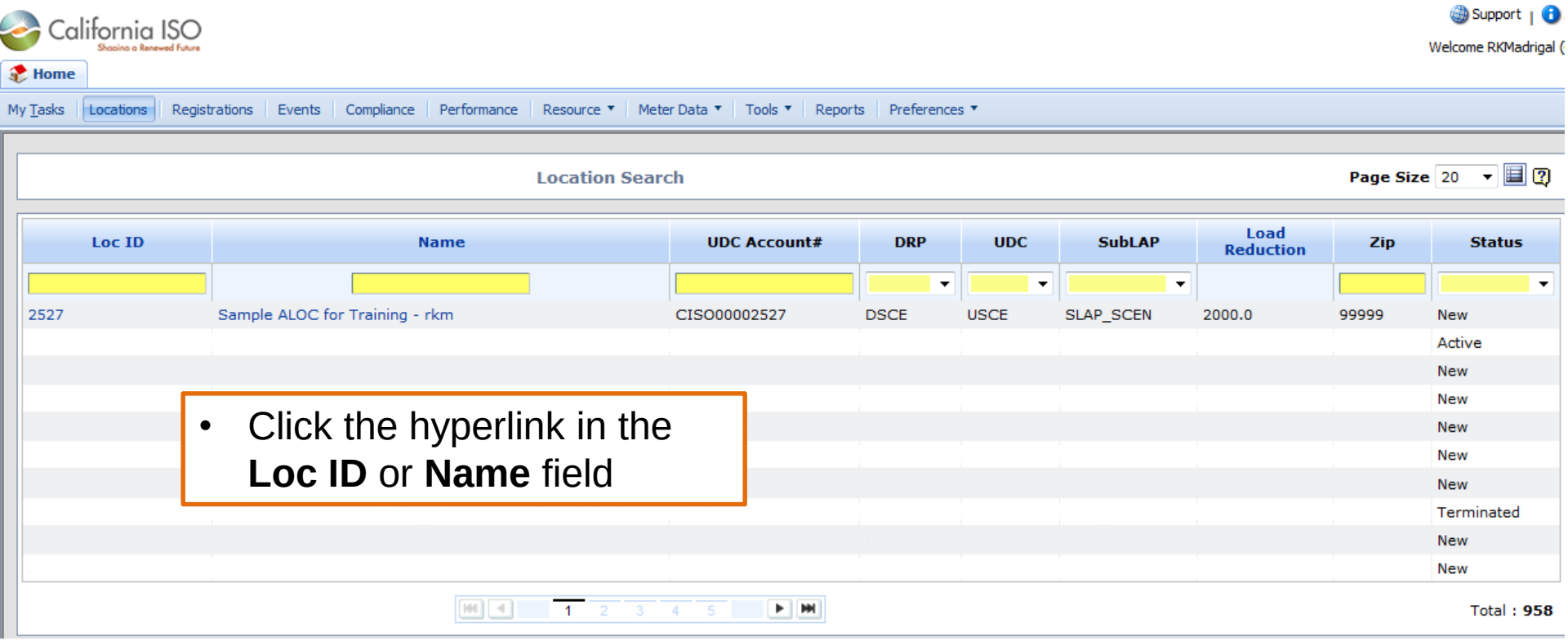
DRS Application: Create Registration



- Click the hyperlink in the **Loc ID** or **Name** field

Note: the Action button has been removed from the location screen. Locations are no longer created in DRS.

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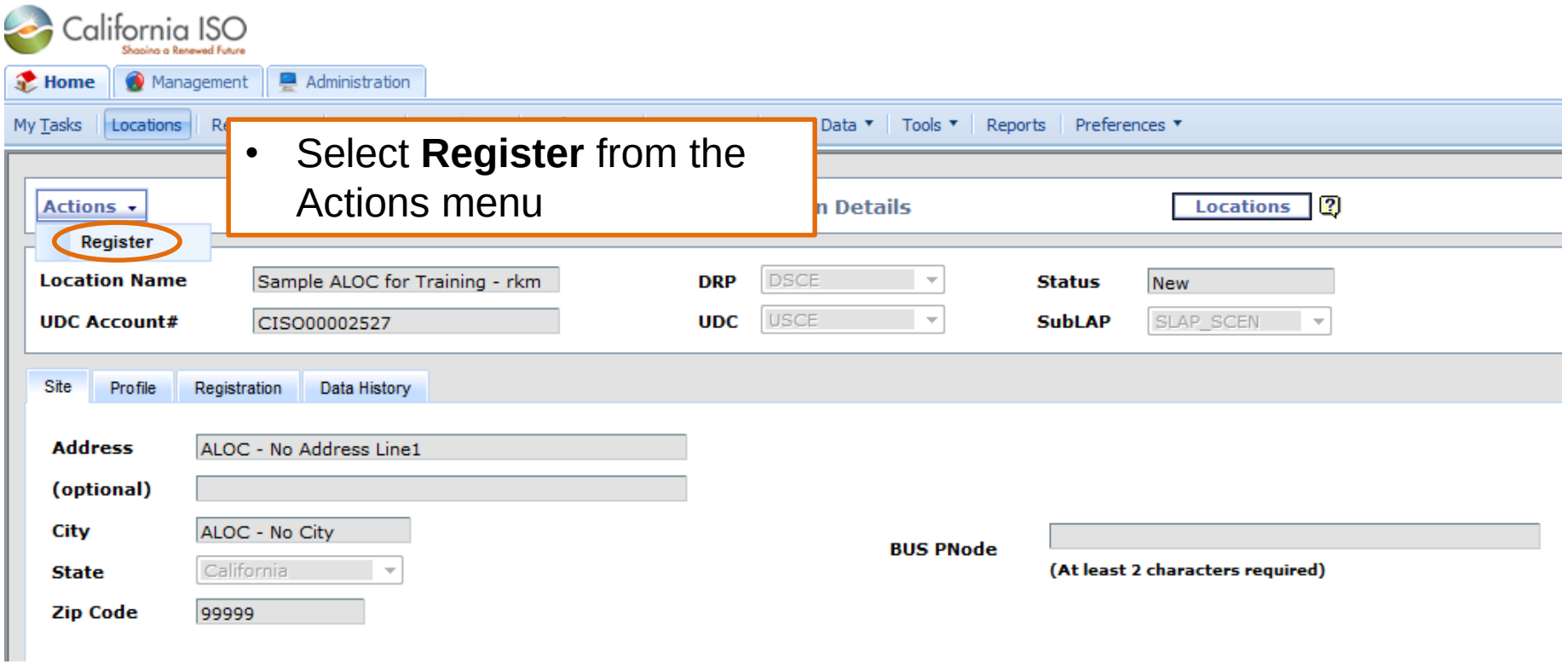
DRS Application: Create Registration



- Select **Register** from the Actions menu

- Note: Register will be available for locations that are New or Inactive

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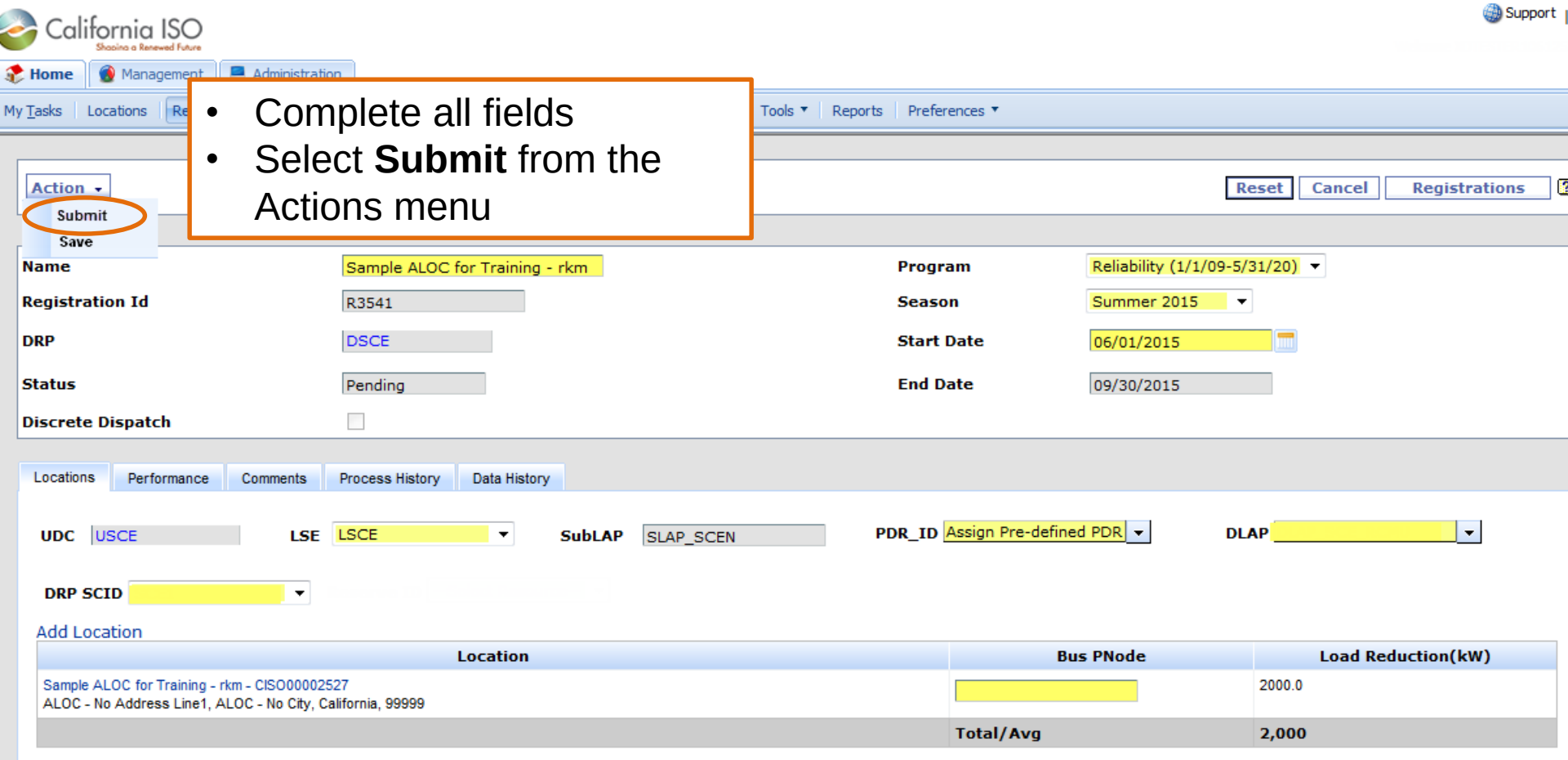
DRS Application: Create Registration

- Complete all fields
- Select **Submit** from the Actions menu



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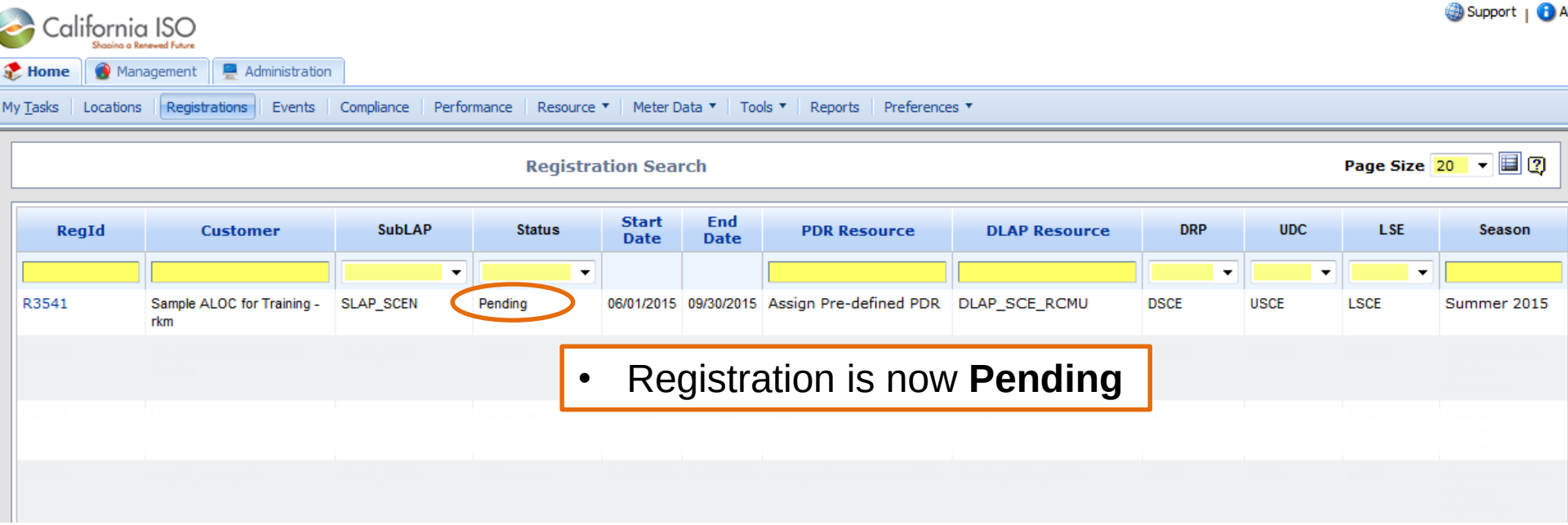
DRS Application: Registration in Pending Status



- Registration is now **Pending**

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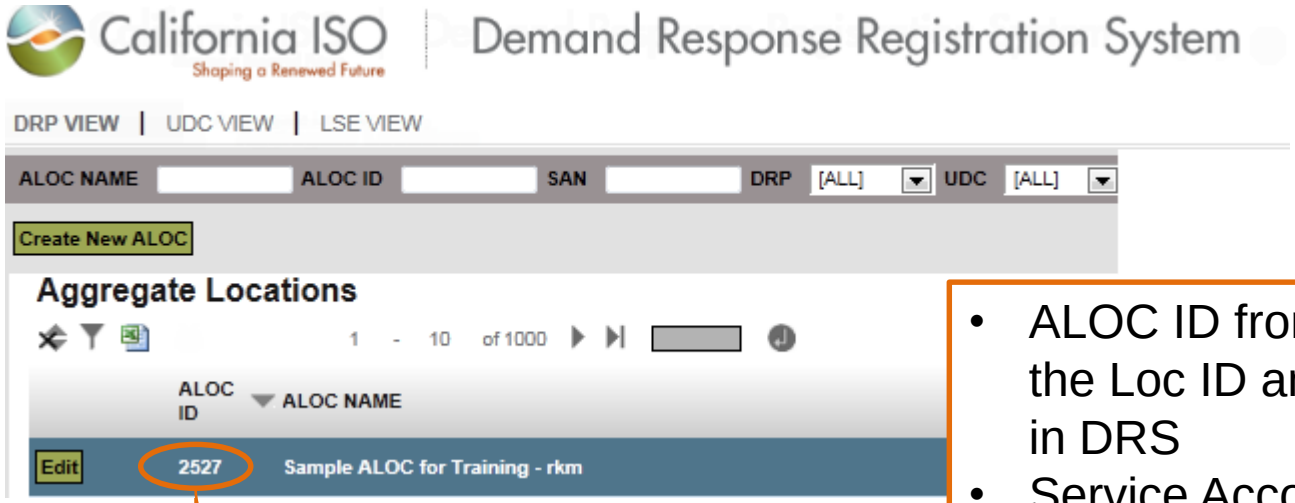
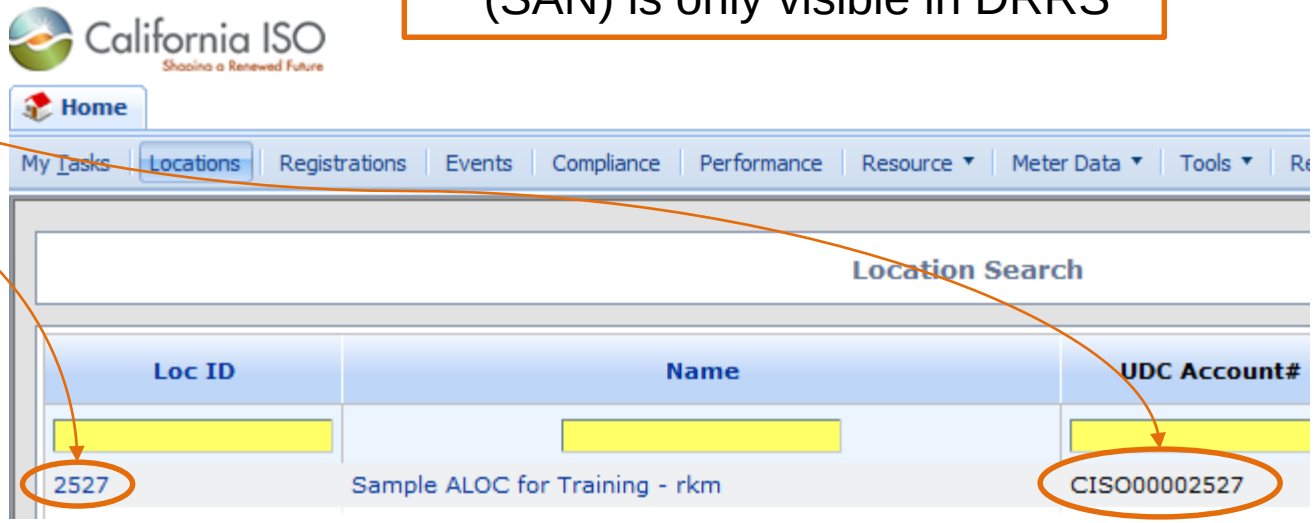
Note: DRRS/DRS ID Numbers



- ALOC ID from DRRS matches the Loc ID and UDC Account # in DRS
- Service Account Number (SAN) is only visible in DRRS



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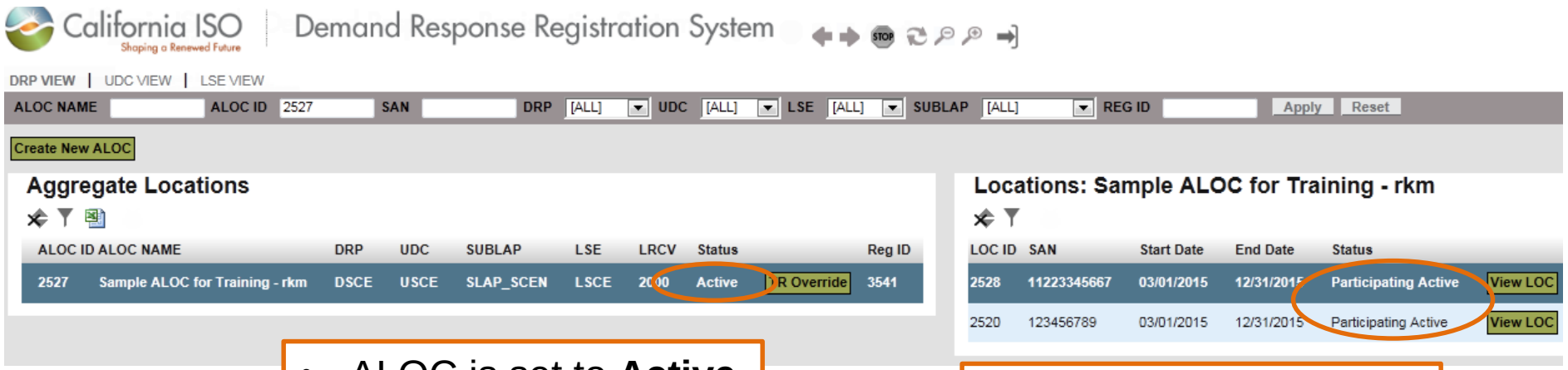
DRRS Application: Status Changes

- A registration is active if the registration status is either Confirmed or Pending in DRS



- ALOC is set to **Active**

- Location(s) set to **Participating Active**

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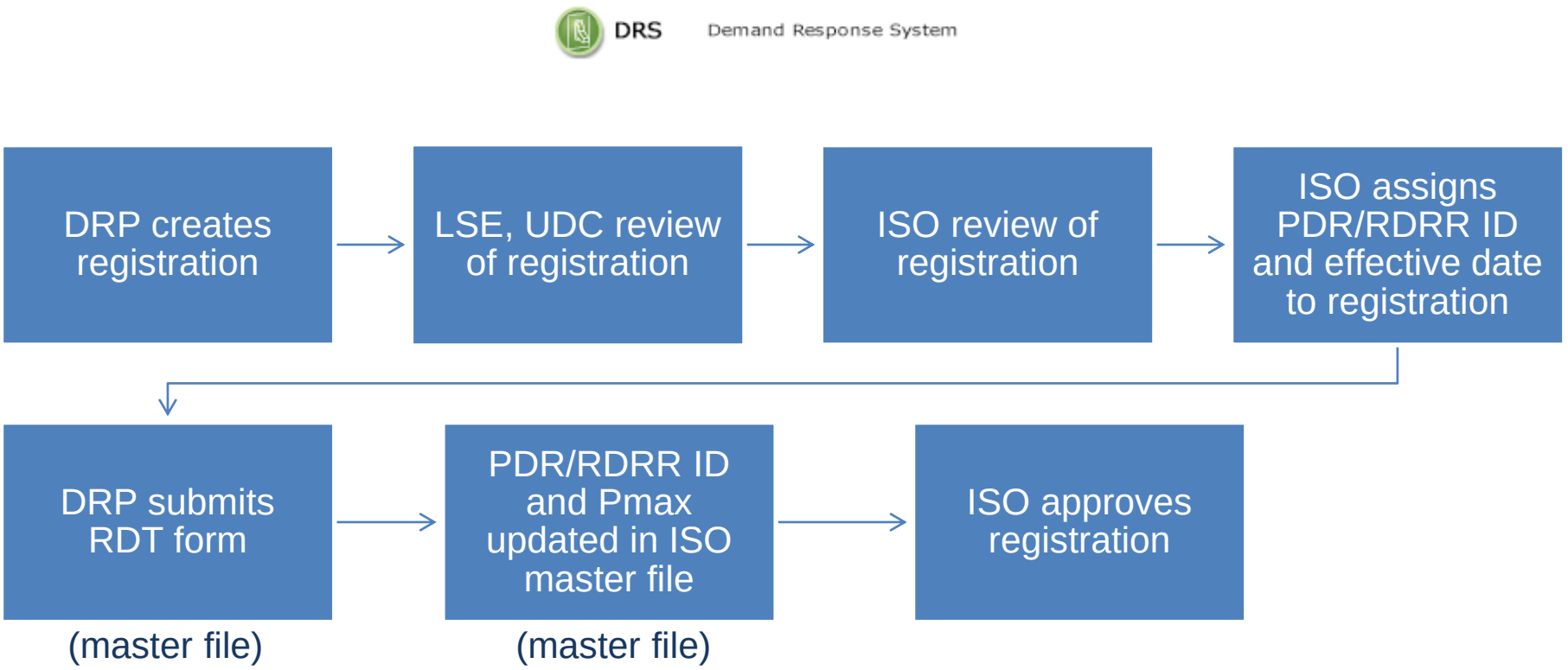
DRS Application Functionality



- The remaining functions have not changed
- Step-by-step instructions are provided in the demand response user guide

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Registration Management

Registration Management

DRRS Application: TR Override Function

Registration Management

- Registration cannot be modified once the DRP has submitted it
- Locations cannot be added to or removed from a registration once confirmed
- If a change is necessary, terminate the registration and create a new one to replace it
- Note: copy registration function has been removed from DRS

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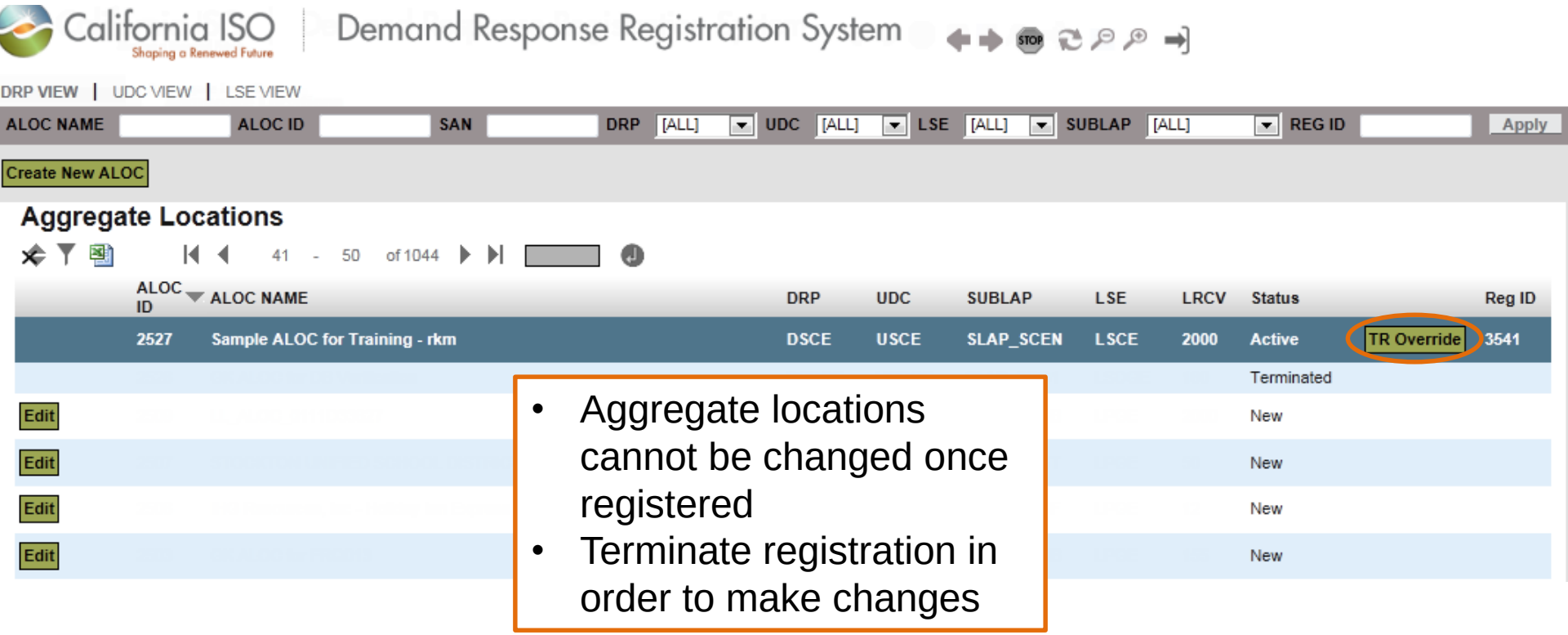
DRRS Application: TR Override

- The **TR Override** button immediately terminates the registration in DRS



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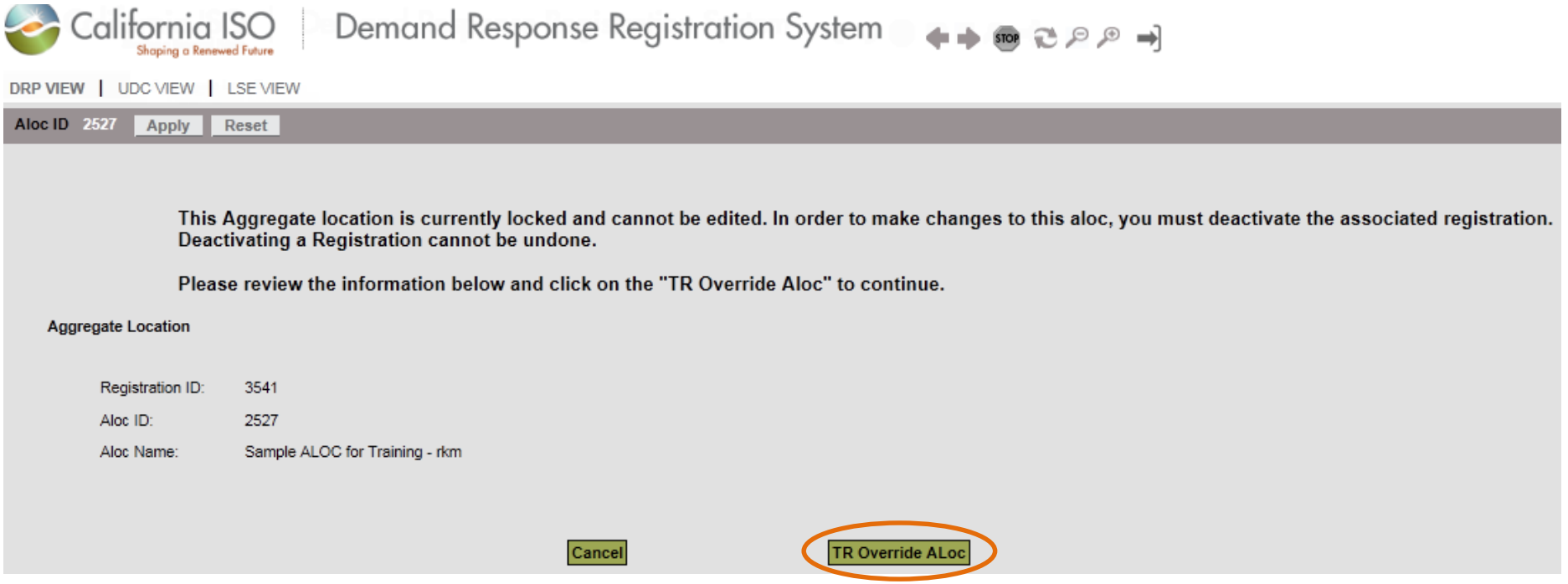
DRRS Application: TR Override

- Reminder message that the override process is immediate and cannot be undone



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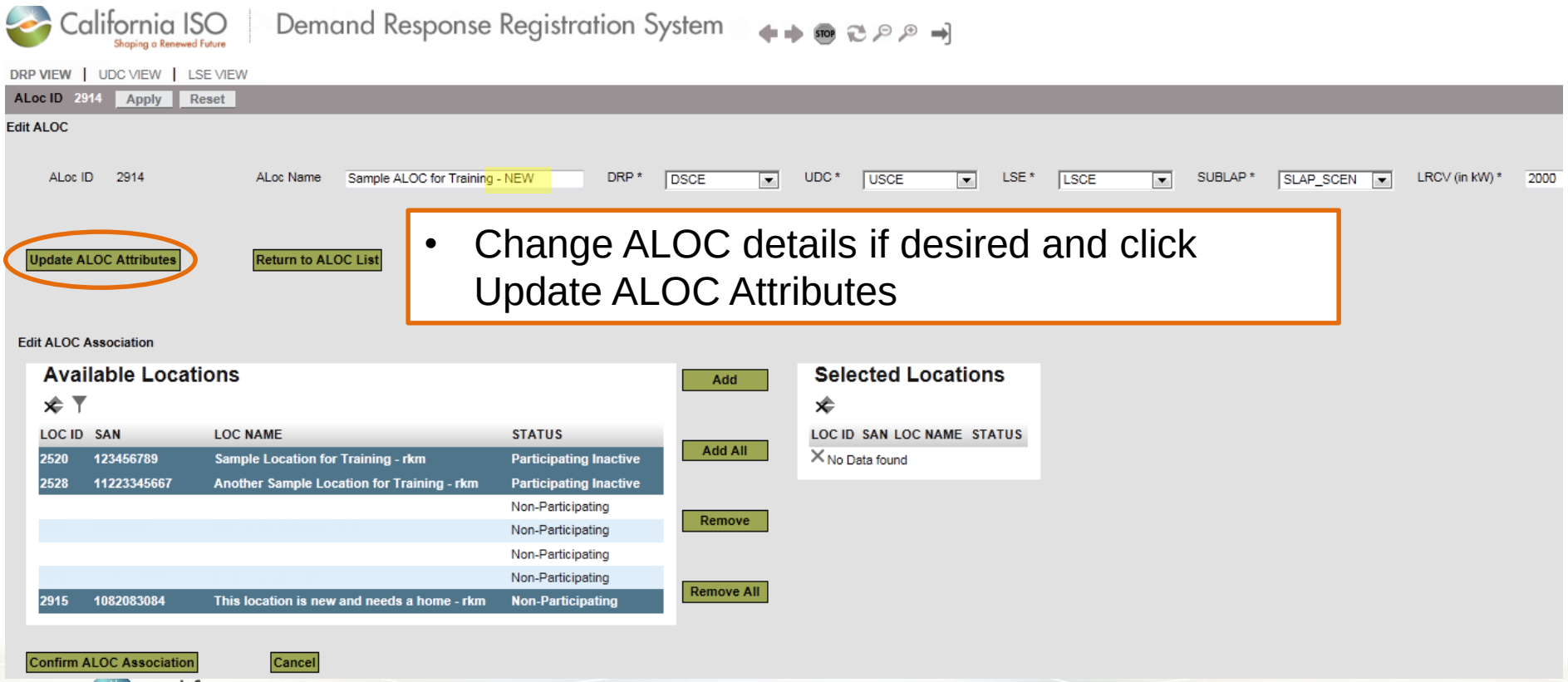
DRRS Application: TR Override > Edit ALOC

- When the registration and ALOC are terminated, DRRS makes a copy of the ALOC so changes can be made
- This screen is displayed after termination is completed



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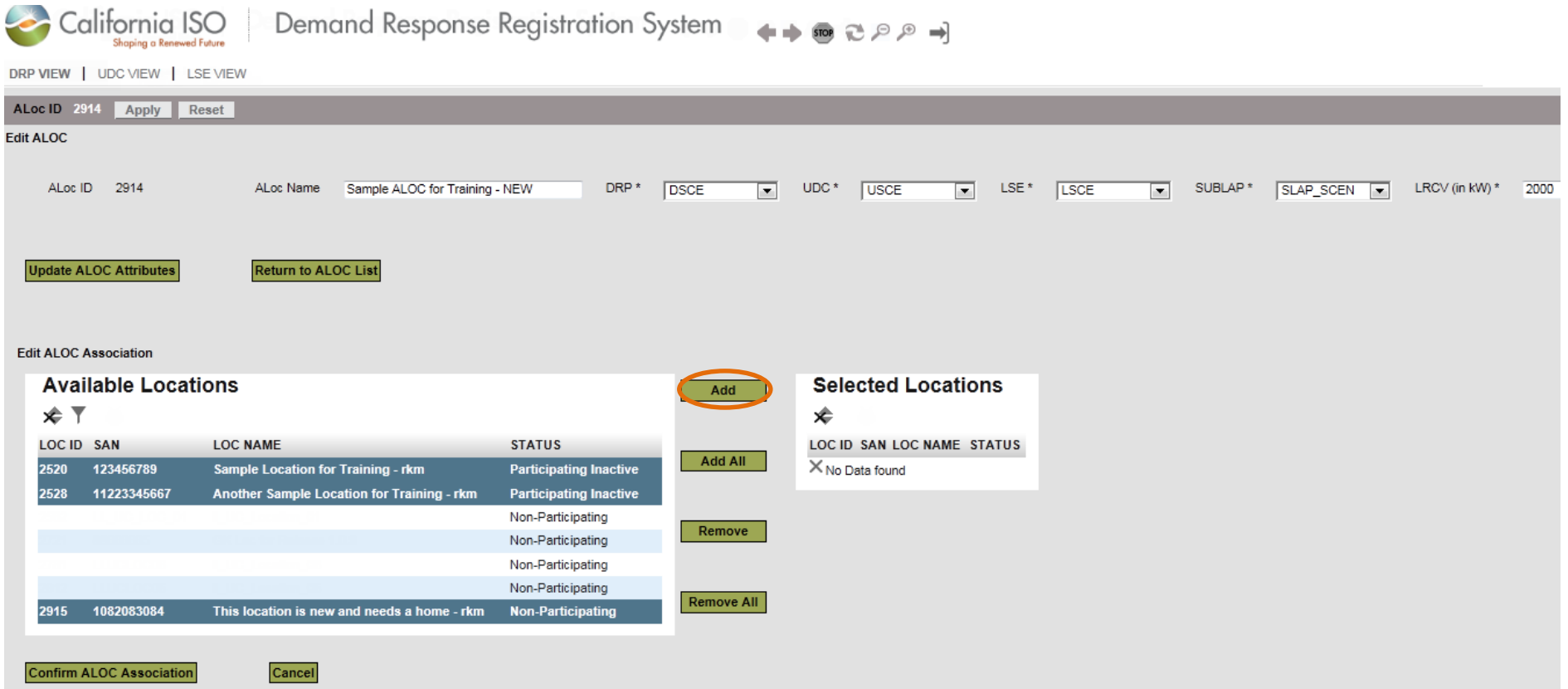
DRRS Application: TR Override > Edit ALOC

- Select multiple locations using Shift + Down Arrow or Ctrl + Click and click **Add**



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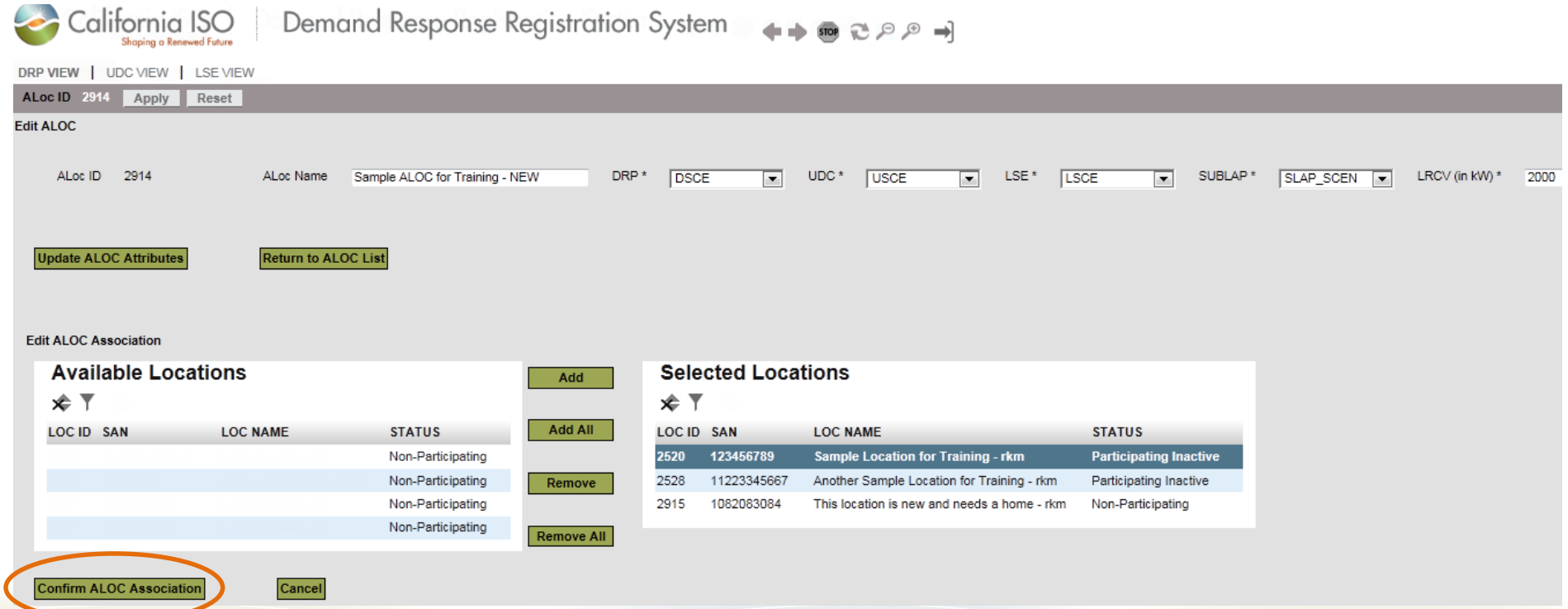
DRRS Application: TR Override > Edit ALOC

- Click Confirm ALOC Association to create the new aggregate location
- From here, the ALOC is copied to DRS as a Location and is ready for registration



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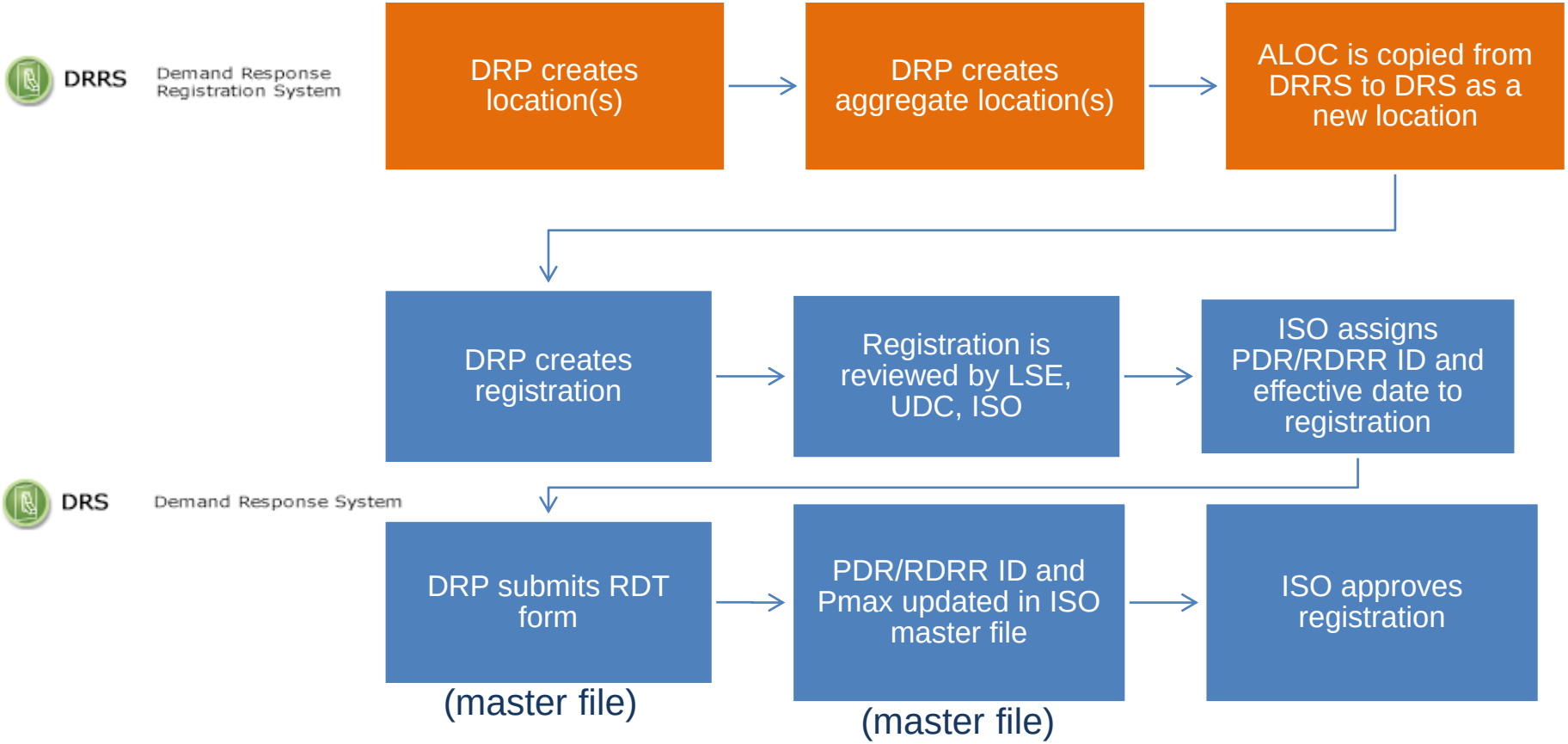
Review Demand Response Location Registration

Demand Response Location Registration

- Locations and aggregate locations are created in the Demand Response Registration System (DRRS) via user interface or API



- Locations are registered, reviewed, verified, and approved in the Demand Response System (DRS) via user interface

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Questions?

- Registration questions:
  - Email the PDR Coordinator (pdr@caiso.com)
- Support during market simulation:
  - Contact the ISO Help Desk at (888) 889-0450 or helpdesk@caiso.com
  - Submit a CIDI ticket (select the market sim environment)
- Support after production release:
  - Contact the ISO Help Desk at (888) 889-0450 or helpdesk@caiso.com
  - Submit a ticket in CIDI (select the Production environment)

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Reference Material

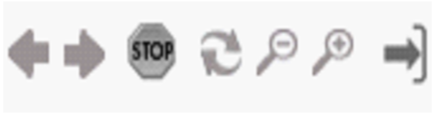
Features of User Interface

Reference Material (documentation)

Acronyms

Features of User Interface: Application Toolbar

- The application toolbar contains the application or browser-based functions

	
	Goes to the previous display in browsing history
	Goes to the next display in browsing history
	Stops loading the current display
	Refreshes the display in the current window
	Zoom out
	Zoom in
	Log out

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Features of User Interface: Locations Tab

- The filter toolbar contains the filtering options for locations

Apply	Refreshes location data with the filters
Reset	Restores filters to default settings
Note re: wildcard search	There is no need to use an asterisk (*) wildcard symbol to search for information. The filter functionality has been pre-set to include an implied wildcard. (e.g. Enter **1234** in the **SAN** field and click the **Apply** button to display a list of all locations that contain that string of numbers in the SAN)

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Features of User Interface: Aggregate Locations Tab

- The filter toolbar contains the filtering options for aggregate locations

Apply	Refreshes aggregate location data with the filters
Reset	Restores filters to default settings
Note re: wildcard search	There is no need to use an asterisk (*) wildcard symbol to search for information. The filter functionality has been pre-set to include an implied wildcard. (e.g. Enter **lake** in the **ALOC Name** field and click the **Apply** button to display a list of all aggregate location names that contain that string of letters)

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Features of User Interface: Multiple Column Sorting

- Clicking on a column in the results window enables sorting in ascending or descending order

How to use multiple column sorting:

- Click a column header. The data is sorted in ascending order and the following icon appears in the column header: . This indicates the first level sorting.
- Click another column. The data is sorted in ascending order. The icon in the first column changes to: . The following icon appears in the second column: . This indicates the second level sorting.
- Click another column. The data is sorted in ascending order and the following icon appears in the column header: .
- Click the same column again. The data is sorted in descending order. The icon in the column header is changed to: .
- Continue to click column headers to deselect and then reprioritize the sorting order.

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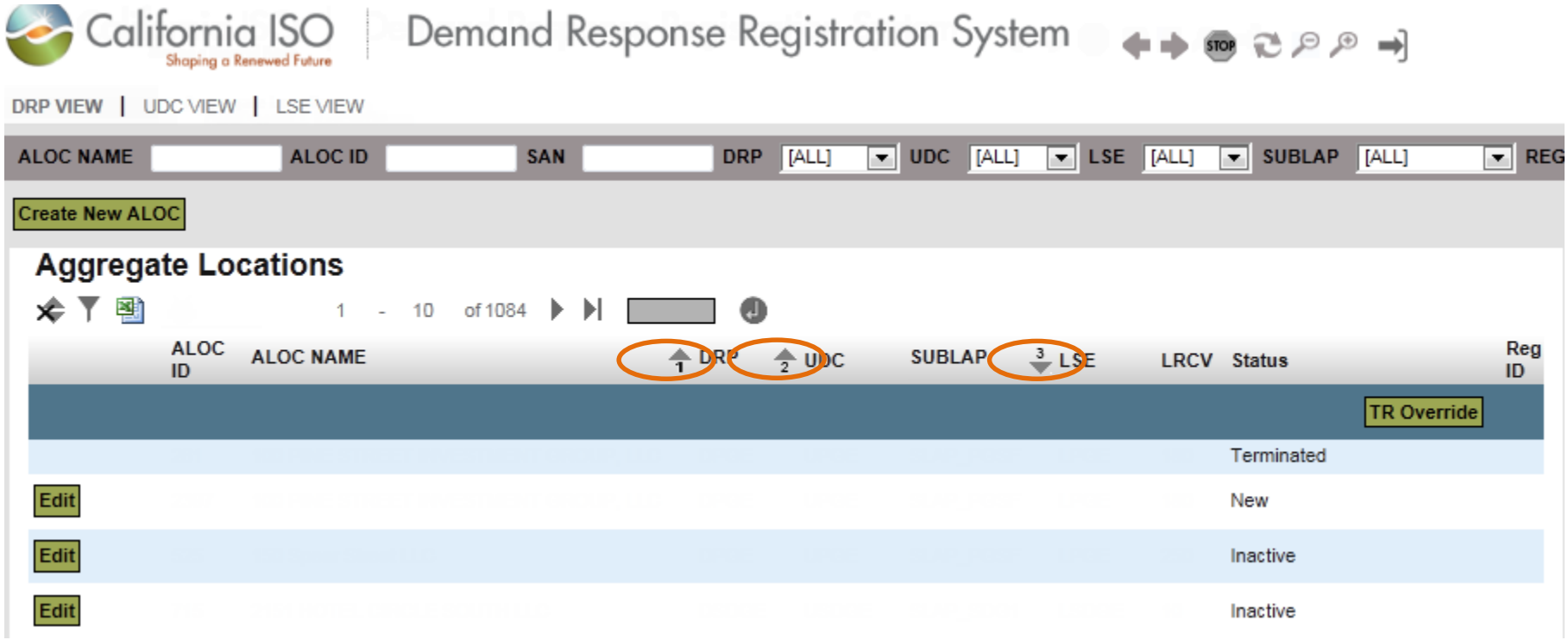
Features of User Interface: Multiple Column Sorting

- This image shows the example explained on the previous slide



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Features of User Interface: Results Window

- The results window provides inline filtering and export functionality

	Restore sort to default setting (removes user-created multiple column sorting)
	The Inline Filter works as a toggle. Click the icon to filter data based on the content of a particular column. Press **Enter** after inputting the filter criteria. (Note: Wildcard symbols can be used in this column, but they are not necessary. For example, searching for *lake* or lake will provide the same results.)
	Exporting (to Excel, Word, CSV)

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Features of User Interface: Export Menu

- The export menu allows the user to customize the data export

Export All	All data points will be exported to Excel
Export Page	The current page will be exported to Excel
Export Wizard	The user can customize the data export

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Features of User Interface: Results Window

- The results window provides data in multiple pages

	Navigate to the first page of data
	Navigate to the previous page of data
	Navigate to the next page of data
	Navigate to the last page of data
	Go to specific line item entered in search box

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Reference Material

- External Business Requirements Specification for Demand Response Location Registration Enhancement:
  - http://www.caiso.com/Documents/ExternalBusinessRequirementSpecification-DemandResponseLocationRegistrationEnhancement.pdf
  - Appendix A – Demand Response Locations, Aggregate Locations, Registrations and Resource IDs
    - http://www.caiso.com/Documents/AppendixA-DemandResponseLocations_AggregateLocations_Registrations_ResourceIDs.pdf
  - Appendix B – Demand Response High-Level As-Is and To-Be Use Cases
    - http://www.caiso.com/Documents/AppendixB-DemandResponseHigh-LevelAs-Is_To-Be_UseCases.pdf

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Reference Material

- Draft Demand Response User Guide:
  - Accessible under the Independent 2015 release section titled Enabling demand response - Implementation: http://www.caiso.com/informed/Pages/ReleasePlanning/Default.aspx
  - Use Cases:
  - http://www.caiso.com/Documents/DemandResponseLocationRegistrationEnhancement-UseCasesv11.xlsx
- Web Service Data Requirements:
  - http://www.caiso.com/Documents/Demandresponselocationregistrationenhancement-requestlocationdata_v10.xlsx
  - http://www.caiso.com/Documents/DemandResponseLocationRegistrationEnhancement-CombinedAggregationLocationAndLocation-v1_1.xlsx

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Acronyms

Acronym	Description
ALOC	Aggregate Location
API	Application Programming Interface
DRP	Demand Response Provider
DRRS	Demand Response Registration System
DRS	Demand Response System
LRCV	Load Reduction Capacity Value
LSE	Load Serving Entity
PDR	Proxy Demand Response Resource
RDT	Resource Data Template
SAN	Service Account Number (in DRS this is the UDC Account Number)
UDC	Utility Distribution Company

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