Maximum Import Capability (MIC) Enhancements Pre-Market Sim Training

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Revised: 08/16/23
- Slide 7 (Updated date)
- Slide 22 (Provided clarification)
- Slide 39 (Provided clarification)
- Slide 41 (Corrected info)
- Slide 49 (New slide)
- Slide 50 (New slide)

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Who does this impact?

**Scheduling Coordinators** that are participating in the Resource Adequacy program, more specifically California ISO Load Serving Entities (LSEs).
Housekeeping

- Keep yourself muted to minimize background noise
- Unmute to ask verbal questions or write questions in the chat pod
- Raise your hand using WebEx interactivity tools
Agenda

This training will cover the following topics:

– High-level review of changes
– Application-specific details
– Market simulation activities
Maximum Import Capability (MIC) Enhancements scope

1. Additional transparency with making data publicly available

2. Inclusion of contractual data from non-CPUC jurisdictional LSEs into the main portfolio

3. Request for MIC expansion

4. Give “same day priority” to the step 13 unallocated Remaining Import Capability for LSEs with existing RA Contracts

5. Update Tariff and Reliability Requirements BPM language to be consistent with current approved practice
MAXIMUM IMPORT CAPABILITY (MIC) ENHANCEMENTS TIMELINE
Implementation timeline

- **FERC Tariff amendment**
  - Filed and approved
- **External training**
  - 08/07/23
- **Market simulation**
  - 08/14/23
- **Production activation**
  - 11/01/23

Update: The prod activation date was moved from 10/1/23 to 11/1/23.
Maximum Import Capability (MIC) Enhancements

BACKGROUND: HIGH-LEVEL REVIEW OF CHANGES
What is Maximum Import Capability?

Represents a quantity in MWs determined by the CAISO to be simultaneously deliverable to the aggregate of load in the CAISO Balancing Authority Area (BAA).

- ISO tests both the deliverability of internal resources and the deliverability of imports, to ensure all RA resources are simultaneously deliverable
- LSEs RA import showings are limited for each intertie to its share of MIC
- Calculated yearly by the CAISO
- Allocated yearly by the CAISO to LSEs
1. Give “same day priority” to the step 13 unallocated Remaining Import Capability for LSEs with existing RA Contracts

2. Additional transparency with making data publicly available
Questions
REVIEW APPLICATION - SPECIFIC DETAILS
Customer Interface for Resource Adequacy (CIRA)

Step 13 Notification of Unassigned Import Capability
Required CIRA application access role

Must be provisioned to CIRA for the **EXTERNAL RA READ-WRITE** role. Coordinate with your User Access Administrator (UAA) if you do not have access.

<table>
<thead>
<tr>
<th>CIRA Access Levels</th>
<th>Access Level Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTERNAL RA READ-WRITE (app_cira_sc)</td>
<td>Permission to read, upload, and maintain data in the RA Plans, Supply Plans, NQC, Import Allocations, and Forced Substitution. Permission to read Validation Results, RA Reports, Obligation Reports, and historic Replacements</td>
</tr>
</tbody>
</table>
Step: 13 2023 Notification of Unassigned Import Capability

Current process

LSEs/SCs review Unassigned Available Import Capability

Requests are sent to ReliabilityRequirements@caiso.com

Reliability requirements

The reliability requirements and resource adequacy programs provide deliverability criteria that each load serving entity must meet, and provide rules for counting resources that must be made available to the ISO. The ISO reliability requirements program is intended to complement the state’s efforts to implement resource adequacy programs.

Process and requirements

- **Templates**

- **Import Allocations**
  - 2024 Import Allocations
  - 2023 Import Allocations

- **2023 Import Capability Used on Annual Resource Adequacy Plans**
  - 11/15/2022 15:15

- **2023 Holders of Import Capability**
  - 11/22/2022 18:50

- **2023 Additional Bi-lateral Transfers of Import Capability**
  - 11/30/2022 11:29

- **Step 12: 2023 Notification of Unassigned Import Capability**
  - 12/20/2022 16:10

- **Step 13: 2023 Notification of Unassigned Import Capability**
  - 12/20/2022 16:10

- **2023 Eligible Contacts for Bi-Lateral Transfers for Import Capability**
  - 11/15/2022 12:38

- **Step 16: 2023 Notification of Unassigned Import Capability**
  - 12/20/2022 16:10

- **Step 9: 2023 Bi-Lateral Transfers of Import Capability**
  - 11/15/2022 15:51

- **Step 6: 2023 Contractual Data**
  - 7/10/2022 14:15

- **ISO Maximum Resource Adequacy Import Capability for Year 2023**
  - 7/10/2022 08:14

Reliability Requirements page on www.caiso.com
Step: 13 - 2023 Notification of Unassigned Import Capability

New screens and process

3 New screens

1 new report
LSEs and SCs can have the “same day priority” to the step 13 unallocated Remaining Import Capability for LSEs with existing RA Contracts directly in CIRA.

Tariff Section 40.4.6.2.1 Available Import Capability Assignment Process
Select the **Year Ahead, SCID/LSE, and Import Group** to request for an Unassigned amount of Import Allocation Capability.

**Reminder:** ISO will only accept 2 requests per calendar week from any SC/LSE on behalf of a single LSE participating generator or system resource. If a request includes more than 2 intertie allocation requests, CIRA will only process the 1st two groups of interties in a single request. The remaining requests will be denied.
If a request includes more than two intertie allocation requests, the ISO will only process the first two interties in the request. The remaining intertie requests will be denied.

“Request Submission is allowed for Only Two groups in single request.”
SC Request Unassigned Import Capability

New Screen > New Process

<table>
<thead>
<tr>
<th>California ISO</th>
<th>Customer Interface for Resource Adequacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC Request Unassigned Import Allocation Capability</td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>LSE</td>
</tr>
<tr>
<td>2013</td>
<td>LAGE</td>
</tr>
</tbody>
</table>

Enter the MW in the **Requested Import Capability** field (e.g., 10 MWs)

Enter the MW in the **Contracted RA MW** field if the LSE/SC has an RA contract

**Note:** If you have an RA Contract, CAISO will give you preference on priority.
SC Request Unassigned Import Capability

Error message 2

Contracted RA MW amount must equal the **Requested Import Capability** MW amount. If the values do not match, you will receive an error message.

Sample Error Message

“Requested Contract MW: X value should be same as requested import capability X for the Group XXXXX_BG. Please submit valid Contracted MW.”
Assigned MWs based on Proration formula

Total Unassigned Available Import Capability at the Branch Group divided by the sum of from eligible portions of applicable Resource Adequacy contract with priority) multiplied by each LSE's eligible RA contract amount.

\[
\text{Total Unassigned Available Import Capability at the Branch Group (BG)} \times \frac{\text{Sum value of eligible portions of the applicable RA contract}}{\text{LSE's eligible RA Contract amount}} = \text{Assigned MW}
\]

Note: CIRA will apply the proration formula to calculate the assigned MW when the MW request exceeds the total unassigned available import capability.

Link to Reliability Requirements BPM
Scenario: Multiple LSEs/SCs request for an intertie branch group (BG)

Sample Data
Intertie (BG) = PALOVRDE_ITC
Unassigned Import Capability = 2311.01

<table>
<thead>
<tr>
<th>Requestor ID</th>
<th>Requestor Priority based on submission</th>
<th>Requested MW</th>
<th>RA Contract</th>
<th>RA Contracted MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSE 1</td>
<td>1</td>
<td>2300</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>LSE 2</td>
<td>2</td>
<td>1700</td>
<td>Yes</td>
<td>1700</td>
</tr>
<tr>
<td>LSE 3</td>
<td>3</td>
<td>1500</td>
<td>Yes</td>
<td>1500</td>
</tr>
</tbody>
</table>

Total Unassigned Available Import Capability at the Branch Group (BG) = Sum of eligible portions of the applicable RA contract x LSE's eligible RA Contract amount = Assigned MW

LSE 1: 
\[
\frac{2311.01}{(1700 + 1500)} \times 1700 = 1227.72
\]

LSE 2: 
\[
\frac{2311.01}{(1500 + 1700)} \times 1500 = 1083.29
\]

Remember: If you have an RA Contract, CAISO will give you preference on priority.
Review Scenario: Multiple LSEs/SCs request for the same intertie branch group (BG).

**Intertie (BG) = PALOVRDE_ITC**

**Unassigned Import Capability = 2311.01**

<table>
<thead>
<tr>
<th>Requestor ID</th>
<th>Requestor Priority based on submission</th>
<th>Requested MW</th>
<th>RA Contract</th>
<th>RA Contracted MW</th>
<th>Requestor priority considering RA Contract</th>
<th>Assigned MW</th>
<th>Status</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSE 1</td>
<td>1</td>
<td>2300</td>
<td>No</td>
<td></td>
<td>3</td>
<td>0</td>
<td>Rejected</td>
<td>Submission was rejected as no Unassigned Import Capability is left.</td>
</tr>
<tr>
<td>LSE 2</td>
<td>2</td>
<td>1700</td>
<td>Yes</td>
<td>1700</td>
<td>1</td>
<td>1227.72</td>
<td>Partially Assigned</td>
<td>Assigned MWs based on LSE proportion formula as the total requested contracted MW exceeds Unassigned Import Capability.</td>
</tr>
<tr>
<td>LSE 3</td>
<td>3</td>
<td>1500</td>
<td>Yes</td>
<td>1500</td>
<td>2</td>
<td>1083.29</td>
<td>Partially Assigned</td>
<td>Assigned MWs based on LSE proportion formula as the total requested contracted MW exceeds Unassigned Import Capability.</td>
</tr>
</tbody>
</table>
Users may submit values up to the **Total Import Capability**. If a bi-lateral trade reduces the Total Import Capability to be less than the Reserved Capability value, the system shall reduce the Reserved Capability to be equal to the Total Import Capability. After the RA showing is loaded, the system will update the Reserved Capability quantity to the greater of its current value or the Import capability used by RA.

**Reserved Capability** can be submitted any time prior to the start of the RA Month and can be reserved at the branch level.

**Tradeable Capacity** indicates how many MW import capability the LSE/SC is willing to trade.
Contact Information (for LSEs and SCID)

New screen

CIRA > Plans > Manage Import Capability > Contact Information

Be sure to update the existing LSE/SCID contact if the info has changed.
Contact Information (for LSEs and SCID)

Error message

“There is already an existing LSE/SC with ID XXXX.”

You can only have one LSE/SCID contact entered at a time
This report allows LSEs/SCs to view the total annual and monthly RA capacity shown on each intertie aggregated by LRA jurisdiction (e.g., CPUC, non-CPUC, Other).
Questions
Open Access Same-Time Information System (OASIS)

Updates to UI and API
Welcome to the California ISO Open Access Same-time Information System (OASIS) site. On OASIS you will find real-time data related to the ISO transmission system and its Market, such as system demand forecasts, transmission outage and capacity status, market prices and market result data.

Standards Information
- North American Energy Standards Board (NAESB)
- ISO Business Practice Manuals
- Available Transfer Capability Information

Transmission Information
- Base Case Data
- Interconnection Study Statistics

System Help
- All technical specifications and artifacts for OASIS are available on the ISO Developer site. Self-registration is required to access the site.
- To download data without using the OASIS interface, see How to use report URLs to download OASIS data on the ISO Developer site.
- Access non-technical OASIS reference documents on www.aiso.com

Open Access Same-Time System (OASIS) link
### Available Import Capability

**New report**

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>SCID</th>
<th>Intertie</th>
<th>Available Import Capability</th>
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<tbody>
<tr>
<td>2023</td>
<td>November</td>
<td>[ALL]</td>
<td>BLYTHE_BG</td>
<td>2.0000</td>
</tr>
<tr>
<td>2023</td>
<td>November</td>
<td>[ALL]</td>
<td>BLYTHE_BG</td>
<td>2.0000</td>
</tr>
</tbody>
</table>

Displays the total import allocation, per intertie for LSEs, per month, and how much of that allocation they are willing to trade.

**PRR 1524 for Market Instrument BPM**
Import Capability Used in RA Plan Data report
Data from CIRA to OASIS

Available Import Capability (in CIRA)

![Available Import Capability](image)

PRR 1524 for Market Instrument BPM
Import Capability Used in RA Plan Data

New report

<table>
<thead>
<tr>
<th>Submittal Type</th>
<th>Year</th>
<th>Month</th>
<th>Intertie</th>
<th>Jurisdiction</th>
<th>Total Import Allocation RA Showing MW</th>
</tr>
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<tbody>
<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>5</td>
<td>BLYTHE_BG</td>
<td>CPUC</td>
<td>12.00000</td>
</tr>
<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>5</td>
<td>BLYTHE_BG</td>
<td>NON_CPUC</td>
<td>10.00000</td>
</tr>
<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>5</td>
<td>BLYTHE_BG</td>
<td>NOT_ASSOCIATED</td>
<td>11.00000</td>
</tr>
<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>6</td>
<td>BLYTHE_BG</td>
<td>CPUC</td>
<td>4.00000</td>
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<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>6</td>
<td>BLYTHE_BG</td>
<td>NON_CPUC</td>
<td>0.00000</td>
</tr>
<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>6</td>
<td>BLYTHE_BG</td>
<td>NOT_ASSOCIATED</td>
<td>0.00000</td>
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<tr>
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<tr>
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<td>7</td>
<td>BLYTHE_BG</td>
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<td>0.00000</td>
</tr>
<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>7</td>
<td>BLYTHE_BG</td>
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<td>0.00000</td>
</tr>
<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>8</td>
<td>BLYTHE_BG</td>
<td>CPUC</td>
<td>4.00000</td>
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<tr>
<td>ANNUAL</td>
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<td>8</td>
<td>BLYTHE_BG</td>
<td>NON_CPUC</td>
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<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>8</td>
<td>BLYTHE_BG</td>
<td>NOT_ASSOCIATED</td>
<td>0.00000</td>
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<tr>
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<td>2023</td>
<td>9</td>
<td>BLYTHE_BG</td>
<td>CPUC</td>
<td>4.00000</td>
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<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>9</td>
<td>BLYTHE_BG</td>
<td>NON_CPUC</td>
<td>0.00000</td>
</tr>
<tr>
<td>ANNUAL</td>
<td>2023</td>
<td>9</td>
<td>BLYTHE_BG</td>
<td>NOT_ASSOCIATED</td>
<td>0.00000</td>
</tr>
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</table>

Posts the total annual and monthly RA capacity shown on each intertie aggregated by jurisdiction

PRR 1524 for Market Instrument BPM
Import Capability Used in RA Plan Data report
Data from CIRA to OASIS

Import Capability RA Report Details (in CIRA)

- Data from CIRA to OASIS

PRR 1524 for Market Instrument BPM
## New OASIS APIs

<table>
<thead>
<tr>
<th>Date</th>
<th>Tech Spec Version</th>
<th>Description</th>
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<tbody>
<tr>
<td>6/21/2023</td>
<td>7.4.0</td>
<td>Maximum Import Capability (MIC) Enhancements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• New Report “Available Import Capability Data”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o AVAIL_IMP_CAP_GRP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• New Report “Import Capability used in RA Plan Data”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o ANNUAL_IMP_CAP_USED_RA_PLAN_GRP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>o MONTHLY_IMP_CAP_USED_RA_PLAN_GRP</td>
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</table>

OASIS Technical Specification document version 7.4.0 is available on the ISO Developer site
Questions
Market Simulation

READINESS ACTIVITIES
Market Simulation Timeline

• Register for Market Sim by email MarketSim@caiso.com.
  – Registration started July 31, 2023 (You can still register)
  – Run the scenarios
  – Validate expected market sim scenario outcomes

• Market Simulation Forums start on August 10, 2023
  – View the CAISO public calendar for full schedule

• MIC Market Sim starts on August 17, 2023
Market Sim Scenarios - Facilitate submission and retrieval of Import Capability reports

1. Submit request for unassigned import capability as part of step 13 of the import allocation process for 2023 & 2024 RA years
2. Upload trades and RA showing for 2023
3. Update contact information for 2023
4. Update the reserve versus tradeable capability for 2023
5. Validate two new OASIS reports for 2023
   • OASIS > Resource Adequacy > Available Import Capability
   • OASIS > Resource Adequacy > Import Capability used in RA Plan Data

MIC Enhancement Fall 2023 Release Plans and Market Sim Scenarios
Market Sim Scenario – Expected Outcome

Participants to verify:

1. Submission of Step 13 request for Unassigned import capability
2. Daily available import capability
3. Annual available import capability
4. Monthly import capability in RA plan
5. Annual import capability in RA plan
6. OASIS reports:
   • OASIS > Resource Adequacy > Available Import Capability
   • OASIS > Resource Adequacy > Import Capability Used in RA Plan Data (Monthly & Annually)
Submit questions and/or concerns through the CIDI application or email MarketSim@caiso.com.

Functional Environment, select: ‘Market Simulation Fall 2023’
Market Participant Setup for Market Simulation Activities

Register for Market Simulation participation via the MarketSim@caiso.com mailbox starting today, 08/07/23

Confirm users are provisioned for access to participate
- Coordinate with your UAAs

Attend Market Simulation Forum to stay informed on timing of activities for this and other Fall 2023 release initiatives
- Monday/Thursday 2pm PPT
Final Questions
Thank you for your participation!

For clarification on anything presented in this training, send an email to: CustomerReadiness@caiso.com

For any other questions or stakeholder specific questions or concerns, please submit a ticket.
REFERENCE MATERIALS
## Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Terms</th>
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</thead>
<tbody>
<tr>
<td>BAA</td>
<td>Balancing Authority Area</td>
</tr>
<tr>
<td>BG</td>
<td>Branch Group</td>
</tr>
<tr>
<td>CIRA</td>
<td>Customer Interface for Resource Adequacy</td>
</tr>
<tr>
<td>CV</td>
<td>Cross Validation</td>
</tr>
<tr>
<td>LRA</td>
<td>Local Regulatory Area</td>
</tr>
<tr>
<td>LSE</td>
<td>Load Serving Entity</td>
</tr>
<tr>
<td>MW</td>
<td>Megawatt</td>
</tr>
<tr>
<td>OASIS</td>
<td>Open Access Same-Time System</td>
</tr>
<tr>
<td>RA</td>
<td>Resource Adequacy</td>
</tr>
<tr>
<td>RIC</td>
<td>Remaining Import Capability</td>
</tr>
<tr>
<td>SC</td>
<td>Scheduling Coordinator</td>
</tr>
<tr>
<td>SCID</td>
<td>Scheduling Coordinator ID</td>
</tr>
</tbody>
</table>
# Impacted Systems

<table>
<thead>
<tr>
<th>Impacted Systems</th>
<th>Details</th>
</tr>
</thead>
</table>
| **Open Access Same-Time Interface System** | Two new reports to the UI:  
- Available Import Capability  
- Import Capability Used in RA Plan                                                                                       |
| **OASIS**                            | New API reports:  
- Available Import Capability Data (AVAIL_IMP_CAP_GRP)  
- Import Capability used in RA Plan Data (ANNUAL_IMP_CAP_USED_RA_PLAN_GRP and MONTHLY_IMP_CAP_USED_RA_PLAN_GRP) |
| **Customer Interface for Resource Adequacy** | • Automatically calculates MIC allocations each day and publishes the allocation data each day on CIRA and OASIS.  
• Creation of two new fields in relation to "Available MIC for trading" which are “Locked” (new field) or “Unlocked”.  
• SCs can input the LSE contact info and availability for the trade.  
• Provides aggregate usage by branch group level after validation of each month ahead and year ahead RA showing.  
• Provides capability to grant “same day priority” to the step 13 unallocated Remaining Import Capability (RIC) for LSEs with existing RA Contracts. |
| **CIRA**                             |                                                                                                                                          |
Q1: Is the Contact information for the Import Allocation going to be made public?

Answer: Yes. The contact info is going to be made public OASIS. The information is voluntary but if you want to let other LSEs/SCs know that you are willing to trade some of your import amounts, please update the Contact Information screen so that you can submit the MWs you’re willing to trade in the Reserve Import Capability screen.

Q2: Will LSEs and SCs with existing Resource Adequacy (RA) receive same-day priority for RA Year 2025 or 2024? Which RA year will this new process be applied to?

Answer: This new process will be applied to RA year 2025. For RA year 2024, please continue to use the existing submission request process via email.

Q3: Once this enhancement goes live on 11/01/23, will the Reserved Import Capability screen be available for the 2024 MIC allocations for LSEs/SCs to use to trade their imports in CIRA?

Answer: Yes. Once this enhancement goes live, the ability to trade import capability will be available for RA year 2024. Also, this information will be publicly visible in the new ‘Available Import Capability’ report in OASIS under the Resource Adequacy tab.
Q4: What does the term ‘NOT ASSOCIATED’ or ‘Other’ mean under the Jurisdiction column in the ‘Import Capability RA Report Details’ screen in CIRA?

Answer: These new terms are used to break down the Resource Adequacy (RA) capacity on the enterprise by Local Regulatory Area (LRA) jurisdictions. They are brokered by two jurisdictions California Public Utility Commission (CPUC) and Non-CPUC. Providing this information allows us to be transparent. Interests that are not aggregated under the CPUC or Non-CPUC jurisdictions, are considered Scheduling Coordinators (SCs) acting on behalf of a supplier. Only LSEs are associated with the CPUC or Non-CPUC jurisdictions.
Reference Materials

Business Practice Manual changes:
Reliability Requirements - [https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Reliability%20Requirements](https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Reliability%20Requirements)
PRR 1523 (Reliability Requirements Section 6.1.3.5)
PRR 1524 (Market Instrument Section 12.8)

Tariff changes:


Initiative webpage:

Market Simulation Structured Scenarios:
Technical Specification – Located on the ISO’s Developer Site, which provides detailed descriptions of the API changes for:

– Open Access Same-Time Information System (OASIS)

Note: The ISO Developer site requires an account set-up if you do not already have one.