Real-Time Reliability Must Run Unit Commitment and Dispatch

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Purpose

Outlines the commitment and Dispatch of Reliability Must Run (RMR) and Legacy Reliability Must Run (RMR) Units.

1. Responsibilities

| CAISO | • Maintains in Master File a list of available RMR and Legacy RMR Units to meet the reliability needs of the CAISO Controlled Grid.  
|       | • Utilizes the RMR Units necessary to meet the operating criteria as specified by the North American Electric Reliability Council (NERC), the WECC Operating Reserve requirements, and any applicable local reliability criteria. |
| RMR (Non-Legacy) | • Contracted as of 2020, RMR Units which have been contracted under a Reliability Must Run Contract. From Section 41 of the CAISO Tariff, RMR Resources will be subject to all of the availability, dispatch, testing, reporting, verification, and any other applicable requirements imposed under CAISO Tariff Section 40.6 |
2. Scope/Applicability

2.1. Background

RMR Units can be committed and dispatched by the CAISO to meet certain local area operating constraints, address local reliability issues, mitigate congestion on non-competitive paths, meet shortfalls in the AS market, provide Black Start and Voltage Support, or Supply needs that arise in Real-Time (RT). In 2019 RMR Enhancements were implemented and created differentiation between dispatch of Legacy RMR (those contracted prior to 2020) and RMR (non-Legacy, or those with contracts effective Jan 1, 2020 or later). Further information can be found within the dispatch philosophy sections within Energy Dispatching for Legacy RMR and RMR (Non-Legacy) resources, as well as CAISO Tariff sections 41, Appendix G, and Appendix H.

2.2. Scope/ Applicability

This procedure is applicable to the commitment and dispatch of RMR and Legacy RMR resources in Real-Time.
3. Procedure Detail

3.1. Energy Dispatching

3.1.1. **Legacy RMR Dispatch Philosophy**

The following describes the Dispatch philosophy:

Per CAISO Tariff Appendix H, Legacy RMR Units are available for dispatch to satisfy the local area’s line loading criteria, voltage criteria, or Generation Capacity requirements. Legacy RMR Units dispatched to maintain the local area voltage criteria and the on-line Generation Capacity requirements can be issued a Dispatch Notice at a level equal to the RMR unit’s manual minimum level for all hours. Manual Dispatches should be reserved for situations where constraints cannot be modeled in the RTM software. Manual Dispatches for fast start units should be postponed until Real-Time (RT) to provide the RT Market (RTM) a chance to resolve the reliability issue. RMR Dispatches may be reduced after being issued, but may only be reduced for System Reliability. Legacy RMR units should be committed at minimum load and all dispatches to increase the unit from minimum should be done in RT as needed for local area reliability.

If it is determined that a Legacy RMR Unit is available and necessary for dispatch,

<table>
<thead>
<tr>
<th>CAISO Generation Desk</th>
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<tbody>
<tr>
<td>1. Manually issue an RMR dispatch for the Legacy RMR Unit as needed in real-time to provide Energy under the RMR contract for the following reasons:</td>
</tr>
<tr>
<td>• Maintain local area reliability criteria.</td>
</tr>
<tr>
<td>• Mitigate congestion on non-competitive paths.</td>
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</tbody>
</table>

**Note:** For Legacy RMR, refer to CAISO Operating Procedures 2330 and 2330C for additional information:

- Utilize the RMRR Instruction Type for local reliability needs.
- Utilize RMRRC2 for System Reliability needs.

*Instruction Type RMRS for Legacy RMR Substitution is not currently applicable.*

3.1.2. **RMR (non-Legacy) Dispatch Philosophy**

The following describes the Dispatch philosophy:

Per CAISO Tariff section 41, RMR (Non Legacy) Resources will be subject to all of the availability, dispatch, testing, reporting, verification, and any other applicable requirements imposed under Section 40.6 or Section 40.10.6, as applicable to specific types of Resource

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Adequacy Resources identified in Resource Adequacy Plans and Flexible RA Capacity resources identified in Resource Flexible RA Capacity Plans. RMR Resources will meet the Day-Ahead availability requirements specified in Section 40.6, the Real-Time availability requirements specified in Section 40.6.2, and the Day-Ahead and Real-Time availability requirements specified under Section 40.10.6.1 for the highest Flexible Capacity Category for which the unit qualifies under Section 40.10.3. Also in accordance with those requirements, RMR Resources (Non Legacy) that meet the definition of Short Start Units, will be obligated to meet the availability requirements of Section 40.6.2, RMR Resources (Non Legacy) that meet the definition of Long Start Units will have the rights and obligations specified in Section 40.6.2. If the CAISO has not received an Economic Bid or Self-Schedule for capacity from an RMR Resource, the CAISO will utilize a Generated Bid in accordance with the procedures specified in Section 40.6.8.

If it is determined that an RMR Unit needs to be dispatched outside of market awards/schedules:

**CAISO Generation Desk**

1. **Manually dispatch** and **record** Exceptional Dispatches as needed on RMR (Non Legacy) Units in the same manner as that used to record these dispatches for non-RMR Units.
   - For RMR (Non Legacy): Do **NOT** use Legacy RMR Instruction Types and Reasons RMRR, RMRRC2, or RMRS.
2. **Refer** to CAISO Operating Procedure 2330 Real-Time Exceptional Dispatch

### 3.2. Ancillary Services (AS) Dispatching

In addition to Energy Bids, RMR (Non Legacy) Resources will submit Ancillary Services Bids for the capacity to the extent the resource is certified to provide Ancillary Service. If additional AS Capacity is required, take the following actions when dispatching RMR (Non Legacy) or Legacy RMR for AS:

**CAISO Generation Desk**

1. **Utilize** the Manual Assignment of AS process where the ability to deliver the needed AS should be the highest consideration.
   
   **Note:** There is no requirement to consider RMR *(Non Legacy)* or Legacy RMR resources for manual AS assignment before any other AS Certified market resource.

3.2.1. Legacy RMR Requested Test

**CAISO System Operator**

1. **Legacy** RMR resource owner requested testing is **provided** under the CAISO Tariff, where a **Legacy** RMR SC may request an RMR Test Dispatch.
   - Refer to CAISO Operating Procedures **5330 Resource Testing Guidelines**, **2330 Real-Time Exceptional Dispatch** and **2330C Exceptional Dispatch Instruction Type Codes** for details.

4. Supporting Information

**Operationally Affected Parties**

Shared with the Public.

**References**

Resources studied in the development of this procedure and that may have an effect upon some steps taken herein include but are not limited to:

<table>
<thead>
<tr>
<th>CAISO Tariff</th>
<th>Section 40 and 41, Appendix G, Appendix H</th>
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<tbody>
<tr>
<td>CAISO Operating Procedure</td>
<td><strong>2330 Real-Time Exceptional Dispatch</strong></td>
</tr>
<tr>
<td></td>
<td><strong>2330C Real-Time Exceptional Dispatch Instruction Types</strong></td>
</tr>
<tr>
<td></td>
<td><strong>2310A List of RMR Resources and Legacy RMR Resources</strong></td>
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<tr>
<td></td>
<td><strong>5330 Resource Testing Guidelines</strong></td>
</tr>
<tr>
<td></td>
<td><strong>GEN-029 Manual AS Assignment</strong></td>
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**NERC Requirements**

**WECC Criterion**

**Other References**

Must-Run Service Agreement

**Version History**

<table>
<thead>
<tr>
<th>Version</th>
<th>Change</th>
<th>Date</th>
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<tbody>
<tr>
<td>10.2</td>
<td>Updated reference section</td>
<td>6/28/2011</td>
</tr>
<tr>
<td>10.3</td>
<td>Changed all SLIC outage references to outage management system. Updated reference to CMRI in Definitions. Updated references to RMR documents.</td>
<td>12/17/2014</td>
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Operating Procedure

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<th>Version</th>
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<tr>
<td>10.4</td>
<td>Conversion from SharePoint Word to Centric</td>
<td>3/09/2016</td>
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<tr>
<td>11.0</td>
<td>Periodic Review: Removed all tasks not performed by Operations. Replaced A/S with AS. Minor formatting and grammar updates. Removed version history prior to 5-years.</td>
<td>2/12/2020</td>
</tr>
<tr>
<td>11.1</td>
<td>Modified for clarity around RMR and Legacy RMR resources, including Responsibilities and Dispatch sections and split Energy Dispatch instructions into Legacy RMR and RMR sections. Added reference to 2330, 2330C, and 2310A. Minor grammar and formatting edits.</td>
<td>5/14/2021</td>
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5. Periodic Review Procedure

Review Criteria & Incorporation of Changes

There are no specific criteria for reviewing or changing this document, follow instructions in CAISO Operating Procedure 5510.

Frequency

Every three (3) Years.

Appendix

2310A List of RMR Resources and Legacy RMR Resources