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|  <b>California ISO</b> | <b>Operating Procedure</b> | <b>Procedure No.</b> 5340             |
|   |                            | <b>Version No.</b> 3.1                |
|   |                            | <b>Effective Date</b> 1/01/24         |
| <b>Pre-Market Testing and Certification Procedures – RMR Units</b>                                      |                            | <b>Distribution Restriction: None</b> |

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## Purpose

Provides guidelines for the California ISO (CAISO) in the forward market timeframe with relation to the testing and certification of Reliability Must Run Units.

## 1. Responsibilities

|   |  |
|---|--|
| <b>Scheduling Coordinator/Generator Owner – RMR</b> | <ul style="list-style-type: none"> <li>Follow test procedures in accordance with CAISO Operating Procedure <a href="#">5320 Resource Trial Operations and Test Energy Process</a> and <a href="#">5330 Resource Testing Guidelines</a>.</li> </ul> |
| <b>CAISO Ops Resource Test Administrator</b>        | <ul style="list-style-type: none"> <li>Review the test requests.</li> <li>Coordinate the test.</li> <li>Send notification of results to appropriate parties.</li> </ul>  |
| <b>CAISO Generation Dispatcher</b>                  | <ul style="list-style-type: none"> <li>Create Exceptional Dispatch in Real-Time (RT) with appropriate code and notify SC via telephone.</li> <li>Cancel for system conditions, etc.</li> </ul>   |

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| <b>Pre-Market Testing and Certification Procedures – RMR Units</b>                                      |                            | <b>Distribution Restriction: None</b> |

## 2. Scope/Applicability


### 2.1 Background

CAISO may have agreements in place with Reliability-Must-Run (RMR) Units 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).

The CAISO provides guidance for the testing and certification of these resources, as these activities ensure the reliability of their power supply on an ongoing basis.

### 2.2 Scope /Applicability

This procedure applies to all Reliability-Must-Run (RMR) units only for the purpose of completing the tests defined in the RMR Contracts.

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| <b>Pre-Market Testing and Certification Procedures – RMR Units</b>                                      |                            | <b>Distribution Restriction: None</b> |

### 3. Procedure Detail

#### 3.1 Test Scheduling and Initiation

What tests may be scheduled and who can initiate them?

##### RMR Units


CAISO and/or the RMR Unit SC should refer to [5320 Resource Trial Operations and Test Energy Process](#) and [5330 Resource Testing Guidelines](#), as well as CAISO Tariff Section 41 and Appendix G, for guidelines on Test Scheduling. In accordance with the CAISO Tariff, BPMs, and Operating Procedures,

| Test         | Initiator | Constraints   |
|--------------|-----------|---|
| Availability | CAISO/SC  | <ul style="list-style-type: none"> <li>- CAISO may from time to time test the PMax of a Unit by requiring the Unit to Deliver Energy pursuant to an Exceptional Dispatch instruction provided to Owner’s Scheduling Coordinator using the procedures described for PMax testing. CAISO, without cause, may request one Availability Test each Contract Year. CAISO may request additional Availability Tests if the Unit fails to comply fully with an Exceptional Dispatch instruction for the Availability Test.</li> <li>- Resource may request an Availability Test at any time and CAISO shall conduct the Availability Test in accordance with the applicable CAISO BPM rules and Operating Procedures for PMax testing.</li> </ul> |
| Other        | CAISO/SC  | <ul style="list-style-type: none"> <li>- The CAISO and the Owner can request and conduct all other tests for the Unit.</li> </ul>   |

#### 3.2 RMR Unit Testing Process

RMR Units: CAISO and/or the RMR Unit testing should be completed in accordance with CAISO Operating Procedures [5320 Resource Trial Operations and Test Energy Process](#) and [5330 Resource Testing Guidelines](#).

**Note:** A flowchart is located at the end of Section 3.

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| <b>Pre-Market Testing and Certification Procedures – RMR Units</b>                                      |                            | <b>Distribution Restriction: None</b> |

### 3.2.1 Scheduling Coordinator Requested Test


| Scheduling Coordinator  |
|---|
| 1. <b>Send</b> completed Form 5340F (CAISO Operating Procedure 5340F RMR Availability Test Request Form) <b>via email</b> to: <a href="mailto:ASNotifications@caiso.com">ASNotifications@caiso.com</a> at least fourteen (14) calendar days prior to the planned test date. |

| CAISO Resource Test Administrator  |
|--|
| 1. Upon receipt of Form 5340F (CAISO Operating Procedure <a href="#">5340F CAISO RMR Availability Test Request Form</a> ), <ul style="list-style-type: none"> <li>• <b>Confirm</b> it is complete.               <ul style="list-style-type: none"> <li>○ If not, <b>alert</b> Scheduling Coordinator to deficiencies.</li> <li>○ If yes, <b>confirm</b> Test date and time with the CAISO Operations Engineer for the applicable PTO area.</li> </ul> </li> </ul> |

| CAISO Operations Engineer  |
|--|
| 1. <b>Review</b> the requested test date <u>and</u><br>2. <b>Confirm</b> whether expected system conditions will allow for the requested test.<br>3. If okay, <b>notify</b> Resource Test Administrator to alert the Scheduling Coordinator to proceed with scheduling the test.<br>4. If <u>not</u> okay, <b>provide</b> Resource Test Administrator with an appropriate alternative date for the test. |

| CAISO Resource Test Administrator   |
|---|
| 1. If CAISO Operations Engineering Services approves the requested test date, <ul style="list-style-type: none"> <li>• <b>Alert</b> the Scheduling Coordinator to proceed with scheduling the test, <u>and</u></li> <li>• <b>Log</b> the date and time of the scheduled test.</li> </ul>  |
| 2. If CAISO Operations Engineering Services denies the requested test date, <ul style="list-style-type: none"> <li>• <b>Notify</b> the Scheduling Coordinator <u>and</u></li> <li>• <b>Provide</b> the suggested alternative to the Scheduling Coordinator.</li> <li>• <b>Request</b> the Scheduling Coordinator to resubmit a Form 5340F (CAISO Operating Procedure 5340F RMR Availability Test Request Form) with the suggested alternate date or another one of their choosing.</li> </ul> |
| 3. If the subsequent Form 5340F (CAISO Operating Procedure 5340F <b>RMR</b> Availability Test Request Form) submittal uses the suggested alternative date, <ul style="list-style-type: none"> <li>• <b>Alert</b> the Scheduling Coordinator to proceed with scheduling the test, <u>and</u></li> <li>• <b>Log</b> date and time of scheduled test.</li> </ul>   |
| 4. If the subsequent Form 5340F (CAISO Operating Procedure 5340F RMR Availability Test Request Form) submittal contains a different date, <ul style="list-style-type: none"> <li>• <b>Repeat</b> the Section 3.2.1 process listed in above steps.</li> </ul>  |


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|   |                            | <b>Version No.</b> 3.1                |
|   |                            | <b>Effective Date</b> 1/01/24         |
| <b>Pre-Market Testing and Certification Procedures – RMR Units</b>                                      |                            | <b>Distribution Restriction: None</b> |

| <b>Scheduling Coordinator</b>   |
|---|
| <ol style="list-style-type: none"> <li>1. Upon receiving an approved test date from the CAISO, <ul style="list-style-type: none"> <li>• <b>Submit</b> a self-schedule in the Day-Ahead market for the date, hour and MW's of the approved test request.</li> </ul> </li> <li>2. One-hour prior to testing, <ul style="list-style-type: none"> <li>• <b>Contact</b> the CAISO Generation <b>Dispatcher</b> <u>and</u></li> <li>• <b>Confirm</b> the test can proceed as scheduled.</li> </ul> </li> <li>3. If the CAISO Generation <b>Dispatcher</b> cancels the test, <ul style="list-style-type: none"> <li>• <b>Repeat</b> the Section 3.2.1 process listed in above steps.</li> </ul> </li> <li>4. Otherwise, <ul style="list-style-type: none"> <li>• <b>Operate</b> the unit to meet the schedule <u>and</u></li> <li>• <b>Complete</b> the test.</li> </ul> </li> <li>5. Upon test completion, <ul style="list-style-type: none"> <li>• <b>Submit</b> Form 5340G (CAISO Operating Procedure <a href="#">5340G RMR Test Request Form Availability Test Ambient Temperature Supplement</a>) to <a href="mailto:ASNotifications@caiso.com">ASNotifications@caiso.com</a>.</li> </ul> </li> </ol> |

| <b>CAISO Resource Test Administrator</b>   |
|--|
| <ol style="list-style-type: none"> <li>1. Upon receipt of Form 5340G (CAISO Operating Procedure 5340G RMR Availability Test Request Form Ambient Temperature Supplement), <ul style="list-style-type: none"> <li>• <b>Gather</b> data regarding the unit performance during the test,</li> <li>• <b>Analyze</b> the results, <u>and</u></li> <li>• <b>Complete</b> Form 5340B (CAISO Operating Procedure <a href="#">5340B CAISO RMR Availability Notice</a>).</li> </ul> </li> <li>2. <b>Send</b> completed Form 5340B (CAISO Operating Procedure 5340B CAISO RMR Availability Notice) to the Scheduling Coordinator as well as other appropriate internal CAISO departments to update their information and processes related to the results of the test.</li> </ol> |

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| <b>Pre-Market Testing and Certification Procedures – RMR Units</b>                                      |                            | <b>Distribution Restriction: None</b> |

### 3.2.2 CAISO Initiated Test


The CAISO may initiate a test once per year “without cause” simply to test the unit or any time “with cause”.

| CAISO Resource Test Administrator  |
|--|
| <ol style="list-style-type: none"> <li>1. Once per year, <ul style="list-style-type: none"> <li>• May <b>initiate</b> a “without cause” Availability test of each RMR unit by reviewing the available Cold Start Hours <u>and</u></li> <li>• <b>Confirming</b> sufficient hours exist for the unit to be tested.</li> </ul> </li> <li>2. <b>Contact</b> the CAISO Generation <b>Dispatcher</b> <u>and</u></li> <li>3. <b>Provide</b> the Resource_ID of the unit to be tested at the first opportunity.</li> </ol> |

| CAISO Generation Dispatcher  |
|--|
| <ol style="list-style-type: none"> <li>1. Either upon prompting by the CAISO Resource Test Administrator to initiate the once per year without cause test or when reason to initiate a “with cause” Availability test occurs (During appropriate system conditions), <ul style="list-style-type: none"> <li>• <b>Issue</b> a verbal Exceptional Dispatch to the unit’s currently listed Availability MW value <u>and</u></li> <li>• <b>Enter</b> the Exceptional Dispatch into the ED Tool <b>using</b> the following Instruction Type, in accordance with CAISO Operating Procedures <a href="#">2330 Real-Time Exceptional Dispatch</a> and <a href="#">2330C Exceptional Dispatch Instruction Type Codes</a>. <ul style="list-style-type: none"> <li>○ <b>RMR Units</b> = “Test”</li> </ul> </li> </ul> </li> </ol> |

| Scheduling Coordinator  |
|---|
| <ol style="list-style-type: none"> <li>1. <b>Respond</b> to CAISO verbal dispatch by operating the unit to the level instructed.</li> </ol> |

| CAISO Generation Dispatcher   |
|---|
| <ol style="list-style-type: none"> <li>1. <b>Complete</b> the test <u>and</u></li> <li>2. <b>End</b> the Exceptional Dispatch after giving appropriate time for the unit to respond to the Exceptional Dispatch based on the unit’s status at the beginning of the test and its ramp rate, <u>and</u> taking into consideration the unit’s Minimum On Time.</li> <li>3. <b>Send</b> an email to <a href="mailto:ASNotifications@caiso.com">ASNotifications@caiso.com</a> to alert the CAISO Resource Test Administrator to the test.</li> </ol> |

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| <b>Pre-Market Testing and Certification Procedures – RMR Units</b>                                      |                            | <b>Distribution Restriction: None</b> |

|  |
|--|
| <b>Scheduling Coordinator</b>  |
| <ol style="list-style-type: none"> <li>Upon test completion, <ul style="list-style-type: none"> <li><b>Submit</b> Form 5340G (CAISO Operating Procedure <a href="#">5340G RMR Availability Test Request Form Ambient Temperature Supplement</a>) to <a href="mailto:ASNotifications@caiso.com">ASNotifications@caiso.com</a>.</li> </ul> </li> </ol> |

|  |
|--|
| <b>CAISO Resource Test Administrator</b>   |
| <ol style="list-style-type: none"> <li>Upon receipt of the notification that the without cause Availability test was completed, <ul style="list-style-type: none"> <li><b>Update</b> the log for the unit to indicate that the once per year without cause test has been completed for the tested unit.</li> </ul> </li> <li><b>Gather</b> data regarding the unit performance during the test, including form 5340G (CAISO Operating Procedure 5340G RMR Test Request Form Availability Test Ambient Temperature Supplement) from the Scheduling Coordinator. <ul style="list-style-type: none"> <li><b>Analyze</b> the test results <u>and</u></li> <li><b>Complete</b> Form 5340B (CAISO Operating Procedure <a href="#">5340B CAISO RMR Availability Notice</a>).</li> </ul> </li> <li><b>Send</b> completed Form 5340B (CAISO Operating Procedure 5340B CAISO RMR Availability Notice) to the Scheduling Coordinator as well as other appropriate internal CAISO departments to update their information and processes related to the results of the test.</li> </ol> |

### 3.3 Market Participant Questions

How will I be compensated for the test?

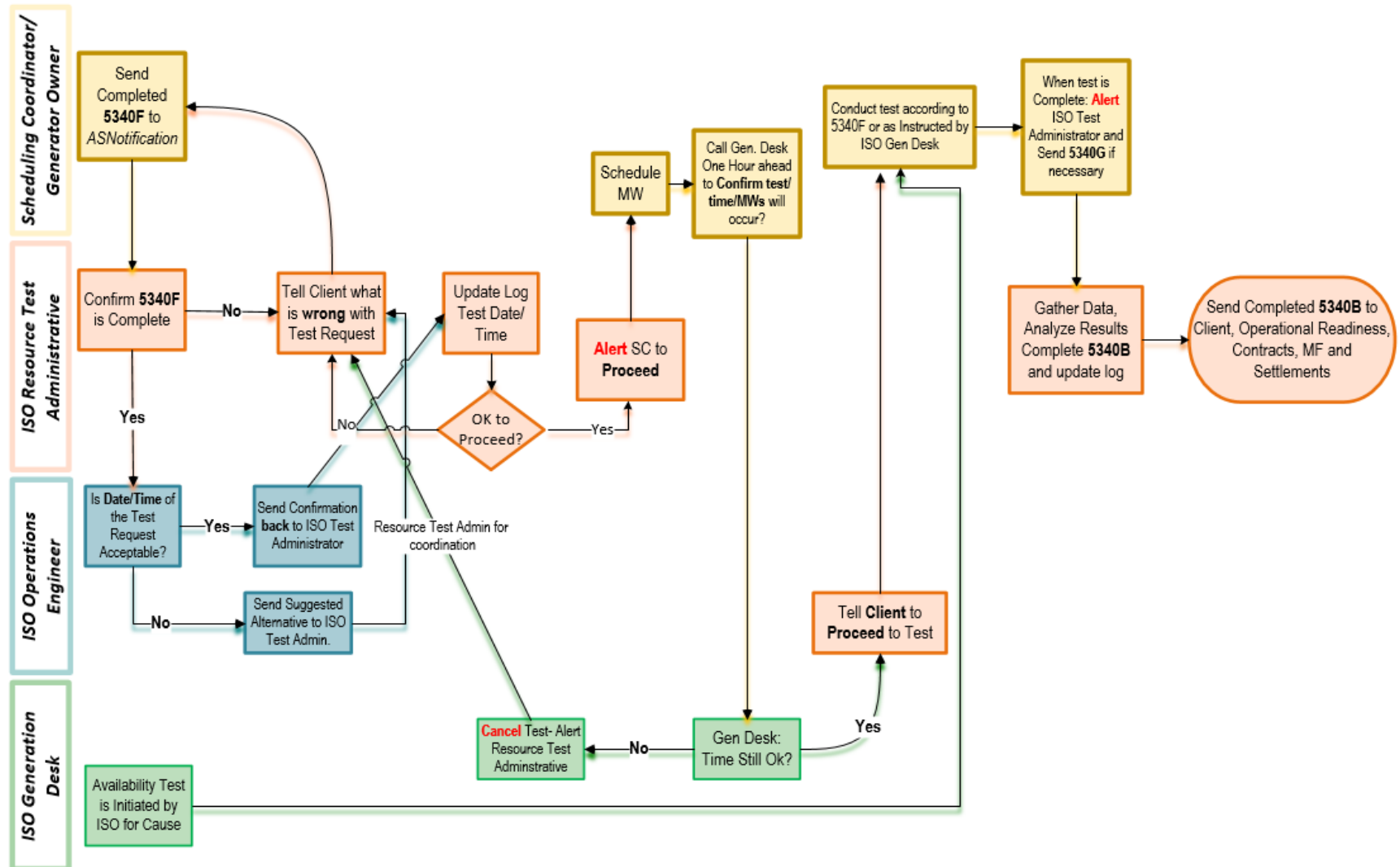
**Answer:**

The Market Participant is required to adhere to regular RMR dispatch scheduling requirements. Ramping energy and start-ups (if necessary) are also accounted for.

Test Dispatch Notices at Owner’s request to test Availability or heat input of the Unit are not treated as RMR Dispatches for RMR settlement purposes.


Pre-Market Testing and Certification Procedures – RMR Units

Distribution Restriction: None



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|   |                            | <b>Effective Date</b> 12/20/2021      |
| <b>Pre-Market Testing and Certification Procedures – RMR Units</b>                                      |                            | <b>Distribution Restriction: None</b> |

## 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:


|                           |   |
|---------------------------|---|
| CAISO Tariff              | Section 41, Appendix G, and Appendix H  |
| CAISO Operating Procedure | <a href="#">5320 Resource Trial Operations and Test Energy Process</a><br><a href="#">5330 Resource Testing Guidelines</a><br><a href="#">5340B CAISO RMR Availability Notice</a><br><a href="#">5340F CAISO RMR Availability Test Request Form</a><br><a href="#">5340G RMR Test Request Form Availability Test Ambient Temperature Supplement</a> |
| NERC Standards            |   |

### Definitions

Unless the context otherwise indicates, any word or expression defined in the Master Definitions Supplement to the CAISO Tariff shall have that meaning when capitalized in this Operating Procedure.

The following additional terms are capitalized in this Operating Procedure when used as defined below:

**None.**

|   |                                |   |            |
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|   |                                | <b>Effective Date</b>                     | 12/20/2021 |
| <b>Pre-Market Testing and Certification<br/>Procedures – RMR Units</b>                                  |                                | <b>Distribution Restriction:<br/>None</b> |            |

### Version History

| Version | Change  | Date     |
|---------|---|----------|
| 2.0     | Periodic Review and major revision, re-written.<br>Updated Distribution Restriction to “None” and now shared on the Internet (With the Public).<br>Removed references of Appendices 5340H, 5340P and 5340Q as they are retired.<br>Removed version history prior to 3-years.  | 5/24/18  |
| 3.0     | Periodic Review:<br>Updated terminology to include Legacy RMR (Instead of RMR) and added sections for RMR (Non-Legacy).<br>Section 3.1: Minor update to Test Availability.<br>Section 2.2.1: Minor edits to Resource Task Administration Tasks 3 and 4.<br>Updated instances of ISO to CAISO and included “the” where appropriate. Removed “the RC” from Operationally Affected Parties since procedure is shared publicly. Updated review criteria and added document controlled footer. Removed Technical Review and Approval Sections for consistency. Minor formatting and grammar updates. | 12/20/21 |
| 3.1     | Removed references to “Legacy RMR” and “Non-Legacy” since this is no longer applicable (including procedure title). Updated from Generation “Desk” to “Dispatcher”. Removed history prior to five years.  | 1/01/24  |

## 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.

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|   |                            | <b>Effective Date</b>                 | 12/20/2021 |
| <b>Pre-Market Testing and Certification Procedures – RMR Units</b>                                      |                            | <b>Distribution Restriction: None</b> |            |

## Appendix

5340B CAISO RMR Availability Notice

5340F CAISO RMR Availability Test Request Form

5340G RMR Availability Test Request Form Ambient Temperature Supplement