SOP-RTMKTS.0180.0030
Audit Resource Parameters

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1. Objective

This System Operating Procedure (SOP) contains the audit process task(s) performed for the following:

- Establishing and maintaining Resource performance data, for determining upper limits for Offer Data for:
  - CLAIM10 capability
  - CLAIM30 capability
  - Manual Response Rate (MRR)
  - Automatic Response Rate (ARR)
- Performing daily audits of fast start Resources
- Establishing weekly performance factors and Claim10/Claim30 Cap values
- Determining when a Resource has failed to activate Forward Reserve.
- Conducting a Lead Market Participant (Lead MP) or Designated Entity (DE) Requested Claim10/Claim30 Audit
- Conducting an ISO-Initiated Claim10/Claim30 Audit
- Verifying and Changing Claim10/Claim30 Cap values

2. Background

The following are triggers for performance of a task(s) in this SOP:

- Lead MP/DE requests a demonstration or review of past performance
- ISO initiates an audit to demonstrate Resource capability
- Lead MP submits new Resource information or a revision to an existing Generator parameter on the Generator Technical Data Form, NX-12, forwarded by the Asset Registration & Auditing group
- Contingency Dispatch-Scheduling Pricing and Dispatching (CD-SPD) was approved
- Normal Unit Dispatch System (UDS) SPD case was approved

The following are inputs to the processes for performance of a task(s) in this SOP:

- A request for a demonstration to establish a CLAIM10/CLAIM30 value
- A fast start Resource Electronic Dispatch (ED) startup

- A CD-SPD startup
- A request for a cure audit from a Lead MP/DE

The following are outputs of the processes from performance of a task(s) in this SOP:

- CLAIM10 and CLAIM30 audit results, compiled daily and weekly
- Failure to Activate (FTA) results
- CLAIM10 and CLAIM30 daily and weekly reports
- Completed flagging in the Gateway Data Modification Application (GDMA) for historical data modifications

The following applications/systems/tools are used in task(s) performance in this SOP:

- ISO Outage Scheduling software
- R Studio
- Plant Information (PI) database
- Capping User Interface (UI)
- Control Room Event Logserver
- GDMA
- MIS
- Voice Recorder Archives
- CLAIM10/CLAIM30 Auditing Excel-based Tools for viewing start PI data
- Claim 10/Claim 30 Auditing Java User Interface
- Email
- Oracle Business Intelligence (BI)

3. Responsibilities

NOTE

A member of the Operations Support Services department, generally a Senior Analyst is referred to as Analyst in this document.

1. The Analyst is responsible for:

   A. Evaluating Resource performance on a daily basis

   B. Validating daily audit data for each fast start Resource

   C. Arranging requested demonstration of Resource CLAIM10, CLAIM30, or MRR capability with Operations staff

   D. Establishing operational Cap values for CLAIM10, CLAIM30, and MRR

   E. Determining occurrences of FTA Forward Reserves

   F. Evaluating and communicating audit and/or FTA results to the Lead MP/DE, and internal stakeholders

4. Controls

1. System Access

   A. Access rights to the Energy Management System (EMS), ISO Outage Scheduling software, GDMA, BI, and Control Room Event Logserver are required and obtainable through the Access Management system with the appropriate approvals.

   B. Audit test data and results from the CLAIM10/CLAIM30 Audit tools are available to the Analyst through the access rights.

2. Existence/Occurrence

   A. An email notification of an audit request is received by Operations Support Services.

   B. A demonstration is to be completed within five (5) business days.

5. Instructions

5.1 Review Failure to Activate (FTA)

NOTE

An FTA Forward Reserve determination is conducted for a Resource when the following conditions exist:

- The Resource is dispatched by an approved CD-SPD between peak hours 0700-2300, Monday through Friday, excluding the North American Electric Reliability Corporation (NERC) holidays (on-peak).
- The Resource was assigned a Forward Reserve Obligation during the Hour Ending (HE) that was CD-SPD approved.
- In addition to the previous conditions, a Simultaneous Activation of Ten Minute Reserve (SAR)/ Mutual Reserve Assistance (MRA) Event Report email may be received indicating that there was a contingency.

5.1.1 Access CD-SPD Query Results

1. The Analyst shall PERFORM the following actions to access and OBTAIN the CD-SPD Query results for an FTA Review:

   A. OPEN the "ASM PH II RPM" email inbox.

   B. OPEN the email from oracle@smsdbp.iso-ne.com with the subject line "MKTADMIN Query Results – MM/DD/YYYY-Approvedcases" where the date "MM/DD/YYYY" is review day + 1.

   C. SAVE the file as CD-SPD MMDDYY.xlsx in the "CDSPD Cases" folder.

5.1.2 Perform the 10-Minute (TMNSR) FTA Review

NOTE

A Resource that was dispatched by CD-SPD and has a Forward Reserve Market (FRM) obligation in Ten-Minute Non-Spinning Reserve (TMNSR) and/or Thirty-Minute Operating Reserve (TMOR) categories is subject to FTA penalties for the reserve category for which they are obligated in the FRM. A Resource that fails to meet 100% of the target MW is processed for potential FTA penalties. The results of the CD-SPD and FRM Obligations queries are blended together into a single Excel spreadsheet "FTA_blend template.xls" using the following steps.

1. Forward Reserve Resource FTA Review

   A. To perform the FTA Review, the Analyst shall PERFORM the following actions:

(1) OPEN and EXECUTE R Studio Script FRM Blend for CDSPD.R" folder, located at:
\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit Resource Parameters\Claim 10 30\FTA Results

(2) FOLLOW the prompts in the script and DETERMINE:

NOTE

If the script does **not** generate a blend result file, there were **no** generators dispatched that had an FRM obligation.

a. If the script does **not** generate a blend result file, END the TMNSR FTA Review.

b. If the script generates a blend result file, PROCEED to next step.

(3) ACCESS the Excel workbook, FTA Automation 10min.xlsm, located at:
\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit Resource Parameters\Claim 10 30\FTA Results\Blend Results\

(4) OPEN the results of the R script, which can be found at:
\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit Resource Parameters\Claim 10 30\FTA Results\

(5) To retrieve the blend results from R, REFRESH the FTA Automation Workbook, sheet "FRM-TMNSR Results"

(6) SELECT the 'FTA Audit' Sheet

(7) To evaluate a Resource automatically, SELECT the "Asset Short Name" from the drop down list.

(8) CLICK on the "Save" button.

(9) REPEAT previous steps for all on-line Resources.

(10) If any Resource has a result of "Invalid Test", **no** further action is required.

(11) If any Resource has a result of "Pass", **no** further action is required.

(12) If any Resource has a result of "Failed", ENTER the required information in the "Failure to Activate Template.doc" located at:
\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit Resource Parameters\Claim 10 30\FTA Results

(13) SAVE this document in the proper YYYY FTA Automation Folder in the correct monthly subfolder.

(14) For off-line Resources dispatched by CD-SPD, FOLLOW the same process as steps above, but SELECT "Offline" as the Test Type.

(15) If any audits performed have a result of "Invalid Test", **no** further action is required.

(16) If any audits performed have a result of "Failed", ENTER the required information in the "Failure to Activate Template.doc" located at:
\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit Resource Parameters\Claim 10 30\FTA Results

(17) SAVE this document as "Failure to Activate MMDDYYYY.docx" in the proper YYYY FTA Automation Folder in the correct monthly subfolder if **not** previously created above.

5.1.3 Enter TMNSR Failures into SMS

1. If any audits performed on either off-line or on-line Resources result in a failure (i.e., observed output < 100% of target), the Analyst shall ENTER each failed Resource into the Settlements Market System User Interface (SMS UI) as follows:

A. OPEN the SMS application.

B. OPEN the "Asset Performance" display from the application list.

C. CLICK on the "Find" button next to the "Asset ID" dialogue box.

D. ENTER the Asset ID in the "Search" box.

E. CLICK on "OK".

F. ENTER the proper date and month.

G. CLICK on "Retrieve".

NOTE

Contingency Target MW is the difference between the Resource dispatch prior to the contingency and the Resource dispatch during the contingency.

Contingency Activated MW is the difference between the Resource output prior to the contingency and the Resource output at the end of the evaluation period.

H. ENTER the "Begin Date" as "mm/dd/yyyy HB XX".

I. DESELECT the "FailToActivate30MinFlag" checkbox

J. In order for the SMS application to accept the 10-minute entries, ENTER zero for both the "ContingencyTarget30MinMw" and "ContingencyAct30MinMw".

K. ENTER the 10 Minute Contingency Target MW value into the "ContingencyTarget10MinMw" field.

L. ENTER the 10 Minute Contingency Activation MW value into the "ContingencyAct10MinMw" field.

M. CLICK on the "Save" button.

N. VERIFY **no** errors are saved in the record.

O. If an error is discovered after saving, SELECT the Resource in question and:

- MODIFY or DELETE the record as needed.
- RE-SAVE the changes.

P. PERFORM the preceding steps for each Resource that recorded an on-line or off-line failure.

Q. ATTACH the "Failure to Activate MMDDYYYY.docx" to an email addressed to the Hourly Markets Settlement department using "MktOps Stlmnt HourlyMkts".

5.1.4 Perform the 30-Minute (TMOR) FTA Review

1. Upon email indication that an FTA Data file has been extracted for a given date:

A. Forward Reserve Resource FTA Review

(1) To perform the FTA Review, the Analyst shall PERFORM the following actions:

a. OPEN and EXECUTE R Studio Script "FTA TMOR Blend Script.R"" folder, located at:

\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit_Resource Parameters\Claim 10 30\FTA Results\

b. FOLLOW the prompts in the script and DETERMINE:

NOTE

If the script does **not** generate a blend result file, there were **no** Resources dispatched that had an FRM obligation.

i. If the script does **not** generate a blend result file, END the TMOR FTA Review.

ii. If the script generates a blend result file, PROCEED to next step.

c. ACCESS the Excel workbook, FTA Automation 30min.xlsm, located at:

\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit_Resource Parameters\Claim 10 30\FTA Results\

d. To retrieve the blend results from R, REFRESH the FTA Automation Workbook, sheet "FRM-TMOR Results"

e. SELECT the 'TMOR Audit' Sheet

f. To evaluate a Resource automatically, SELECT the "Asset Short Name" from the drop down list.

g. CLICK on the "Save" button.

h. REPEAT previous steps for all on-line Resources.

i. If any Resource has a result of "Invalid Test", **no** further action is required.

j. If any Resource has a result of "Pass", **no** further action is required.

k. If any Resource has a result of "Failed", ENTER the required information in the "Failure to Activate Template.doc" located at:

\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit_Resource Parameters\Claim 10 30\FTA Results\

l. SAVE this document in the proper YYYY FTA Automation Folder in the correct monthly subfolder.

m. For off-line Resources dispatched by CD-SPD, FOLLOW the same process as steps above, but SELECT "Offline" as the Test.

n. If any audits performed have a result of "Invalid Test", **no** further action is required.

o. If any audits performed have a result of "Failed", ENTER the required information in the "Failure to Activate Template.doc" located at:

\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit_Resource Parameters\Claim 10 30\FTA Results\

p. SAVE this document as "Failure to Activate MMDDYYYY.docx" in the proper YYYY FTA Automation Folder in the correct monthly subfolder if **not** previously created above.

5.1.5 *Perform DRR TMOR FTA Review*

1. Upon receipt of email with subject line of "Claim 10/30 TMOR FTA Data File for [DATE]" proceed with the following steps:

A. To perform the FTA Review, the Analyst shall PERFORM the following actions:

(1) OPEN and EXECUTE R Studio Script "FTA DRR TMOR Blend Script.R"" folder, located at:

\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit Resource Parameters\Claim 10 30\FTA Results\

(2) FOLLOW the prompts in the script and DETERMINE:

NOTE

If the script does **not** generate a blend result file, there were **no** Resources dispatched that had an FRM obligation.

a. If the script does not generate a blend result file, END the DRR TMOR FTA Review.

b. If the script generates a blend result file, PROCEED to next step.

(3) ACCESS the Excel workbook, "DRR - FTA Automation 30min.xlsm", located at:

\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit Resource Parameters\Claim 10 30\FTA Results

(4) To retrieve the blend results from R, REFRESH the DRR - FTA Automation Workbook, sheet "FRM-TMOR Results"

(5) SELECT the 'TMOR Audit' Sheet

(6) To evaluate a Resource automatically, SELECT the "Asset Short Name" from the drop down list.

(7) CLICK on the "Save" button.

(8) REPEAT previous steps for all on-line Resources.

(9) If any Resource has a result of "Invalid Test", **no** further action is required.

(10) If any Resource has a result of "Pass", **no** further action is required.

(11) If any Resource has a result of "Failed", ENTER the required information in the "Failure to Activate Template.doc" located at:

\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit Resource Parameters\Claim 10 30\FTA Results\

(12) SAVE this document in the proper YYYY FTA Automation Folder in the correct monthly subfolder.

(13) If any audits performed have a result of "Invalid Test", **no** further action is required.

(14) If any audits performed have a result of "Failed", ENTER the required information in the "Failure to Activate Template.doc" located at:

\\iso-ne.com\shares\performance_auditing\Performance Monitoring\Audit Resource Parameters\Claim 10 30\FTA Results\

(15) SAVE this document as "Failure to Activate TMOR - MMDDYYYY.docx" in the proper YYYY FTA Automation Folder in the correct monthly subfolder if not previously created above.

5.1.6 Enter TMOR FTA Failures into SMS

1. When an audit performed on either an off-line or on-line Resource results in a failure (i.e., observed output < 100% of target), the Analyst shall ENTER the failed Resource into the SMS UI as follows:

A. OPEN "SMSUI".

B. OPEN the "Asset Performance" display from the application list.

C. CLICK on the "Find" button next to the "Asset ID" dialogue box.

D. ENTER the Asset ID in the “Search” box.

E. CLICK on "OK".

F. ENTER the proper date and month.

G. CLICK on "Retrieve".

NOTE

Contingency Target MW is the difference between the Resource output prior to the contingency and the expected Resource output during the contingency.

Contingency Activated MW is the difference between the Resource output prior to the contingency and the Resource output at the end of the evaluation period.

The Contingency Activated MW should **not** be less than zero.

H. SELECT the “Add” button.

I. ENTER the "Begin Date" as "mm/dd/yyyy HB XX".

J. DESELECT the “FailToActivate10MinFlag” checkbox

K. In order for the SMS application to accept the 30-minute entries, ENTER zero for both the “ContingencyTarget10MinMw” and “ContingencyAct10MinMw” fields.

L. ENTER the 30 Minute Contingency Target MW value into the “ContingencyTarget30MinMw” field.

M. ENTER the 30 Minute Contingency Activation MW value into the “ContingencyAct30MinMw” field.

N. CLICK on the "Save" button.

O. VERIFY **no** errors are saved in the record.

(1) If an error is discovered after saving, SELECT the Resource in question and:

a. MODIFY or DELETE the record as needed.

b. RE-SAVE the changes.

P. REPEAT steps B through M for each Resource that recorded a failure.

Q. ATTACH the "Failure to Activate MMDDYYYY.docx" to an email and SEND the email to the Hourly Markets Settlement department using "MktOps Stlmnt HourlyMkts" distribution list

5.2 Claim10 and Claim30 Review

5.2.1 Daily Claim10/Claim 30 Results

NOTE

The Claim 1030 Contingency Application automatically excludes Resource starts that:

- Are caused by a Lead MP/DE Self-Schedule or self-dispatch by placing a Y with a light blue background in the "10 minute exclude" and "30 minute exclude" columns.
- Are due to changes in Offer behavior such that the ratio of (Real-Time commitment cost to Eco Min) to the (maximum Day-Ahead commitment cost to Eco Min) is determined to be less than 80%.

The Lead MP/DE may request that a start be included even though it is less than the threshold value if the change in price is a result of sustained gas price differences. The Analyst should contact Internal Market Monitoring for guidance if a Lead MP requests that a start be included because of this provision. Real-Time Market Support must manually set the threshold if any adjustments are required.

1. To obtain the Daily CLAIM10/CLAIM30 results, the Analyst shall:

   A. OPEN the Claim 10/30 Auditing UI

   B. CLICK on the "10/30 Auditing UI" tab

   C. SELECT the day being analyzed from the date selector

   D. REVIEW the ED and BLTS Data for data issues like NULL values:

      - If there are NULL values in the BLTS file, STOP work and CONTACT IT Real Time Market Support
      - If the ED and BLTS data looks good, CONTINUE

   E. CLICK the "Daily Process" tab

   F. CLICK "Run/Load Daily Process" button

   G. VERIFY that the Supervisory Control and Data Acquisition (SCADA) data is accurate for the Resource in question using the PI database.

      - If a "Do Not Include" indicator ("Y" in the Exclude 10 or Exclude 30 fields) is present, DETERMINE if that SCADA is valid.

- If the SCADA data is **not** valid, VERIFY the start is invalid by observing that there is a "Y" in the "Excluded 10" and/or "Excluded 30" column(s), to exclude the start result.

- If the SCADA data is valid, REPLACE the "Y" flag with an "N" flag in the "Excluded 10" or "Excluded 30" column to include the start result.

H. VERIFY the Resource remains in UCM 2 or higher for a duration of 60 minutes from the start-up time (i.e., the time that the Resource receives an initial electronic Dispatch Instruction).

I. If UCM 15 and UCM 30 flags are set to "Y", USE PI and VERIFY the UCM changed within the start timeframes as indicated.

J. If the Resource shut down during the audit timeframe and did **not** go into a UCM 1, SET the "Excluded 10" and/or "Excluded 30" flags to "Y" as appropriate.

K. If at any time within the 60-minute timeframe the Resource goes into UCM 1 (unavailable), VERIFY the output level is set to zero for that particular audit.

L. VERIFY the "Excluded 10" and "Excluded 30" flags are set to "N" and the performance factors are zero.

M. If a Resource is placed on Regulation within the 10 or 30 minute audit timeframe (i.e., placed in UCM 6) SET the "Excluded 10" and/or "Excluded 30" flags to "Y" as appropriate.

N. If the Resource receives a "Y" flag in the CD-SPD field, VERIFY the Resource was started to resolve a contingency per Section 5.1.

O. REVIEW the Control Room Event Logserver entries that would affect audit results.

P. DETERMINE each start that is the result of a Lead MP/DE-requested audit.

Q. For each Lead MP/DE-requested audit, VERIFY the "Excluded 10" and "Excluded 30" Flags are set to "N" and "30-Minute Request Audit" Flags to "Y".

R. If this is a Cure audit, VERIFY the MP is eligible for a Performance Factor Cure per the Tariff MR1 III 9.5.3.4 Performance Factor Cure, and has submitted a valid restoration plan.

(1) If eligible, SET the "10-Minute Cure Audit" and/or "30-Minute Cure Audit" flag to "Y".

S. If Operator intervention has occurred within the timeframe of the audit, CONSIDER the results invalid by placing a "Y" in the "Excluded 10" and/or "Excluded 30" column(s) to exclude the audit results.

For example:
A Resource receives a start-up Desired Dispatch Point (DDP) to go to full output, but due to excessive tie-line change pending, ISO may ISSUE verbal instructions to remain at Eco Min until otherwise notified.

T. DETERMINE if any changes have been made to the Daily Calculation.

- CLICK on the **"**Recalculate Daily Process" button.
- CLICK on the "Generate Daily Reports" button to generate the daily reports.

U. CLICK on the "Daily Reports" button

V. VERIFY the correct days reports are shown

(1) If not, SELECT the correct date from the date selector and CLICK the "Reload" button

W. CLICK the "Email Daily Reports" button

X. WAIT and CONFIRM the reports were sent out successfully.

5.2.2 Weekly Claim 10/30 Review

1. Each Thursday, for each fast start Resource, the Analyst shall CALCULATE an updated Performance Factor (PF), CLAIM10, and CLAIM30 as follows:

A. After the daily process has completed, from the "Run" worksheet. CLICK on the "Run Weekly Process" button

B. CLICK on the "Run Weekly Process" button

C. When the weekly calculation process is successful, CLICK the "Generate Weekly Reports" button

D. CLICK the "Weekly Reports" tab

E. SELECT the date for which the reports were generated

F. IF necessary, CLICK the "Show Weekly Reports" button

G. REVIEW the new CLAIM10/CLAIM30 Cap values:

- VERIFY the new Cap values are appropriate based on current Cap values and any starts processed over the last week.
- UPLOAD the caps the the makets database
    a. OPEN Cap Values tab
    b. CLICK on "Upload to Market Databse" button
    c. OPEN BI and run the standalone report: C1030 Cap Changes Comparison Report
- INVESTIGATE any large or unexplained Cap value changes
- DETERMINE if making adjustments to the Cap values is required:
    - If adjustments to the Cap values are not required, USE the C1030 Weekly Change Dashboard" Agent found in the /Shared Folders/SystemOpsSupport/Public/Agents/ folder to email the Cap summary to Operations
    - If adjustments to the Cap values are required, MAKE necessary changes to the day in the Weekly Process tab for the Resource identified as follows:
        i. CLICK on the "Weekly Process" tab
        ii. SELECT the Resource that needs to be modified.
        iii. CORRECT any noted problems
        iv. RECALCULATE the weekly data.
        v. CLICK on the "Create Weekly Reports" button
        vi. RE-VERIFY the Cap value changes were accomplished by running the BI report "C1030 Cap Changes Comparison Report"
    - If Cap value changes are **not** required, NAVIGATE back to the Claim 1030 Application and APPROVE the results:
        i. CLICK on the **"**Email Weekly Reports" button on the top of the **"**Weekly Reports" tab

NOTE

The Claim 10/30 Cap value and Performance Factor changes will be effective at 0001 on the Monday following the distribution of the weekly reports.

Monthly DRR Eligibility Check

5.2.3 Perform Eligibility Review

1. Each month, after the T-7 communications model cut window as passed:
   A. OPEN Claim 1030 Contingency Workbook
   B. CLICK the "Run DRR Eligibility" button found on the Run worksheet

5.3 Review and Change Caps

5.3.1 Verify Caps in APFMOI

1. If adjustments to Cap values are required, the Analyst shall USE the APF MOI and ADJUST the Cap values as follows (for DRRs, choose "DRR Capabilities" from the Capping drop-down menu item):
   A. NAVIGATE to the Resource that needs to be corrected.
   B. SELECT the Resource from the "Unit" drop-down under the Unit Capabilities tab.
   C. In the appropriate category (10 or 30 Minute) ENTER the appropriate new Cap value in the "Demonstrated Capability" field, next to the asterisk (*).
   D. ENTER the effective date (must be a date in the future) in the "Effective Begin Date" field.
   E. ENTER a reason from the "Reason" drop-down choices.
   F. ENTER a comment describing the change.
   G. CLICK on the "Save" icon under the menu list.
2. If a Cap value needs to be changed retroactively, the Analyst shall PERFORM the following:
   A. OPEN GDMA.
   B. SELECT "Asset Data Review".
   C. SELECT the proper Resource and date (use the retroactive date).
   D. SELECT the "Reserve" tab.
   E. CLICK on the "Checkout" button.
   F. SELECT the "Active Claim 10" or "Active Claim 30" field.
3. For each hour that needs to be updated, the Analyst shall:

A. ENTER the new Cap value in the "New Value" field.

B. ENTER a reason.

C. CLICK on the "Update" button.

D. CLICK on the "Close" button to close the window.

E. When all changes for a particular date have been entered, CLICK on the "Finalize" button.

5.4 Resource Lead MP/DE Audit Request

5.4.1 Review the Request and Create Outage

NOTE

Tests are performed between 0700-2200, so that the test will be completed prior to 2300. The request is entered into the ISO Outage Scheduling software by the Analyst and approved by the Outage Coordination group.

If the test **cannot** be completed during the identified time, the Control Room notifies the Analyst. The testing should be completed within 5 business days of receipt of the request for demonstration.

Each Asset Minimum Run Time may be less than or greater than the demonstration test time. The Asset may waive its Minimum Run Time. The Lead MP/DE may choose to remain on-line to fulfill a seasonal Claimed Capability Audit at the end of a demonstration.

A Control Room Event Logserver entry is used to document the start time of the demonstration.

A Lead MP/DE may **not** request more than one audit per week for the same Resource, provided that, in the case of a Resource that historically has multiple startup dispatches included in its CLAIM10 or CLAIM30 calculations per week, ISO, at its sole discretion, may allow the Lead MP/DE to request more than one audit per week. A Lead MP/DE may cancel an audit request prior to issuance of the audit Dispatch Instruction.

Audit Requests are submitted by the Lead MP/DE by using the automated form of ISO New England Operating Procedure No.23 - Resource Auditing, Appendix A - Off-Line Reserve Audit Request Form (OP-23A)

4. When a Lead MP/DE demonstration request is received in the group email box Claim1030AuditRequest@iso-ne.com the Analyst shall PERFORM the following applicable action(s):

   A. DETERMINE if the OP-23 Appendix A submittal is valid, with all required data fields completed:

      - If the OP-23 Appendix A submittal is valid, CREATE a Generation outage in the Outage Scheduling software ("CROW MCC") and CONTINUE to step 5.4.1.1.B.

      - If the OP-23 Appendix A submittal is **not** valid, EMAIL the Lead MP/DE with a request they resolve the form submittal problem.

   B. OPEN "CROW Client".

   C. SELECT File>New>Outage Request.

D. SELECT outage request type = "Generation outage request" radio button.

E. CLICK on the "Create" button.

F. ENTER the Outage priority: "Owner Test".

G. ENTER the Visibility: "Private".

H. ENTER the Planned Start: Enter 0700 on the first eligible business day for performing the demonstration.

I. ENTER the Planned End: Enter 2200 on the last eligible business day for performing the demonstration.

J. ENTER the Equip Requested:

- SELECT the "Add" button.
- ENTER the Resource Asset ID.
- SELECT the "Find" button.
- VERIFY Resource automatically populates Asset ID, Asset Name and SCC.

K. SELECT the "…" below the Equip Requested Constraint/Commitment, and SELECT General.

L. ENTER the Outage Cause: "984: Claim 10 / Claim 30".

M. ENTER the following Comments in the "ISO Comments" dialogue box:

"This audit is a Participant Requested CLAIM10 and CLAIM30 Audit and may be performed between 0700 and 2200 on weekdays that are non-NERC holidays. The desired target is XX MW. If there is an outage that will limit the Resource ability to reach the requested target, do not perform the audit." " (Where XX is the MW amount provided in the OP-23A.)

N. ATTACH the OP-23A Submittal form to the "CROW" outage.

O. CLICK on the "Submit" button.

NOTE

In the event that data needs to be changed following changing the state of the outage to "Submitted" the Analyst must contact the Outage Coordination group.

P. SEND an email to "GenerationOutageCoordinator" email address informing the outage coordinators that an outage has been submitted.

5. Daily, using the Control Room Event Logserver, DETERMINE when CLAIM10, CLAIM30 audit was conducted.

6. Per section 5.2.1 of this procedure, UPDATE the Claim 1030 Contingency Application.

5.5 ISO-Initiated Claim 10/30 Audits

NOTE

At the beginning of each month, this process is used to determine the recommended Resources to audit. The criteria used to recommend Resources for auditing may be modified with Control Room concurrence and should **not** be shared unless otherwise directed by the Director, Operations Support Services.

Because ISO-Initiated Claimed Capability Audits are **not** Lead MP/DE-requested, they are **not** considered audits for the purposes of PF target value calculation per the Tariff, MR1 III 9.5.3.3(b)(i) CLAIM10 and CLAIM30 Performance Factors. ISO-Initiated Audits use the target value calculation from the Tariff, MR1 III Section 9.5.3.3(a) CLAIM10 and CLAIM30 Performance Factors.

The R Script used to generate the audit list also generates a separate file, which contains a list of Resources selected for audit, but could not be audited due to CROW outages.

5.5.1 Scheduling Generator Audits

1. At the beginning of each month, in order to determine the recommended Assets to audit, the Analyst shall PERFORM the following:

   A. OPEN "ISO Initiated Audit List Generator Script.R" from \\isofilpd1\tso\Claim_10_30 Auditing\ISO_Initiated_C10 Audits

   B. SELECT all code (CTRL-A) and RUN

   C. CONFIRM an output file is delivered to the ISO Initiated C10 Audits folder called "ISO Initiated Audit List – MM – DD HH-MM-SS.xlsx

   D. If **no** file was delivered, CHECK the R Studio console for a message: "There are no units that meet the auditing criteria this month."

      - TAKE a screenshot of the console
      - SAVE the screenshot as an image to the appropriate monthly folder at; \\isofilpd1\tso\Claim_10_30 Auditing\ISO_Initiated_C10 Audits

   E. MOVE any created files to the appropriate monthly location in the directory

2. If a file is generated, the Analyst shall CREATE an outage in the ISO Outage Scheduling software for all Generators in the output file, or for any Generator as requested by the Control Room as follows:

   A. OPEN CROW Client.

   B. SELECT File>New>Outage Request.

C. SELECT outage request type = "Generation outage request" radio button.

D. CLICK on "Create".

E. ENTER the Outage priority: "ISO Test".

F. VERIFY the Visibility is set to "Private".

G. ENTER the Planned Start: ENTER 0000 on the date that is the date the report was run plus 2 (for example: the report was run on July 5, the auditing window should be started in the Outage Scheduling software on 0000 of July 7).

H. ENTER Planned End: ENTER 2359 on the "date seven calendar days after the start of the audit window".

I. ENTER the Equip Requested:

- SELECT "Add" button.
- ENTER the Asset ID.
  a. VERIFY the Asset ID automatically populates Asset Name and SCC.

J. Under "Equip. Requested": CLICK on the <Please Choose>.

K. CLICK on the "…" next to <Please Choose>.

L. SELECT "Response Rate".

M. ENTER the Outage Cause: "984: Claim 10 / Claim 30"".

N. ENTER ISO Comments:

"This audit is an ISO-Initiated CLAIM10 and 30 Audit and may be performed at any time. The desired target MW is: XX MW. If there is an outage that will limit the Generator ability to reach the requested target, do not perform the audit."

O. CLICK on the "Submit" button.

NOTE

In the event that data needs to be changed after submittal the Analyst is expected to contact the Outage Coordination group.

P. SEND an email to "GenerationOutageCoordinator" email address informing the outage coordinator group that an outage has been submitted.

5.5.2 Scheduling DRR Audits

1. The Analyst shall CREATE an ISO Claim 10/Claim 30 Audit Request in the Demand Response Audit and Testing Tool (DRATT) for any DRR as requested by the Control Room as follows:

   A. SELECT "DR Audit and Testing Tool" from the "SMD Applications Home Page"

   B. SELECT "Demand Response Resources" tab

   C. SEARCH for the DRR upon which the audit will be performed

   D. SELECT the box(es) beside the DRR(s) upon which the audit will be performed

   E. SELECT "Request Audit(s)" button

   F. SELECT "ISO" from "Request Source" drop-down menu

   G. SELECT "Claim 10/Claim 30" from "Audit Type" drop-down menu

   H. VERIFY "No" is selected for "Post Dispatch Audit"

   I. ENTER the target MW into "Desired Dispatch MW"

   J. SELECT "Create Audit Request"

5.6 Real-Time to Day Ahead Threshold Value Evaluation

NOTE

The current Real-Time to Day-Ahead (RT/DA) threshold can be found in the daily Electronic Dispatch file used by the Claim 1030 Contingency Application.

The method of plotting the data (e.g., MATLAB Boxplot) is based upon the amount of data and the Analyst's preference.

1. At the end of each Forward Reserve Procurement Period, or as otherwise required, the Analyst shall:

   A. PLOT on the same graph:

      - The RT/DA ratio for each fast start startup since the previous analysis.
      - The current Generator and DRR RT/DA ratio value.

   B. ANALYZE the graph to DETERMINE whether startup RT/DA values are near the RT/DA threshold value.

   C. SAVE a record of the graph.

   D. When a significant number of startups, or certain Resource RT/DA ratios are near the current RT/DA threshold value:

      - Using the graph, DETERMINE a new, higher RT/DA threshold value.
      - CONSULT with Market Development and DETERMINE if other data may be used to determine the new RT/DA threshold.
      - REQUEST concurrence from Manager, Real-Time Studies (RTS) for RT/DA threshold modification.
      - INFORM the Reliability Committee that the threshold will be modified, including the new value.
      - CREATE a CAPA for Generator and DRR RT/DA threshold modification.
      - WORK with Real-Time Market Support to implement Generator and DRR RT/DA threshold change.

5.7 Update PI Tags

NOTE

After each network model release, a new set of PI Tags will be generated by Real-Time Market Support and issued to RTS. This list of PI Tags is saved on a network location and are made available to all Excel workbooks that require PI Tag usage. This is done so that only one list of PI Tags is required to be maintained.

1. After each network model release, RENAME the existing PI Tag file located at:

   \\iso-ne.com\shares\\tso\PI Tag Directory' to PI Tags – old.xlsx

2. After each network model release, SAVE the new PI Tag file located at:

   \\iso-ne.com\shares\\tso\PI Tag Directory as PI Tags.xlsx

5.8 Manual Response Rate Review

5.8.1 *Weekly Review*

1. At least weekly, the Analyst shall:

   A. ACCESS the Generator Performance Evaluation (GPE) application at \\iso-ne.com\shares\\gpe_share\app\Analyst.exe

   B. DEACTIVATE any required Qualified Dispatch Intervals (QDIs) where:

   - The Resource has an outage in CROW that would affect response rate
   - The Resource response is **not** indicative of its normal response rate

> **NOTE**
>
> Certain QDIs may **not** be representative of a Resource's performance. Examples of this may be that a Resource has an outage or is performing specific testing. These intervals should be removed from the Manual Response Rate (MRR) evaluation to prevent skewing of the resultant data.

5.8.2 *Quarterly Review*

2. At the end of each calendar quarter, the Analyst shall PROVIDE each Lead MP a MRR report for each analyzed Resource by performing the following:

   A. ACCESS the GPE application at:

   \\iso-ne.com\shares\\gpe_share\app\Analyst.exe

   B. SELECT "Tools" menu

   C. SELECT "Reports"

   D. SELECT "Select All"button

   E. SELECT "Unit Ramp Rate" radio button

   F. SELECT white box to the right of "Output file"

   G. ENTER and SAVE file name and location for file export

   H. SELECT "Create Report"

   I. ACCESS the exported file

   J. CREATE a table correlating ramp rate and MW values for each Resource

   K. EVALUATE ramp rate data for consistency across the dispatchable range

L. For any MW values with inconsistent, negative, or zero ramp rate values, ENTER ramp rate values consistent with other ramp rate values for that Resource

M. CREATE a report for each Resource with expected supply offer MRR/MW pairs

N. INFORM the Manager, Operational Performance, Training, and Integration and Manager, Control Room Operations of any significant MRR changes

O. EMAIL the MRR/MW pair report to the Lead MP for that Resource

6. Performance Measures

This procedure is properly followed as evidenced by the following:

- The requested CLAIM10/CLAIM30 demonstrations are completed within five (5) business days.
- The requested CLAIM10/CLAIM30 demonstrations are analyzed and results communicated to the Lead MP/DE within five (5) business days of the demonstration.

7. References

ISO New England Inc. Transmission, Markets and Services Tariff (Tariff) Section III, Market Rule 1 - Standard Market Design (MR1), III. 9.5.3.3 Resource CLAIM10 and CLAIM30 Values, III 9.5.3.4 Performance Factor Cure, and III.9.7.2 Failure-to-Activate Penalties

ISO New England Operating Procedure No. 23 - Resource Auditing, Appendix A - Off-Line Reserve Audit Request Form (OP-23A)

CROP.45002 Auditing

8. Revision History

Rev. No.	Date	Reason	Contact
0	11/21/13	Initial draft procedure	Thomas Hultine
1	06/25/15	Periodic review performed by Procedure Owner; Major re-write to be consistent with current practices and management expectations.	Michael Jaeger
2	10/14/15	Added responsibility to enter CROW outages for Claim10/30 Audits; added process responsibility for recommending units for ISO Initiated Auditing	Michael Jaeger
3	04/29/16	Biennial Review completed by procedure owner; Rewritten to implement HPI guidelines; Globally made changes to be consistent with the software tool updates;	Michael Jaeger
4	08/16/16	Added required corporate document identity to all Footers; Globally, made editorial changes to procedure to reflect business tool changes, current practices and management expectations; Globally, removed typos; Section 5.4.1.1.M, added clarifying language to ISO comments; Section 5.5.3.N, added clarifying language to ISO comments; Section 6 deleted 3rd bullet;	Michael Jaeger
5	11/28/16	Globally, made editorial changes to procedure to reflect business tool changes; Updated Process Owner in headers;	Michael Jaeger
6	08/14/17	Globally minor editorial changes to reflect current practices and management expectations; Added NOTE in Section 5.5 for target value for ISO-Initiated Audits; Added new Section 5.6 for evaluation of RT/DA threshold value;	Michael Jaeger

7	02/13/18	Biennial review by procedure owner; Globally, made editorial changes to procedure to reflect business tool changes, current conditions, practices, and management expectations; Made updates to the network paths to tools;	Michael Jaeger
8	06/20/18	Biennial review by procedure owner; Globally, made editorial changes to procedure to reflect business tool changes, current conditions, practices for grammar/terminology/etc., and management expectations; Modified Section 5.4 title, added "Generator": Added new sub-Section 5.5.1 title (Scheduling Generator Audits); Added new sub-Section 5.5.2 titled Scheduling DRR Audits and steps and substeps; Added new Section 5.8 titled Manual Response Rate Auditing, steps and sub-steps;	Michael Jaeger
9	12/05/18	Biennial review by procedure owner; Modified step 5.1..1.1.B and 5.1.1.1.C deleted sub-steps and re-numbered remaining steps; Modified step 5.1.1.1.D; Step 5.1.2.1.A, modified sub-steps 5.1.2.1.A.(1), (2) and added new sub-step (3) and its sub-steps, modified sub-step 5.1.2.1.A.(4), deleted sub-step 5.1.2.1.A.(5) and added new sub-steps (5) and (6), modified sub-steps (7) and (8), deleted sub-step 10 and re-numbered remaining sub-steps, modified sub-steps (11), (12), and (13); Added new Section 5.3, sub-section, steps and sub-steps;	Michael Jaeger
10	01/29/20	Section 2, sub-step bulletes updated to reflect new Claim 1030 Java UI process; Section 5.1.4, updated to reflect new TMOR FTA process;	Michael Jaeger
10.1	12/03/20	Administrative Minor Change to extend review time of the procedure	Michael Jaeger
11	12/28/21	Section 5.2.2, changed action to run BI agent instead of excel workbook macro	Michael Jaeger

9. Attachments

None