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References

[None]

Procedure Background

Resources are postured for the following reasons:

- Maintain operating reserve – both on-line and off-line
- Provide voltage or VAR support

Posturing refers only to resources dispatched down out of rate to provide reserves or voltage and VAR support, or DARD Pumps on-line pumping out of rate to provide reserves at a later time. Do **NOT** posture a DARD Pump on-line for voltage, it will be flagged as VSUH.

If the generator is operating greater than its Posture MW value, a DDP (or setpoint in the case of an ESD) that reflects the Posture MW value will be sent to the generator's RTU upon execution and approval of a new UDS case once the new Posture MW value has been entered into the "Posture MW:" well.

UDS will dispatch a postured generator to a value at or below the Posture MW value unless the generator’s manual response rate (MRR) does not allow the generator to reach the Posture MW value within the look-ahead time. In that case UDS will develop an MRR-constrained DDP based on eventually dispatching the generator to a value less than or equal to the Posture MW value.

UDS will dispatch a postured DARD to a value at or above the Posture MW value unless the DARD’s MRR does not allow the DARD to reach the Posture MW value within the look-ahead time. In that case, UDS will develop an MRR-constrained DDP based on eventually dispatching the DARD to a value greater than or equal to the Posture MW value.

Generators dispatched up, or DARD Pumps dispatched off-line are **NOT** Postured.

The Low Available Gen MWh at Northfield or Bear Swamp alarm set point is modified by:

- ❑ Accessing the applicable Substation Tabular display
- ❑ Modifying the “Low:” value for "POND AVAILABLE_GEN"
  Note: this value will be shown on the pond display in EMS

Consider the following before Posturing for operating reserve:

- Is an emergency capacity deficiency occurring or imminent in New England or a portion of New England?
- Is there risk associated with meeting the NERC Disturbance Control Standard by allowing the impacted facilities to run out of fuel?
- Has the total ECO surplus been reallocated to 10/30 minute reserve to meet ISO New England Operating Procedure No. 8 - Operating Reserve and Regulation (OP-8) reserve requirements?

Consider the following prior to Posturing for voltage or VAR support:

- Are voltage schedules and limits being challenged?
- Are the margins for Unit MVAR loadings, capabilities, and reserves being challenged?
- Have shunt capacitor and reactor dispatches been maximized?
- Are transformer voltage schedules or fixed tap settings at their limits?

The available EMS reason codes for posturing are:

- CAPA - used when posturing is being performed for capacity or operating reserve. This is the default selection by software.
- VAR - used when posturing is being performed for voltage support.

Common Procedure Information

A. Any ISO-NE qualified Control Room Operator has the authority to take actions required to comply with NERC Reliability Standards. A qualified ISO-NE Control Room Operator has met the following requirements:
   1. Have and maintain a NERC certification at the RC level (per R.1 of PER-003-2)
   2. Applicable Requirements of PER-005-2
   3. Approved to cover a Control Room Operator shift position by the Manager, Control Room Operations
   4. Is proficient at the current qualified level.

B. Real time operation is defined as the current hour and the current hour plus one.

C. Future hours are those beyond real time operation.

D. All verbal communications with Local Control Centers (LCC), neighboring Reliability Coordinators/Balancing Authorities (RC/BA), Designated Entities (DE), Demand Designated Entities (DDE) and/or SCADA centers shall be made on recorded phone lines unless otherwise noted.

E. For all communications:
   1. Use the Basic Protocol for All Operational Communications as prescribed in M/LCC 13
   2. Use 'ISO New England' or 'New England'. Refrain from using 'ISO'.
   3. Use Asset ID's when communicating with DE/DDEs.
   4. Use three-part communication in all situations where its use will enhance communications.

F. Primary responsibilities are stated for each step within the procedure, but any ISO System Operator qualified at that position or higher can perform the step. The Primary Responsibility may be delegated to an Operator in a lower qualified position, but the responsibility for its completion remains with the identified individual.

G. The use of “ensure” within this document means that a verification has been performed and if the item is not correct, corrective actions will be performed.

Procedure

Condition(s) to perform this section:

- **Determined that an on-line generator needs to be postured.**

Section 1 : Implement Posturing of an on-line generator

Step 1.1 Primary Responsibility: Operations Shift Supervisor

Instruct the Loader Operator to posture a specific generator.

Instructions

When instructing the Loader Operator to posture a specific generator provide the following information

- ❑ Posture start time
- ❑ Expected posture end time
- ❑ Posture MW value
- ❑ Reason for posturing (capacity or voltage)

Step 1.2 Primary Responsibility: Loader Operator

Notify the DE of the generator being postured and the posturing details.

Instructions

Posturing details:

- ❑ Start time;
- ❑ Expected end time;
- ❑ Posture MW value;
- ❑ Reason for posturing (capacity or voltage).

If a combined cycle generator is being postured into a 1x1 configuration, have DE specify the component's minimum down time.

Step 1.3 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The combined cycle generator is operating in a 2x1 configuration and is being postured in a 1x1 configuration.**

Enter the ISO Imposed Eco Max and Eco Min values

Step 1.4 Primary Responsibility: Loader Operator

Enter the Posture MW value for the identified hour(s).

Instructions

The Posture MW value is entered in the "Posture MW" well on the "LEG Posture" tab.

Step 1.4.1 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **Posturing is being done for voltage support.**

Select the VAR reason code.

Notes

The default reason code is "CAPA".

Step 1.5 Primary Responsibility: Loader Operator

Change the UCM to 5.

Step 1.6 Primary Responsibility: Loader Operator

Notify the Operations Shift Supervisor, Senior System Operator, and Forecaster of the generator that was postured.

Step 1.7 Primary Responsibility: Loader Operator

Log that posturing started.

Instructions

Use log entry: > GENERATION > POSTURING > Start [E]

Notes

Multiple generators at the same station that share a fuel source can be identified in a single log entry as long as they were all postured for the same reason.

Condition(s) to perform this section:

- **Determined that an on-line postured generator is no longer required to be postured.**

Section 2 : Cancel Posturing of an on-line generator

Step 2.1 Primary Responsibility: Operations Shift Supervisor

Instruct the Loader Operator to return a postured generator to merit order dispatch.

Step 2.2 Primary Responsibility: Loader Operator

Notify the DE that the generator is no longer postured.

Instructions

If a combined cycle generator was dispatched into a 1x1 configuration, request the DE specify:

- ❑ Minimum down time left for the off-line component;
- ❑ Whether the off-line component will be brought back on-line;
- ❑ If being started back up, time until it will be back in 2x1.

Step 2.3 Primary Responsibility: Loader Operator

Remove any Posture MW values for current and future hours.

Step 2.4 Primary Responsibility: Loader Operator

Change the UCM to the correct mode.

Step 2.5 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **Combined cycle generator was postured in to a 1x1 configuration.**

Remove or redeclare the generator's limits in accordance with the configuration operation.

Step 2.6 Primary Responsibility: Loader Operator

Notify the Operations Shift Supervisor, Senior System Operator, and Forecaster that the generator is no longer postured.

Step 2.7 Primary Responsibility: Loader Operator

Log that posturing ended.

Instructions

Use log entry: > GENERATION > POSTURING > End [E]

Notes

The details of this Opralog entry are automatically populated in the Control Room Reports.

Condition(s) to perform this section:

- **Determined that an off-line fast start needs to be postured.**

Section 3 : Implement Posturing of an off-line Fast Start generator

Step 3.1 Primary Responsibility: Operations Shift Supervisor

Instruct the Loader Operator to posture a specific generator.

Instructions

When instructing the Loader Operator to posture a specific generator provide the following information

- ❑ Posture start time;
- ❑ Expected posture end time;
- ❑ Posture MW value;
- ❑ Reason for posturing (capacity or voltage).

Step 3.2 Primary Responsibility: Loader Operator

Notify the DE of the generator being postured and the posturing details.

Instructions

Posturing details:

- ❑ Start time;
- ❑ Expected end time;
- ❑ Posture MW value;
- ❑ For pumped storage generators, request the MWh remaining;
- ❑ For pumped storage generators, verify unit limits are accurate based on pond elevation and redeclare as necessary;
- ❑ Reason for posturing (capacity or voltage).

Step 3.3 Primary Responsibility: Loader Operator

Enter the Posture MW value for the identified hour(s).

Instructions

The Posture MW value is entered in the "Posture MW" well on the "LEG Posture" tab.

Step 3.4 Primary Responsibility: Loader Operator

Notify the Operations Shift Supervisor, Senior System Operator, and Forecaster of the generator that was postured.

Step 3.5 Primary Responsibility: Loader Operator

Log that posturing started.

Instructions

Use log entry: > GENERATION > POSTURING > Start [E]

Notes

Multiple generators at the same station that share a fuel source can be identified in a single log entry as long as they were all postured for the same reason.

Condition(s) to perform this section:

- **Determined that an off-line postured Fast Start generator is no longer required to be postured.**

Section 4 : Cancel Posturing of an off-line Fast Start generator

Step 4.1 Primary Responsibility: Operations Shift Supervisor

Instruct the Loader Operator to return a postured generator to merit order dispatch.

Step 4.2 Primary Responsibility: Loader Operator

Notify the DE that the generator is no longer postured.

Step 4.3 Primary Responsibility: Loader Operator

Remove any Posture MW values for current and future hours.

Step 4.4 Primary Responsibility: Loader Operator

Notify the Operations Shift Supervisor, Senior System Operator, and Forecaster that the generator is no longer postured.

Step 4.5 Primary Responsibility: Loader Operator

Log that posturing ended.

Instructions

Use log entry: > GENERATION > POSTURING > End [E]

Notes

The details of this Opralog entry are automatically populated in the Control Room Reports.

Condition(s) to perform this section:

- **Determined that a DARD Pump needs to be postured for capacity.**

Section 5 : Implement Posturing of a DARD Pump

Notes

A postured DARD Pump will be designated with TMSR in EMS and UDS. EMS TMSR will be equal to the DARD Pump's current MW of Consumption. UDS TMSR will be equal to the DARD Pump's DDP.

Step 5.1

Primary Responsibility: Operations Shift Supervisor

Instruct the Loader Operator to posture a specific DARD Pump.

Instructions

When instructing the Loader Operator to posture a specific generator provide the following information

- ❑ Posture start time;
- ❑ Expected posture end time;
- ❑ Posture MW value;
- ❑ Reason for posturing (capacity).

Step 5.2

Primary Responsibility: Loader Operator

Notify the DE of the DARD Pump being postured and the posturing details. Provide a start up instruction if the DARD Pump is off-line.

Instructions

Posturing details:

- ❑ Start time;
- ❑ Expected end time;
- ❑ Posture MW value, if the consumption level is controlled by use of multiple pumps;
- ❑ Reason for posturing (capacity).

Notes

- Providing the Posture MW value is **NOT** required when it is just a single value that is influenced by the pond elevation.
- If the DARD Pump is off-line, the software will **NOT** provide a start up signal.

Step 5.3

Primary Responsibility: Loader Operator

Enter the Posture MW value for the identified hour(s).

Instructions

The Posture MW value is entered in the "Posture MW" well on the "Posture" tab.

Step 5.4

Primary Responsibility: Loader Operator

Change the UCM to 5.

Step 5.5

Primary Responsibility: Loader Operator

Notify the Operations Shift Supervisor, Senior System Operator, and Forecaster of the DARD Pump that was postured for capacity.

Step 5.6 Primary Responsibility: Loader Operator

Log that posturing started.

Instructions

Use log entry: > GENERATION > POSTURING > Start [E]

Notes

Multiple DARD Pumps at the same station can be identified in a single log entry as long as they were all postured for the same reason.

Condition(s) to perform this section:

- **Determined that a postured DARD Pump is no longer required to be postured.**

Section 6 : Cancel Posturing of a DARD Pump

Step 6.1 Primary Responsibility: Operations Shift Supervisor

Instruct the Loader Operator to return a postured DARD Pump to merit order dispatch.

Step 6.2 Primary Responsibility: Loader Operator

Notify the DE that the DARD Pump is no longer postured.

Step 6.3 Primary Responsibility: Loader Operator

Remove any Posture MW values for current and future hours.

Step 6.4 Primary Responsibility: Loader Operator

Change the UCM to the correct mode.

Step 6.5 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **DARD Pump was Excluded in RTUC; Or**
- **DARD Pump was Ignored in UDS.**

Remove the Exclude or Ignore flag for the DARD Pump.

Step 6.6 Primary Responsibility: Loader Operator

Notify the Operations Shift Supervisor, Senior System Operator, and Forecaster that the DARD Pump is no longer postured.

Step 6.7 Primary Responsibility: Loader Operator

Log that posturing ended.

Instructions

Use log entry: > GENERATION > POSTURING > End [E]

Notes

The details of this Opralog entry are automatically populated in the Control Room Reports.

Condition(s) to perform this section:

- **A Posture MW/UCM5 alarm is received.**

Section 7 : Respond to a posturing mismatch alarm

Notes

System Activity Log will state the following in the event of a posturing mismatch situation: "NEPEX - <asset name here> POSTURE MW/UCM5 INCONSISTENCY"

Step 7.1

Primary Responsibility: Loader Operator

Determine the cause of the mismatch.

Notes

Reasons for posturing mismatch are:

- Generator or DARD Pump in UCM 5 with no Posture MW value for the current hour; Or
- Generator with Posture MW value for the current hour that is **NOT** in UCM 5 (unless it is an off-line generator Postured at 0 MW).

Step 7.2

Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **A generator or DARD Pump is in a UCM 5 and there is no corresponding Posture MW value for the current hour.**

Change the UCM or update the Posture MW value as appropriate.

Step 7.3

Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **A generator or DARD Pump has a postured MW value for the current hour but is NOT in the correct UCM.**

Change the UCM or update the Posture MW value as appropriate.

Condition(s) to perform this section:

- **A postured resource needs to continue to be postured into the next operating day; AND**
- **The resource was initially postured after 2200 on the previous Operating Day.**

Section 8 : Continuing the Posturing of a resource into the next day

Step 8.1 Primary Responsibility: Loader Operator

Log posturing for the new day.

Instructions

Use log entry: > GENERATION > POSTURING > Start [E]

Notes

- Multiple generators at the same station that share a fuel source can be identified in a single log entry as long as they were all postured for the same reason.
- Multiple DARD Pumps at the same station can be identified in a single log entry as long as they were all postured for the same reason.

Condition(s) to perform this section:

- **It has been determined that an ESD needs to be postured.**

Section 9 : Implement posturing an Energy Storage Device (ESD)

Step 9.1 Primary Responsibility: Operations Shift Supervisor

Instruct the Loader Operator to posture a specific ESD_{gen} or ESD_{DARD}.

Instructions

When instructing the Loader Operator to posture a specific resource provide the following information

- ❑ Resource (ESD_{gen} or ESD_{DARD});
- ❑ Posture start time;
- ❑ Expected posture end time;
- ❑ Posture MW value;
- ❑ Reason for posturing (capacity).

Step 9.2 Primary Responsibility: Loader Operator

Notify the DE of the ESD_{gen} or ESD_{DARD} being postured including the posturing details.

Instructions

Posturing details:

- ❑ Resource (ESD_{gen} or ESD_{DARD});
- ❑ Start time;
- ❑ Expected end time;
- ❑ Posture MW value;
- ❑ Reason for posturing.

Step 9.3 Primary Responsibility: Loader Operator

Enter the Posture MW value for the hours when the resource is postured.

Instructions

Enter the posture MW value in the ESD Posture tab for either the ESD_{gen} or the ESD_{DARD}

Step 9.4 Primary Responsibility: Loader Operator

Select the reason code for the posturing (default reason code is CAPA).

Step 9.5 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The associated ESD has the Participant Reserve Down flag set.**

Set the ISO Operator Override flag.

Notes

The effective Reserve Down Flag calculation should result in the ESD providing reserves

Step 9.6 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The associated ESD_{ATRR} is on regulation.**

Change the UCM to 5.

Notes

Changing the UCM of an ESD_{gen} or ESD_{DARD} to anything other than UCM4 will automatically take the ESD_{ATRR} off regulation

Step 9.7 Primary Responsibility: Loader Operator

Notify Operations Shift Supervisor, Senior System Operator, Forecaster that the ESD was postured.

Step 9.8 Primary Responsibility: Loader Operator

Log the start of posturing.

Instructions

Use log entry: > GENERATION > POSTURING > Start [E]

Condition(s) to perform this section:

An ESD is no longer needed to be postured

Section 10 : Cancel posturing an Energy Storage Device (ESD)

Step 10.1 Primary Responsibility: Operations Shift Supervisor

Instruct the Loader Operator to return a postured ESD to merit order dispatch.

Step 10.2 Primary Responsibility: Loader Operator

Notify the DE that the resource is no longer postured.

Step 10.3 Primary Responsibility: Loader Operator

Remove any Posture MW values for current and future hours.

Step 10.4 Primary Responsibility: Loader Operator

Condition(s) to perform this step:

- **The ISO Operator Override flag was set.**

Remove the ISO Operator Override flag.

Notes

The ESD has the Participant Reserve Down flag should be set until the DE requests to change the reserve status.

Step 10.5 Primary Responsibility: Loader Operator

Update the UCM to the correct mode.

Step 10.6 Primary Responsibility: Loader Operator

Notify Operations Shift Supervisor, Senior System Operator, Forecast that the ESD is no longer postured.

Step 10.7 Primary Responsibility: Loader Operator

Log the end of posturing.

Instructions

Use log entry: > GENERATION > POSTURING > End [E]

Revision History

Rev. No.	Date (MM/DD/YY)	Reason	Contact
--	02/27/17	For previous revision history, refer to Rev 7 available through Ask ISO	Steven Gould
8	05/16/17	Add information to Procedure Background	Steven Gould
9	06/14/17	Update Steps in Section 5 for setting Reserve Monitor Down flag and exclusion in UDS	Steven Gould
10	10/30/17	Update for clarification of Posturing process and expectations	Steven Gould
11	11/03/17	Remove steps associated with reserve monitor down flag in Sections 5 and 6	Steven Gould
12	03/28/19	Add new Section 9 and Section 10 for energy storage devices	Steven Gould
13	05/23/19	Editorial change to step numbers. Delete steps to edit Control Room Reports. Deleted step 5.5	Steven Gould
14	04/28/20	Added step 9.5 and 10.4	Steven Gould
15	10/14/20	Added Condition to Perform Section 8	Steven Gould
16	10/11/22	Bieenial Review : Updated Common Procedure Information; Removed standard for completion in steps that is contained in Common Procedure Information; Minor editorial changes.	Jonathan Gravelin
17	02/06/24	Added Instruction to Step 3.2; Removed condition to enter in Steps 2.3, 3.3, 4.3, 5.3 & 6.3; Corrected formatting of Step 1.4	Jonathan Gravelin