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References

1. NPCC Directory #7 – Remedial Action Schemes

Procedure Background

In this procedure Guide is an all-inclusive term for: TOG Stability, TOG Text, TOG SPS, and TOG temporary.

For the purpose of this document, the NERC defined term “Remedial Action Scheme” (RAS) and the term “Special Protection System” (SPS) are considered equivalent. Direction in this CROP is also applicable to certain former SPSs that have been re-categorized as ACS under NPCC Directory #7. The term **Remedial Action Scheme** (**RAS**) and its definition has been adopted by NPCC in place of the term **Special Protection System** (**SPS**). For existing documentation, the term **RAS** or **SPS** may be used. Not all EMS displays will have the SPS term replaced with RAS/ACS.

Type I, Type II and Limited Impact (LI) RAS are defined in NPCC Directory #7.

The Interface Limits Related Devices-Runbacks/Pre-ctg SCADA display is accessed by: Accessing ILC, Clicking on the "Related Displays" menu, and then selecting "Related Devices-Runbacks/Pre-ctg SCADA" from the menu.

Many of the RAS/ACS devices have been incorporated into the RTCA and STCA software. By selecting the “RAS/ACS Displays” icon, the System Operator can assess which RAS/ACS was incorporated in the RTCA software analysis. RAS/ACS Devices in red are Active and have been triggered in the base case or during contingency analysis.

Regardless of the status in the field, the PV20 OMS ACS/SPS is deactivated in RTCA and STCA to respect NYISO operating restrictions on the PV20 line.

Reclosing badge
A flow bandwidth is required when reclosing either 390/3016, 3001, or 396 lines. STCA monitors this bandwidth through the use of Non-Field SPSs that measure the flow between NB and NE. Special Process Contingency badges in STCA provide an indication if reclosing is allowed. If reclosing is or isn’t allowed, the applicable CTGY ID will be displayed in the “Special Processed contingencies that triggered an SPS” column of the “Contingency Branch Violations” STCA EMS display with an indication of (RECL) to the right, accompanied by a “Reclosure allowed” or “Reclosure not allowed” message on the display.

Nuclear station voltage monitoring is included in RTCA to comply with NPIRs. The following contingencies will be evaluated by the “Non-Field SPS’s” feature of the RTCA software: MIL2, MIL3, and SBRK. The modeling of these contingencies, in conjunction with the Non-Field SPS programming, provide an indication that post-contingent station voltage limits will be exceeded following a unit trip with the addition of Emergency Core Cooling System (ECCS) loads.

The NPIR voltage setpoints are programmed into the SPS logic and will trigger an "LV" indication if the Low Voltage limit is exceeded. A "WLV" Warning Low Voltage limit, set 2kV above the Low Voltage limit, is provided to alert the Operator of a potential problem. Upon an exceedance of either limit, the applicable CTGY ID will be displayed in the "Special Processed contingencies that triggered an SPS" column of the "Contingency Branch Violation" RTCA EMS display with an indicator for the limit violated (LV or WLV) to the right.

Along with the visual indication, the initial exceedance of a Nuclear Voltage Alarm setting will trigger an audible alarm. No subsequent exceedance will trigger an audible alarm until all associated alarms have returned to normal.

The Non-Field RAS/ACS display identifies "Special Processed contingencies" modeled in the ISONE EMS software that are are not categorized as an actual RAS or ACS. These "Special Processed contingencies" are for modeling purposes only and may include but are not limited to: ECCS loads at Nuclear Power Stations, NSTAR Cable Ratings or identifying conditions being met to allow reclosing on the New Brunswick tie lines.

RAS/ACS Overview display information:

- When a value is locally manually replaced, a white (R) will appear next to it.
- When a value has bad data, a magenta (S) will appear next to it.
- The "meter" symbol indicates that SCADA points exist for this RAS/ACS. Click on it to see the substation and device.
- A yellow value indicates that it is calculated from the ICM.
  - The values that are **NOT** associated with a SCADA point can be toggled by clicking on them.
  - Any values that are listed on other displays will **NOT** be changed on those displays when toggled here. Examples include the NEWI, YAR4, and NB Available Statuses.

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 communication.

F. Primary responsibilities are stated for each step within the procedure, but any ISO Control Room 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:

- **A RAS/ACS is required to be monitored in Real Time; Or**
- **A RAS/ACS is no longer required to be monitored in Real Time.**

Section 1 : Activate or Deactivate a RAS/ACS in RTCA and CAJR

Step 1.1 Primary Responsibility: Security Operator

Access RTCA.

Step 1.2 Primary Responsibility: Security Operator

Access the RAS/ACS Directory or the Non-Field RAS/ACS Directory display as applicable.

Instructions

Access the RAS/ACS Directory display by:

- ❑ Clicking the "RAS/ACS" button.

Access the Non-Field RAS/ACS Directory display by:

- ❑ Clicking the "RAS/ACS" button
- ❑ Then click the "Non-Field" tab.

Step 1.3 Primary Responsibility: Security Operator

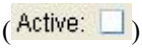
Click on the RAS/ACS to access the specific RAS/ACS Visual definition.

Step 1.4 Primary Responsibility: Security Operator

Modify the status of the RAS/ACS.

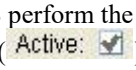
Instructions

To activate a RAS/ACS perform the following:

- ❑ Click the Active box (

)
- ❑ Click the yes button in the Confirm Action pop up window
- ❑ Verify the flag was set

To deactivate a RAS/ACS perform the following:

- ❑ Click the Active box (

)
- ❑ Click the yes button in the Confirm Action pop up window
- ❑ Verify the flag was removed.

Step 1.5 Primary Responsibility: Security Operator

Transfer the RTCA RAS/ACS database to CAJR.

Instructions

To transfer the RTCA RAS/ACS database to CAJR:

- ❑ Access the RAS/ACS Directory or Non-Field RAS/ACS Directory display;
- ❑ Click the "Transfer SPS's to RTCAJR" button;
- ❑ Run a Network Sequence;
- ❑ Verify the database time and date stamp updated to the right of the “Transfer SPS’s to RTCAJR” button.

Notes

- Failure to perform this step would mean that CAJR would **NOT** be assessing the same RAS/ACS as RTCA.
- The time and date stamp to the right of the "Transfer SPS's to RTCAJR" button indicates when the SCRIPTOR process has been initiated to push the CAJR database update.

Step 1.6 Primary Responsibility: Security Operator

Verify the RAS/ACS status has updated using the RAS/ACS Directory display.

Notes

- White text indicates that the RAS/ACS is Deactivated.
- Black text indicates that the RAS/ACS is Active.
- Red text indicates that the RAS/ACS is Active and has been triggered in the base case or during contingency analysis.

Step 1.7 Primary Responsibility: Security Operator

Log the RAS/ACS activation or deactivation.

Instructions

Use the appropriate log entry:

- ❑ > TRANSMISSION > RAS/ACS > RAS/ACS Activated in CA
- ❑ > TRANSMISSION > RAS/ACS > RAS/ACS Deactivated in CA

Include the following items in the entry:

- ❑ RAS/ACS ID
- ❑ Reason for the activation or deactivation.

Step 1.8 Primary Responsibility: Security Operator

Modify the status of the RAS/ACS on the RAS/ACS display using Section 3.

Step 1.9 Primary Responsibility: Security Operator

Determine if the RAS/ACS needs to be activated or deactivated in STCA. If so, proceed to Section 4.

Condition(s) to perform this section:

- **Notified that the 396 RAS/SPS status has been modified**

Section 2 : Modify status of the 396 RAS/SPS

Step 2.1 Primary Responsibility: Security Operator

Log the status change.

Instructions

Use applicable log entry:

- ❑ > TRANSMISSION > RAS/ACS > 396 Line RAS/SPS Armed
- ❑ > TRANSMISSION > RAS/ACS > 396 Line RAS/SPS Disarmed

Condition(s) to perform this section:

- **Notified that a RAS or ACS has changed status; Or**
- **Notified that an arming amount has been modified.**

Section 3 : Modify status of a RAS/ACS on the RAS/ACS Overview display

Step 3.1 Primary Responsibility: Security Operator

Access the RAS/ACS Overview display.

Instructions

Done via ICM display.

Step 3.2 Primary Responsibility: Security Operator

Determine if the RAS/ACS Overview information updated.

Step 3.2.1 Primary Responsibility: Security Operator

Update the status or MW amount.

Instructions

If the RAS or ACS has a yellow meter in the far right portion, a SCADA point exists and will need to be modified via the Substation Tabular display if it does **NOT** update correctly.

To modify an Arming Status or Available Status for an item **WITHOUT** a SCADA point:

- ❑ Click the applicable status to toggle the indication.

To modify an Arming Status, Available Status, or Armed MW item **WITH** a SCADA point:

- ❑ Click the yellow meter to determine the point to be modified on the Substation Tabular display;
- ❑ Click an item for the applicable RAS/ACS;
- ❑ Locate the point to be modified on the Substation Tabular display;
- ❑ Set the "Not in Service" flag, if **NOT** set;
- ❑ Toggle to the applicable status; Or
- ❑ Enter the Armed MW amount.

Step 3.3 Primary Responsibility: Security Operator

Condition(s) to perform this step:

- **Notified that a RAS or ACS is out-of-service.**

Check the RAS/ACS document for required actions.

Condition(s) to perform this section:

- **The effects of a RAS/ACS need to be evaluated; Or**
- **The effects of a RAS/ACS are no longer required to be evaluated.**

Section 4 : Activate or Deactivate an RAS/ACS in STCA

Step 4.1
Primary Responsibility: Any Control Room Operator

Access STCA.

Step 4.2
Primary Responsibility: Any Control Room Operator

Access the RAS/ACS Directory or the Non-Field RAS/ACS Directory display as applicable.

Instructions

Access the RAS/ACS Directory display by:

- ❑ Clicking the "RAS/ACS" button.

Access the Non-Field RAS/ACS Directory display by:

- ❑ Clicking the "RAS/ACS" button
- ❑ Then click the "Non-Field" tab.

Step 4.3
Primary Responsibility: Any Control Room Operator

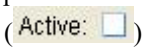
Click on the RAS/ACS to access the specific RAS/ACS Visual definition.

Step 4.4
Primary Responsibility: Any Control Room Operator

Modify the status of the RAS/ACS.

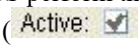
Instructions

To activate an RAS/ACS perform the following:

- ❑ Click the Active box (

)
- ❑ Click the yes button in the Confirm Action pop up window
- ❑ Verify the flag was set

To deactivate an RAS/ACS perform the following:

- ❑ Click the Active box (

)
- ❑ Click the yes button in the Confirm Action pop up window
- ❑ Verify the flag was removed.

Step 4.5
Primary Responsibility: Any Control Room Operator

Run STCA.

Step 4.6
Primary Responsibility: Any Control Room Operator

Verify the RAS/ACS status has updated.

Notes

- White text indicates that the RAS/ACS is Deactivated.
- Black text indicates that the RAS/ACS is Active.
- Red text indicates that the RAS/ACS is Active and has been triggered in the base case or during contingency analysis.

Step 4.7
Primary Responsibility: Any Control Room Operator

Determine if the RAS/ACS needs to be activated in RTCA. If so, proceed to Section 1.

Condition(s) to perform this section:

- **The actual RAS/ACS logic has been modified in the field and needs to be updated in EMS.**

Section 5 : Modify the logic of a RAS/ACS

Step 5.1 Primary Responsibility: Security Operator

Contact the IT On Call Technician

Condition(s) to perform this section:

- **An RAS/ACS has Operated.**

Section 6 : Operation of a RAS/ACS

Step 6.1

Primary Responsibility: Security Operator

Condition(s) to perform this step:

- **An RAS/ACS has Operated as designed.**

Log the Operation.

Instructions

Use log entry: > TRANSMISSION > RAS/ACS > RAS/ACS Operation

Step 6.2

Primary Responsibility: Security Operator

Condition(s) to perform this step:

- **An RAS/ACS has Mis-operated.**

Log the Misoperation.

Instructions

Use log entry: > TRANSMISSION > RAS/ACS > RAS/ACS Misoperation

Revision History

Rev. No.	Date (MM/DD/YY)	Reason	Contact
--	04/29/16	For previous revision history, refer to Rev 5 available through Ask ISO	Steven Gould
6	02/03/17	Added a Section for modifying EMS for changing status of the Podick auto throw over	Steven Gould
7	08/09/17	Addition of a Step to Section 1; Addition of a Note to a Step in Section 2	Steven Gould
8	12/19/17	Change REMVEC to NGrid	Steven Gould
9	02/09/18	Swap position for Sections 1 and 3 and add guidance to Section 2 for 326 SPS changes	Steven Gould
10	04/28 /18	Added note at beginning of section 2, in steps 2.2 and 2.4	Steven Gould
11	02/28/19	Added section for logging 396 SPS status change	Steven Gould
12	09/10/19	Deleted PILG from background section Reviewed Notes and Instructions	Steven Gould
13	08/19/21	Biennial review, added info to Background section for RAS, SPS, and ACS, updated Common Procedure Information and reformatted the Table of Contents	Steven Gould
14	11/22//22	Added Step 1.11; Added Step 2.2; Added condition to enter for Step 2.4.2.; Replaces SPS terminology with RAS/ACS terminology with EMS update; Deleted Steps 1.6 & 1.7 and turned them into Instructions in Step 1.5; Deleted Step 2.6.1 & 2.6.2 and turned them into Instructions in Step 2.6; Deleted Section 8 Tillson SPS was retired.	Jonathan Gravelin
15	02/07/23	Deleted Section 2 upon 326 RAS/SPS retirement, renumbered follow on Sections accordingly.	Jonathan Gravelin