

Relax
5/9/02

EXHIBIT 9

E/16

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POST-TRANSIENT RESPONSE REQUIREMENTS

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SPONSOR ORGANIZATION: Operations

Biennial Review performed Yes ☐ No ☐ N/A ☒

REVISION SUMMARY

Based on issues identified under Orders 70022264, 70022345, 80042025, 80035645, 80036719, 80039655, and 80039672 and senior management input the following changes were made:

(Due to the extent of changes revision bars have also been omitted)

- Removed section 5.4 - Restart Team, including associated responsibilities.
- Added Form 2 - Post Event Data Collection.
- Revised Figure 1 - Post Transient Response Flowchart, to reflect changes made in body of procedure. Most notable of these changes is that a TARP Team callout does not occur for a reactor scram/trip, instead, a callout of the FORT-SOM now occurs for these events.
- Revised first item of Attachment 1 Transient or Undesired Occurrence Decision Matrix for events requiring TARP team initiation from "Unplanned Unit scram/trip/runback or power reduction > 5% power" to "Unplanned runback or power reduction > 5% power".
- Removed "Responsibilities" bullets from the "All Personnel" group for, "Informing the operating shift of abnormal conditions", and, "Participating in actions required to place the plant/system in a safe condition".
- Removed "Responsibilities" bullets from the "Operations Superintendent (OS)" group for, "Stabilizing the plant IAW with approved procedures", and, "Providing initial notification to the Operations Manager of abnormal conditions".
- Added "Responsibilities" bullet to the "Operations Superintendent (OS)" group to implement the actions of the significant plant transient flow chart (Figure 1) following a plant transient. Figure 1, as revised, ensures the Operations Manager is informed, and, that responsibilities for the investigation are clearly defined. (see previous two bulleted revision summary items)

(Continued)

IMPLEMENTATION REQUIREMENTS

Effective date 5/13/02

None

APPROVED: PK MOM 5-9-02
Operations Manager - Salem Date

APPROVED: [Signature] 5/10/02
Operations Manager - Hope Creek Date

June 4, 2002

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SPONSOR ORGANIZATION: Operations

REVISION SUMMARY

CONTINUATION SHEET

- Changed "Responsibilities" bullet for the "Operations Superintendent (OS)" group which required that the OS coordinate the investigation, to having the OS participate in the investigation.
- Added "Responsibilities" bullet to the "Operations Superintendent (OS)" group to notify the Forced Outage Response Team-Shift Outage Manager (FORT-SOM) to activate the Forced Outage Response Team (FORT). This was previously an Operations Manager responsibility.
- Added "Responsibilities" bullet to the "Operations Superintendent (OS)" group to notify the NRC Resident whenever an event warrants TARP Team activation. This was previously an Operations Manager responsibility. This is also reflected in step 5.1.3.
- Removed "Responsibilities" bullets from the "Shift Technical Advisor (STA)" group for coordinating initial response to the event/issue and insuring all appropriate actions are being taken prior to TARP Team arrival, and, advising the OS about the performance of immediate corrective actions following transients.
- Added "Responsibility" bullet to the "Shift Technical Advisor (STA)" group for compiling the information for Form 1 with the assistance of the Production - Shift Engineer, WCC SRO/RO, and Shift Clerk. This is also reflected in step 5.2.1.
- Changed "Responsibility" bullet for the "Shift Technical Advisor (STA)" that required compiling the data package IAW SC(HC).OP-DG.ZZ-0101. This responsibility previously allowed the CRS or TARP team to assist in the compilation., now, the responsibility allows the Production - Shift Engineer, WCC SRO/RO, and Shift Clerk to assist in the compilation.
- Added new "Responsibility" for the Assistant Operations Manager to ensure the OS is relieved post-scrum/trip to perform data reviews, assemble the information package for SORC, and present the package to SORC for re-start consideration.
- Removed "Responsibilities" bullet from the "Operations Manager" group that required notification of the NRC Resident whenever an event warrants TARP Team activation. This is now part of the OS responsibilities.
- Removed "Responsibilities" bullet from the "Operations Manager" group for notification of the Forced Outage Response Team-Shift Outage Manager (FORT-SOM) to activate the Forced Outage Response Team (FORT). This is now part of the OS responsibilities.
- Removed "Responsibilities" bullet from the "Operations Manager" group for appointing a Restart Coordinator.
- Changed "Responsibility" bullet for the "Operations Manager" that required reviewing post-scrum/trip report findings with the OS and STA for concurrence, to requiring reviewing post-scrum/trip report findings with the OS and TARP Team Lead.

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REVISION SUMMARY CONTINUATION SHEET

- Added new "Responsibility" for the Training Manager to perform the requirements of Form 2, and, to review post-scram/trip report findings with the OS and TARP Team Lead.
- Changed Engineering Outage Manager responsibility from ensuring the Operations Superintendent is supplied with support from Reactor Engineering and I&C Engineering to evaluate proper response to a scram/trip or ECCS Actuation/Safety Injection Actuation, to, ensuring the FORT-SOM and TARP Team Lead are supplied with support to evaluate proper response to plant transients.
- Throughout procedure direction which required notification of or action required by the Vice-President Operations has been changed to requiring notification of or action required by the Director - Operations.
- Added Forced Outage Response Team (FORT) responsibilities at step/section 3.9 and FORT-SOM responsibilities at step/section 3.11.
- Changed "Responsibility" bullet for the "TARP Team Lead" which required developing Long Term plans and responsibilities, to providing information and guidance to the evaluation manager that develops long-term plans and corrective actions.
- Removed "Responsibility" bullet for the "TARP Team Lead" which required assisting the OS as required.
- Removed "Responsibility" bullet for the "TARP Team Lead" which required turning over follow-up investigation to Root Cause Team, if applicable.
- Removed "Responsibility" bullet for the "TARP Team Lead" which required that prior to TARP Team termination the Restart Manager, Outage Manager and/or Root Cause Team Leader have had a proper turnover of TARP findings.
- Added new "Responsibility" for the "TARP Team Lead" to direct the short-term response to plant transients, generally within the first 8-12 hours of initiation using the guidance in Figure 1 and to maintained this responsibility until turnover to the evaluation manager and/or FORT-SOM has been completed.
- Added new "Responsibility" for the "TARP Team Lead" to call the FORT-SOM to assist with troubleshooting and repair efforts for threats to generation, or emergent entry into <72 hour LCO's, Per the guidance in Figure 1.
- Removed "Responsibility" bullet for the "TARP Team Lead" which required owning the issue from "beginning to end" including all requirements of this procedure and periodic updates to the Director - Operations until corrective actions have been completed.
- Transferred Vice President - Operations responsibility for granting or denying approval for reactor startup/continued operation to the Director - Operations at step/section 3.14, 5.4.3, and page 11 of 12 of Form 1 signoffs.

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REVISION SUMMARY CONTINUATION SHEET

- Added a Duty Senior Manager responsibility at step/section 3.13.
- Changed Process Description step 4.1 from a six step process to a four step process by combining three of the original six process steps into one step which also now identifies the evaluation manager as the owner of the process step.
- Removed the identification of the root cause(s) of the transients/events/scram/trip/ECCS actuation from the objectives of this procedure stated in step/section 4.2.
- Added requirement at step 5.1.6 that the simulator, as a minimum, be used to verify the control room and plant response to reactor scrams and trips. The step previously only offered considerations for simulator use.
- Removed Note 5.2 which stated "If time and plant conditions permit, the Control Room Supervisor (CRS) may assist the STA in collecting data. Station desk guides, SC(HC).OP-DG.ZZ-0101, contain detailed direction and forms for Hope Creek and Salem specific data collection."
- Added new step at 5.2.2 for FORT-SOM and Engineering Outage Manager actions.
- Changed "TARP Team may assist" to "Other members of the station staff may assist" in the data collection statement of step 5.2.3.
- Removed CRS from data collection requirement stated in step 5.2.3 and replaced with WCC SRO.
- Removed Reactor Engineering and I&C Engineering from assisting in the data evaluation completed by the OS in step 5.3.1. Instead, the TARP Team lead and data gathering team will assist.
- Removed step 5.3.3. This step limited the performance evaluation of safety-related equipment during the Post Scram/Trip Review process to the verification that the equipment did or did not operate since the detailed manner in which the equipment operated is sufficiently verified during surveillance testing.
- Replaced OS and STA reviews of the available information previously contained in steps 5.3.4, 5.3.5, and 5.3.9 with OS and Operations manager review in step 5.3.2. Step 5.3.2 also contains the OS recommendation to the OM for restart or continued shut down which previously was a stand alone step.
- Moved "Review with Shift", page 6 of 12, of Form 1 - Post Event Data Package, to occur at page 8 of 12 of same attachment.
- Changed signoff for item 12.0 (D) of Form 1 from Operations Manager - Support Staff to just Operations Manager.

POST-TRANSIENT RESPONSE REQUIREMENTS

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1.0 **PURPOSE**

This procedure directs station actions in response to plant transients/events as defined in Attachment 1. Actions required for all transients/events include, data collection and assessment, including generation of a Transient Assessment Report.

In case of a reactor scram/trip, additional required actions include management of the forced outage, SORC recommendation for restart, and Director - Operations approval of reactor startup.

2.0 **SCOPE**

2.1 Section 5.1, Transient/Event Response, is to be used for events identified in Attachment 1, Transient Assessment Response Plan (TARP). Emergency events classified at Alert or higher IAW the ECG are covered by the Emergency Plan and are exempt from the guidance in section 5.1.

2.2 The data collection requirements, IAW Form 1 & 2 of this procedure, apply to all events and transients regardless of rod motion and all ECCS Actuations/Safety Injections. Implementation is required in all operational conditions. Reactor scram/trip signals intentionally inserted as part of testing such as operation of the mode switch for testing while shutdown, are outside of the scope of this procedure.
[CD-142D, CD-833D, CD-557D, CD-965E, CD-330A]

2.3 The post-scram/trip review process consists of an initial post-scram/trip review and the detailed follow-up analysis conducted using this procedure. This post-scram/trip review process also establishes a consistent, comprehensive, and systematic method to determine the causes and conditions associated with Reactor Protection System trips. The review results provide for: [CD-557D, CD-160B, CD-833D]

- A detailed root cause analysis of the scram/trip.
- Identification of any anomalous plant response.
- Identification of necessary corrective actions to prevent recurrence.
- Determination of the readiness of the plant to safely return to operation.

2.4 This procedure is also used to diagnose and evaluate ECCS Actuations/Safety Injections.

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3.0 **RESPONSIBILITIES**

3.1 **All Personnel**

- Plant personnel involved in an unplanned transient/event/scram/trip are responsible for providing the OS and STA with objective comments that describe their observations of or participation in the event or both. Plant personnel should make recommendations to the OS to prevent recurrence of the event. [CD-557D]
- The Notification creator should perform the initial quarantine of equipment and report actions taken to the SRO Screener.

3.2 **Operations Superintendent (OS)**

- Implement the actions of the significant plant transient flow chart (Figure 1) following a plant transient.
- Participates in the investigation, along with the STA and CRS, to evaluate the cause of the event. The OS will review and approve the results of the investigation, and presents the findings to the Operations Manager and SORC for startup approval if applicable. [CD-142D, CD-557D]
- Ensures the SRO Screener implements NC.WM-AP.ZZ-0000(Q), Notification Process, Quarantine Guidelines, to preserve evidence for the purpose of cause analysis.
- Notifies the Forced Outage Response Team-Shift Outage Manager (FORT-SOM) to activate the Forced Outage Response Team (FORT).
- Notifies the NRC Resident whenever an event warrants TARP Team activation.

3.3 **Shift Technical Advisor (STA)**

- Aided by the Production - Shift Engineer, WCC SRO/RO, and Shift Clerk, compiles the Data Package IAW SC(HC).OP-DG.ZZ-0101 per the Post-Scram/Trip Data Collection Guidelines.
- Aided by the Production - Shift Engineer, WCC SRO/RO, and Shift Clerk, compiles the information for Form 1.
- Ensures an information package is provided to the TARP Team Lead upon arrival. This includes, fact finding documentation, copies of any pertinent information, names of personnel involved and status of the issue/event.
- Evaluates the Post-Trip report and presents the findings to the OS.
- Ensures that a Notification is initiated IAW NC.WM-AP.ZZ-0000(Q), Notification Process.

3.4 **Operations Superintendent - Assistant Operations Manager (OS-AOM)**

Ensures the OS is relieved post-scram/trip to perform data reviews, assemble the information package for SORC, and present the package to SORC for re-start consideration.

3.5 **Operations Manager (OM)**

- Reviews post-scram/trip report findings with the OS and TARP Team Lead.
- Ensures post-scram/trip report is completed and presented to SORC.
- Notifies Director - Operations (DIR-OPS).
- Notifies the TARP Team Lead if event warrants TARP Team activation.
- Determines if just-in-time training or immediate lessons learned rollouts are appropriate for oncoming shifts.

3.6 **Training Manager**

- Performs the requirements of Form 2.
- Reviews post-scram/trip report findings with the OS and TARP Team Lead.
- Shall assist the Operations Manager in implementing corrective measures (e.g. training) prior to restart

Note: typ^o

3.7 **Engineering Outage Manager Manager (EOM)**

Ensures the FORT-SOM and TARP Team Lead are supplied with support to evaluate proper response to plant transients.

3.8 **Station Operations Review Committee (SORC)**

Reviews the results of the investigation and makes recommendations to the Director - Operations. SORC shall review the post-scram/trip review report prior to restart. In addition, SORC should review follow-up analysis reports that identify significant safety implications or potential generic aspects.
[CD-965E, CD-557D]

3.9 **Forced Outage Response Team (FORT)**

- Ensure SORC recommendations for forced outage are tracked by an outage schedule.
- Ensure the extent of the condition is addressed by an outage schedule.

3.10 **TARP Team Lead**

- Per the guidance in Figure 1, directs the short-term response to plant transients, generally within the first 8-12 hours of initiation. This responsibility is maintained until turnover to the evaluation manager and/or FORT-SOM has been completed.
- Per the guidance in Figure 1, calls the FORT-SOM to assist with troubleshooting and repair efforts for threats to generation, or emergent entry into <72 hour LCO's.
- Assembles the TARP Team.
- Notifies Emergency Response Manager (ERM) and QA.
- Receives turnover of the investigation from the STA.
- Performs an immediate needs evaluation to ensure the plant is in a safe condition.
- Performs short-term needs evaluations such as schedule impact, chemistry plan or reactivity plan.
- Provides information and guidance to the evaluation manager that develops long-term plans and corrective actions.
- Generates event report.
- Shall ensure that all TARP Team findings and the TARP Team Report are captured in the confirmation for any SAP order initiated as a result of the transient.
- Communicate with PSEG personnel and offsite organizations.
The following organizations should be considered as appropriate:
 - ◊ NBU OE personnel for input to INPO Nuclear Network.
 - ◊ NTC management for input into training for lessons learned.
 - ◊ Co-owners representatives.
 - ◊ Nuclear Communications Group for:
 - Inclusion in Outlook Today and/or PSEG Nuclear Web site on the next business day.
 - State and Local emergency management groups to enhance stakeholder relations.

3.11 **Forced Outage Response Team - Shift Outage Manager (FORT-SOM)**

- Per the guidance in Figure 1, calls the TARP Team Lead and Alpha pages V.P.s and Directors.
- Per the guidance in Figure 1, calls the Engineering Outage Manager for appropriate personnel to support data gathering and validation post-scrum/trip.
- Per the guidance in Figure 1, directs troubleshooting and repair efforts for threats to generation and emergent entries into <72 hour LCO's. This responsibility is maintained until turnover to the evaluation manager or FORT-SOM initiates the OCC.

3.12 TARP Team Members

- Ensure actions required by NC.WM-AP.ZZ-0000(Q), Notification Process, including assisting the STA in data gathering and ensuring appropriate quarantine occurs.
- Mobilize additional expertise and resources as necessary to support assessment and restoration.
- Develop and submit a restoration plan for appropriate management review prior to implementation.
- Review all "After-the-Fact" ECG classifications to ensure that the station is not in an emergency situation as well as the circumstances concerning why an "After-the-Fact" classification was made.
- EP TARP team personnel should review all Unusual Event classifications and subsequent notifications for accuracy and timeliness. Create a timeline on EP related activities and perform "Observation Checklist" from NC.EP-DG.ZZ-0001(Z), Maintenance of Emergency Preparedness Performance Indicator (PI) Data.

3.13 Duty Senior Manager

Provides oversight for TARP team and maintains senior management team cognizant of issues related to events requiring a TARP team.

3.14 Director - Operations (DIR-OPS)

- After satisfactory completion of SORC recommendations, shall either grant or deny approval for reactor startup/continued operation. [CD-965E, CD-557D]
- Notifies the Vice President - Operations of all TARPs.

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4.0 **PROCESS DESCRIPTION**

Refer to Figure 1

4.1 The review is a four-step process consisting of:
[CD-142D, CD-557D]

- Data collection.
- Initial post-scram/trip/transient/event review.
- Restart decision. (if applicable)
- The evaluation manager performs follow-up analysis, identification of lessons learned, and follow-up actions.

4.2 The objectives of this procedure are to:
[CD-142D, CD-557D]

- Identify any associated safety implications.
- Determine the acceptability of performing a reactor restart.
- Perform a detailed follow-up analysis to confirm root cause(s).
- Identify any abnormal/irregular plant response.
- Determine corrective actions to prevent recurrence of the event.
- Identify any lessons learned.
- Identify any trends.
- Initiate any needed changes to:
 - ◊ Equipment
 - ◊ Procedures
 - ◊ Training
 - ◊ Standards for Operation

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5.0 **PROCEDURE**
[CD-142D]

5.1 **Transient/Event Response**

- 5.1.1 Notification of the Operations Manager or designee should take place within 1 hour of the initiating event.

NOTE

The OS, Operations Manager, or Director - Operations can initiate TARP Team call out at any time. TARP duty cycle is the same as the Emergency Plan duty cycle. TARP Team members who are ERO "Duty Responders" are expected to be Fit-for-Duty and within 60 minutes of their emergency response facility. TARP Team members who are not ERO "Duty Responders" are expected to be Fit-for-Duty and within 90 minutes of the plant.

- 5.1.2 Operations Manager should notify the TARP Team Lead as soon as possible. If the TARP Team Lead cannot be reached, TARP Team Lead responsibility defers to the duty ERM.
- 5.1.3 Operations Superintendent should notify the NRC Resident whenever a TARP callout is initiated.
- 5.1.4 Investigation – For any TARP Team activation, the STA should coordinate the immediate fact finding and data gathering and provide the completed information package to the TARP Team Lead upon arrival or as soon as practical. This should be accomplished using investigation tools and techniques described in Form 1, Post-Event Data Package, NC.CA-TM.ZZ-0003(Z), Root Cause Manual, and SH.SE-DG.ZZ-0003(Z), Technical Issue Resolution. If the event involves a plant scram/trip or ECCS Actuation/Safety Injection, data collection is IAW SC(HC).OP-DG.ZZ-0101, Post-Trip Data Collection Guideline, and the applicable sections of Form 1.
- 5.1.5 Restoration - restoration plan should be approved by the Operations Manager as a minimum, and have concurrence of Director - Operations and/or SORC, as determined by the Director - Operations.
- 5.1.6 The simulator, as a minimum shall be used to verify the control room and plant response to reactor scrams and trips. Additionally, the simulator should be considered for use in:
- Verify event results/current plant condition.
 - Enhance investigation into apparent/root cause.
 - Validate restoration plan prior to plan implementation.
 - Input event details into simulator model improvements.

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5.2 Data Collection

- 5.2.1 As soon as plant conditions permit, the OS shall have the STA, WCC SRO, Production - Shift Engineer, and the Shift Clerk initiate data collection IAW station Post-Trip Data Collection Guideline, SC(HC).OP-DG.ZZ-0101 and applicable sections of Form 1. The STA or WCC SRO shall ensure a Notification is initiated IAW NC-WM-AP.ZZ-0000(Q) and the Notification/Order number is recorded on Form 1. [CD-557D]
- 5.2.2 For reactor scrams and trips, the FORT-SOM will contact the Engineering Outage Manager to provide support for data gathering and validation. These individuals will perform the actions necessary to answer the requirements of Form 2 for their respective areas of responsibility.
- 5.2.3 The STA/ WCC SRO is responsible for collecting the data necessary to complete Form 1 and the forms in SC(HC).OP-DG.ZZ-0101. Other members of the station staff may assist in data collection. [CD-330A]
- 5.2.4 The TARP Team should review all "After the Fact" ECG classifications to ensure that the station is not in an emergency situation as well as the circumstances under which the "After-the-Fact" classification was made.

5.3 Data Evaluation

- 5.3.1 Post scram/trip, the OS, with assistance from the TARP Team Lead and the data gathering team, shall evaluate the Post-Event Data. The purpose of this evaluation is to determine the following: [CD-557D]
- The cause of the transient/event/scram/trip is determined.
 - All key safety-related and other equipment, required to function during the event, operated as anticipated or expected.
 - The transient/event/scram/trip/transient did not cause any detrimental effects on plant equipment.
 - Any corrective actions that are required prior to the unit return to service/continued operation are identified.
- 5.3.2 The OS notifies the Operations Manager of the findings of the review team. The Operations Manager then reviews the Post-Event Data with the OS. The OS will recommend to the Operations Manager that the plant be restarted or maintained shut down based on the following considerations: [CD-557D]
- The cause of the scram/trip is identified and corrected.
 - All safety-related and other important equipment functioned properly during the scram/trip or, if not, the malfunction is corrected.

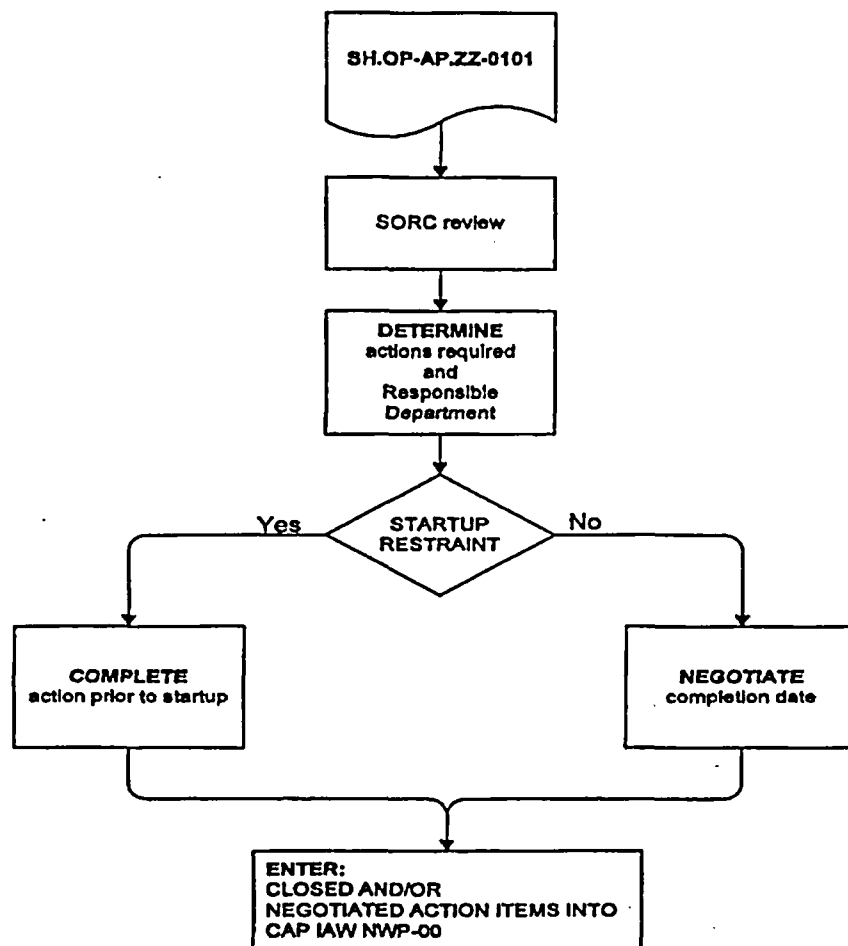
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- 5.3.3 At Hope Creek, the Initiating Parameter Sequence of Events Checklist in HC.OP-DG.ZZ-0101 is to be used for verification of the scram and safety-related equipment operation. [CD-557D]
- 5.3.4 If the transient/event results in a Level 1 Notification, the Operations Manager will designate a Root Cause Team IAW NC.WM-AP.ZZ-0000(Q). The Root Cause Team should include a person who has Human Performance Improvement experience. The Root Cause Team is to perform or determine the following: [CD-557D]
- Root cause analysis to determine the actual or most probable cause of the transient/event/scram/trip.
 - The maintenance and testing required before reactor restart including additional measures to verify the most probable cause.
 - Contributing factors.
 - Corrective actions or recommendations.
 - Safety systems actuation and performance.
 - Control system actions.
 - Operator actions.
 - Radiological response.
 - Transient data for pertinent plant parameters.
 - Unexpected or unexplained aspects of transient behavior.
 - Performance of systems or components.
 - Procedural deficiencies and required changes.
 - Operator response and/or errors.
 - Past similar events, or trends.
 - Lessons learned for operator and plant staff training.
 - The conditions necessary for a reactor restart.

5.4 Approval Requirements for Reactor Startup Following a Reactor Scram/Trip/ECCS Actuation/Safety Injection

5.4.1 Prior to requesting approval to startup the reactor after any Reactor Scram/Trip/ECCS Actuation/Safety Injection, the Post-Event Data packages are completed and evaluated. [CD-557D, CD-142D]

5.4.2 Upon satisfactory review and evaluation of the Post-Event Data packages, the results are to be presented to SORC. Upon completion of the evaluation of the event, SORC is to make recommendations to the Director - Operations. [CD-965E, CD-557D]



5.4.3 Approval for taking the reactor critical is to be granted by the Director - Operations after recommendations are made by SORC. The Operations Manager may grant the necessary approval in the absence of the Director - Operations after recommendations are made by SORC. [CD-965E CD-557D]

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6.0 **RECORDS [CD-142D, CD-557D]**

6.1 Retain the following IAW NC.NA-AP.ZZ-0011(Q), Records Management Program:

Form 1

6.2 Retain the following IAW NC.WM-AP.ZZ-0002(Q), Performance Improvement Process, which allows uploading of TARP Report into DCRMS from SAP:

TARP Report

7.0 **DEFINITIONS**

7.1 **Data Package** - a collection of information used to conduct an investigation and review of any Transient/Event/Scram/Trip/ECCS Actuation/Safety Injection. The data package includes the Post-Event Data Package, Form 1, and applicable forms from the station Post-Trip Data Collection Guideline, SC(HC).OP-DG.ZZ-0101, hard copy of the associated computer printouts and copies of the appropriate recorder charts.

7.2 **ESF Actuation** - the manual or automatic initiation of those systems or components as outlined in ECG.

7.3 **SRO Screener** - Licensed SRO designated to review Notifications.

8.0 **REFERENCES**

8.1 INPO Good Practice, OP-211, Post Trip Reviews. September 1984 (INPO 88-024) and July 1991, Rev. 01.

8.2 Generic Letter 83-28, "Required Actions Based on Generic Implications of Salem ATWT Events", July 8, 1983.

8.3 INPO 88-024

8.4 Generic Implications of ATWT Events at the Salem Nuclear Power Plant, NUREG-01000

8.5 S1(2).OP-SO.AF-0001(Q), Auxiliary Feedwater System Operation

8.6 S1(2).OP-SO.ANN-0001(Q), Overhead Annunciator Operation

8.7 Letter, E. G. Adensan, NRC to C. A. McNeill, PSE&G, February 3, 1985 and January 22, 1986. PSEG to NRC letters dated March 30, 1984, December 17, 1984, August 7, and October 30, 1985, and January 24, 1986.

8.8 HC.OP-AP.ZZ-0112(Q), Management Audits

8.9 **Cross References**

8.9.1 HC.OP-AP.ZZ-0105(Z), Operations Department Information System

8.9.2 SC.OP-AP.ZZ-0105(Z), Information Distribution

8.9.3 NC.WM-AP.ZZ-0000(Q), Notification Process

8.9.4 NC.CA-TM.ZZ-0003(Z), Root Cause Manual

8.9.5 NC.NA-AP.ZZ-0011 (Q), Records Management Program

8.9.6 SH.SE-DG.ZZ-0003, Technical Issue Resolution

8.9.7 SC(HC).OP-DG.ZZ-0101, Station Post-Trip Data Collection Guideline

8.9.8 NC.OM-AP.ZZ-0002(Z), Operational Readiness Assessment Program

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8.10 Closing Documents

CD-330A	INPO SER 09-80	Inadvertent ECCS Actuation Due to Maintenance Activities
CD-160B	INPO SER 67-83	Plant Trips and Loss of Cooling Water Due to Fouling of Traveling Screen
CD-142D	NRC GL 83-28	Required Actions Based on Generic Implications of Salem ATWS Event
CD-383D	INPO SER 65-84	Loss of Turbine Generator and Offsite Power Results in Loss of All AC to Emergency Safeguards Systems (ESS) Buses
CD-557D	INPO GP OP-211	INPO Good Practice - Post-Trip Reviews
CD-833D	INPO SER 18-85	Failure of High Voltage Transmission Line
CD-626E	NHO INCI 354/86-163	(LER 354/86-056) Torus Vacuum Breakers
CD-965E	NHO ISE 87.OP.2-3	INPO Self Evaluation

8.11 Corrective Actions

BP 981123223 SORC open item (assigned at MTG 98-068) Additional Management Reviews for Attachment 1, Part C, Steps 5, 6 (Rev. 6)

EXHIBIT 9
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ATTACHMENT 1
TRANSIENT ASSESSMENT RESPONSE PLAN (TARP)
(Page 1 of 1)

Transient or Undesired Occurrence Decision Matrix

As a minimum, the following events require TARP team initiation:

- 1 ♦ Unplanned runback or power reduction > 5% power.
- 2 ♦ Unplanned half scrams or half group isolations.
- 3 ♦ *Unplanned ESF activations.*
- 4 ♦ *2 Valid ECCS/SI actuations with discharge to the RCS/vessel.*
- 5 ♦ Significant Equipment failure resulting in entry into LCOs ≤ 72 hours.
- 6 ♦ *3 Exceeding any Tech Spec Safety Limit.*
- 7 ♦ *4 Violations of Tech Spec Action Statements or design basis.*
- 8 ♦ Any reactivity mismanagement event (e.g., any mispositioned control rods due to equipment or human performance not addressed by procedure).
- 9 ♦ *5 Unplanned or inadvertent criticality.*
- 10 ♦ Major incident covered by spill plan.
- 11 ♦ *6 Radioactive or non-rad spill/discharge onsite or from offsite that adversely affects the unit(s).*
- 12 ♦ *7 Any occurrence resulting in an environmental impact (NJPDES, EPA reportable occurrence, ECG reportable environmental event).*
- 13 ♦ *8 Any radiation over-exposure per ECG.*
- 14 ♦ *9 Unexpected contamination of > 100 ft² area outside plant structures OR discovery that contaminated person or material may have left the Protected Area*
- 15 ♦ Significant personnel contamination > 25% of dose limit.
- 16 ♦ Unplanned radioactive release (gas or liquid) to environment.
- 17 ♦ *Fatality.*
- 18 ♦ Significant human performance event (e.g., breakthrough tagging event).
- 19 ♦ *10 Deviation from procedures pursuant to 10CFR50.54(x).*
- 20 ♦ *11 Plant in unanalyzed condition that impacts plant safety.*
- 21 ♦ *12 Plant in a condition not covered by normal/abnormal or emergency procedures.*
- 22 ♦ *13 Significant Loss of Control of Security Protective Measure.*
- 23 ♦ Unplanned change in plant risk significance to orange or red.
- 24 ♦ *14 PZR code safety valve discharge at Salem.*
- 25 ♦ *15 After-the-fact emergency condition reported per ECG.*
- 26 ♦ Onsite or near site demonstration.
- 27 ♦ Unusual Event emergency declaration per the Event Classification Guide. (Alert or higher classification requires ERO activation and TARP activities will be responsibility of the ERO as part of Recovery.)
- 28 ♦ OS/Ops Manager/ Director - Operations judgment that the transient or situation requires implementation of the TARP.

Italicized items in this list may require reporting per ECG.

EXHIBIT 9
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ATTACHMENT 2
TARP DUTY ROSTER AND CALLOUT LIST
(Page 1 of 1)

- Consult with Emergency Preparedness concerning ERO/TARP team alignment of personnel. Web page change is only required for permanent team changes.
- Duty rotation is the same as Emergency Plan Duty Team rotation (see EP website for duty week schedule).
- If an emergency (ALERT or higher) is declared after or during TARP team implementation, the TARP team will be terminated and superseded by the Emergency Response Organization.
- If a TARP team duty swap is needed, then notify the TARP Team Lead of the temporary member's name and phone numbers and the dates of the duty swap.

POSITION	"A"	"B"	"C"	"D"
SR. MANAGEMENT				
MANAGEMENT (Team Leader)				
OPERATIONS				
MAINTENANCE		SAMPLE		
ENGINEERING				
RAD PRO				
WORK MGMNT				
CHEMISTRY				
RX. ENG./FUELS				
LICENSING				
QA				
EP				
TRAINING				

EXHIBIT 9
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FORM 1
POST-EVENT DATA PACKAGE
(Page 1 of 12)

1.0 Personnel Statement/Interview/Root Cause Input Form

Prepare a written statement, using the descriptions below as an outline. Describe your knowledge or involvement in the transient/event/condition. Your statements should cover time before, during and after the event.

- A. Plant conditions prior to the event
- B. Indications that a problem existed
- C. Unusual noises
- D. Actions as a result of event
- E. Observations of any equipment malfunctions or inadequacies
- F. Procedures in progress
- G. Is there any guidance, from other sources, which conflicts with our procedures? If yes explain.
 - ◆ Night Order Book
 - ◆ Procedure steps vs. bases
 - ◆ Engineering input or memos
 - ◆ Direction from supervision/management
 - ◆ Other procedures
- H. In your opinion: If no explain.
 - ◆ Did we act consistent with our operating philosophy?
 - ◆ Did we keep plant and personnel safety as a top priority in our response to the condition?
 - ◆ Did we treat the transient/event/condition the same in the simulator as we did in the plant?
 - ◆ Were the procedures used during the transient/event/condition consistent with simulator training?
 - ◆ Were the actions taken during the transient/event/condition consistent with simulator training?
- I. From your prospective during this transient/event/condition:
 - ◆ What were you thinking about?
 - ◆ What were/are your concerns?
 - ◆ Were your concerns addressed by the procedures used?
 - ◆ Are there any procedure changes/revisions needed?

Note all dates, times, locations and specific readings or values. Include pertinent conversations or discussions. Identify any information that may be relevant to this event or warrant further evaluation.

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FORM 1
POST-EVENT DATA PACKAGE
(Page 2 of 12)

Print Name: _____ Position/Title: _____

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EXHIBIT 9
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FORM 1
POST-EVENT DATA PACKAGE
(Page 4 of 12)

3.0 Event Classification

What is classification of event as defined in event classification guide?

Time Declared: _____ Time Terminated: _____

- a. Were all required notifications made? Yes _____ No _____
b. Was the emergency classification timely (within 15 minutes) and accurate (correct EAL)?
Yes _____ No _____

If no, explain why: _____

- c. Were additional classifications required? Yes _____ No _____

If yes, explain why: _____

4.0 TECHNICAL SPECIFICATIONS

Are there any Technical Specifications or other commitments which would prevent unit from returning to service? Yes _____ No _____ If yes, list and explain below:

Technical Specification Action Statement(s)

Other

FORM 1
POST-EVENT DATA PACKAGE
(Page 5 of 12)

5.0 Equipment Response

Yes

No

- A. Was equipment/plant response other than normal (expected)?
- B. Were any Safety Limits exceeded?
- C. Were any Limiting Safety System Settings (LSSS) exceeded without proper RPS response?
- D. Did any Reactor Protective Instrumentation (RPS) fail to initiate at the correct point and/or setpoint during the transient?
- E. Did any safety systems which were required to operate, fail to function on demand or as designed?
- F. Did Power Oscillations occur?

☐☐☐☐☐☐☐☐☐☐☐☐

If a "YES" is given to any question above, then the post-transient response is considered abnormal and a separate Notification should be submitted IAW NC.WM-AP.ZZ-0000(Q).

Preparer

(Signature)

EXHIBIT 9
PAGE 24 OF 36 PAGE(S)

Long Term Corrective Actions NOT required prior to startup. Use additional sheets as necessary.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Additional pages used and attached Yes _____ No _____

Shift Technical Advisor (STA)	Date	Time
OS	Date	Time

EXHIBIT 9
PAGE 26 OF 36 PAGE(S)

FORM 1
POST-EVENT DATA PACKAGE
(Page 8 of 12)

8.0 Review with Shift

Operations Manager Review with OS and STA

Date _____ Time _____

- a. Crews involved in the startup should receive startup training in the Simulator.
In addition to this training, is additional refresher or requalification training needed?

Yes ☐ No ☐

If yes, explain what training is required and for whom it is required.

- | | Yes | No |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|
| b. The Post Trip report was properly prepared and evaluated. | <input type="checkbox"/> | <input type="checkbox"/> |
| c. All equipment and systems required to function during the event did operate except as noted in comments. | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Any corrective actions recommended prior to the unit's return to service/continued operation have been identified, documented, and the required corrective actions have been initiated | <input type="checkbox"/> | <input type="checkbox"/> |
| e. The OS and STA are satisfied and agree with the conclusions of the package. | <input type="checkbox"/> | <input type="checkbox"/> * |

* If No, a Root Cause team investigation should be recommended to the Director - Operations

Operations Manager
(review and concur)

(Signature)

Comments:

EXHIBIT 9
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FORM 1
POST-EVENT DATA PACKAGE
(Page 9 of 12)

9.0 SORC and Director - Operations - Station Operations Review [CD-965E]

a. Major findings of Investigations.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

(Attach additional sheets if necessary)

EXHIBIT 9
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FORM 1
POST-EVENT DATA PACKAGE
(Page 10 of 12)

10.0 SORC Recommendations

[illegible]

(Attach additional sheets if necessary)

All actions are tracked by using task ID numbers referenced to the Notification number. For startup restraint items, this form documents completion of the assigned action(s); task closure in the Corrective Action Program may be updated when time allows. [CD-142D]

EXHIBIT 9
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SH.OP-AP.ZZ-0101(Q)

FORM 1
POST-EVENT DATA PACKAGE
(Page 11 of 12)

NOTF NO. _____

11.0 Package Completion

Root Cause Summary and Corrective Action Recommendations completed.

OS - AOM

Date

Post-Trip Review Report package review completed.

Operations Manager

Date

Post-Trip Review Report package review completed. Report is satisfactory to recommend startup.

SORC Chairman

Date

SORC Open Item initiated for tracking any corrective action that cannot be accomplished via issuance of a notification.

SORC Secretary

Date

Post-Trip Review Report package is satisfactory and Startup/Continued Operation may proceed.

Director - Operations

Date

(Forward completed package to Operations Manager for retention and processing)

EXHIBIT 9
PAGE 30 OF 36 PAGE(S)

SH.OP-AP.ZZ-0101(Q)

FORM 1
POST-EVENT DATA PACKAGE
(Page 12 of 12)

12.0 Records Retention and Closeout

A. Sequence Number assigned

NOTF No. _____

B. Copies of the report sent to the following:

Initials / Date

♦ Nuclear Review Board

_____/____

♦ Nuclear Training

_____/____

♦ SORC Secretary

_____/____

C. Original report package is ready for transmittal, within 60 days, to the Technical Document Room IAW NC.NA-AP.ZZ-0011(Q), Records Management Program.
[CD-142D, CD-557D]

D. Original report sent to Technical Document Room for permanent record retention.

_____/____

Operations Manager

Date

SH.OP-AP.ZZ-0101(Q)

FORM 2
POST-EVENT DATA COLLECTION
(Page 1 of 4)

1.0	<u>Reactor Engineering</u>	Yes	No
A.	Were any Safety Limits exceeded?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Did any Reactor Protective Instrumentation (RPS) fail to initiate at the correct point and/or setpoint during the transient?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Were any Limiting Safety System Settings (LSSS) exceeded without proper RPS response?	<input type="checkbox"/>	<input type="checkbox"/>
D.	Was fuel performance other than normal (expected)?	<input type="checkbox"/>	<input type="checkbox"/>
E.	Did any safety systems which were required to operate, fail to function on demand or as designed?	<input type="checkbox"/>	<input type="checkbox"/>
F.	Did Power Oscillations occur?	<input type="checkbox"/>	<input type="checkbox"/>

If a "YES" is given to any question above, then the post-transient response is considered abnormal. Document the issue below, and submit a separate notification IAW NC.WM-AP.ZZ-0000(Q).

[illegible]**Preparer**

(Signature)

OS / TARP Team Lead

(Signature)

EXHIBIT 9
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FORM 2

2.0 Reliability Engineering

Yes No N/A

- | | | | | |
|----|------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|
| A. | Perform secondary/ BOP walk-down.
Did walk-down reveal any physical system damage? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Perform containment/reactor building walk-down.
Did walk-down reveal any physical system damage? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Did any safety systems which were required to operate,
fail to function on demand or as designed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| D. | Were there abnormal component/ system responses? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| E. | Did the reactor/ steam generator feedwater systems
respond as expected? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F. | Were there abnormal digital system responses? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| G. | Were there abnormal control system responses? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

If a "YES" is given to any question above, then the post-transient response is considered abnormal. Document the issue below, and submit a separate notification IAW NC.WM-AP.ZZ-0000(Q).

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Preparer

(Signature)

OS / TARP Team Lead

(Signature)

EXHIBIT 9
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FORM 2
POST-EVENT DATA COLLECTION
(Page 3 of 4)

No

- ☐

- ☐

-

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(Signature)

(Signature)

EXHIBIT 9
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FORM 2
POST-EVENT DATA COLLECTION
(Page 4 of 4)

5.0 Operations Training

Perform transient in the applicable simulator to determine the following:

- | | | Yes | No |
|----|------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| A. | Was the operating crew response to the transient appropriate? | <input type="checkbox"/> | <input type="checkbox"/> |
| B. | Will procedure revisions be required? | <input type="checkbox"/> | <input type="checkbox"/> |
| C. | Does this event require further validation in the simulator, or make current simulator response incorrect? | <input type="checkbox"/> | <input type="checkbox"/> |
| D. | Is operating crew remediation necessary prior to returning to duty? | <input type="checkbox"/> | <input type="checkbox"/> |
| E. | Is operating crew training necessary prior to plant re-start. | <input type="checkbox"/> | <input type="checkbox"/> |

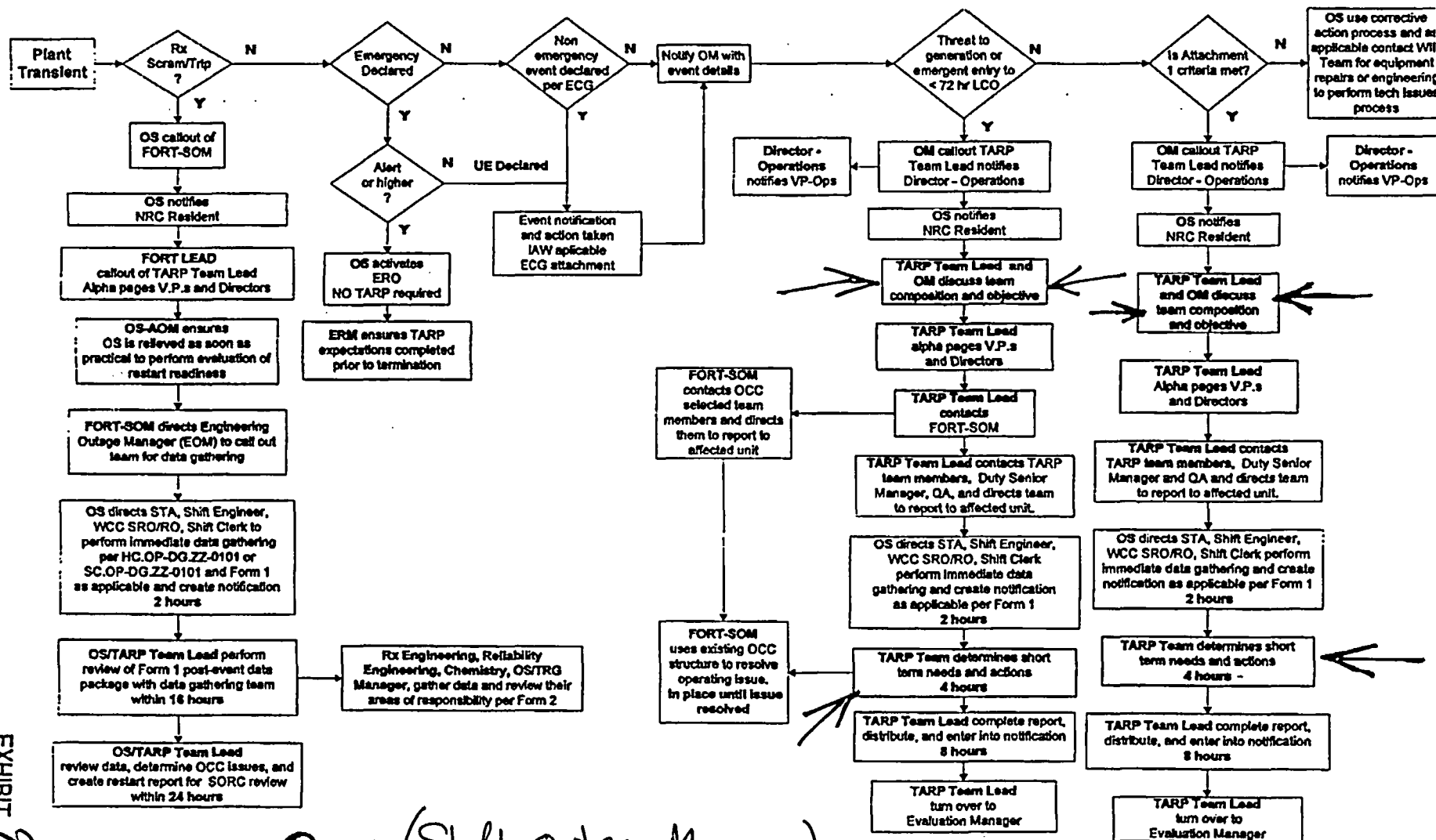
If a "YES" is given to any question above, then the post-transient response is considered abnormal. Document the issue below, and submit a separate notification IAW NC.WM-AP.ZZ-0000(Q).

Preparer _____
(Signature)

OS / TARP Team Lead _____
(Signature)

EXHIBIT 9
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FIGURE 1



SOM (Shift Outage Manager)

ADM (Assistant Operations Manager)