



Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37384-2000

September 11, 2003

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of) Docket Nos. 50-327
Tennessee Valley Authority) 50-328

**SEQUOYAH NUCLEAR PLANT - UNITS 1 AND 2 - EMERGENCY PLAN
IMPLEMENTING PROCEDURE (EPIP) REVISION**

In accordance with the requirements of 10 CFR 50, Appendix E,
Section V, the enclosure provides the following EPIP:

<u>EPIP</u>	<u>Revision</u>	<u>Title</u>
EPIP-6	37	Activation and Operation of the Technical Support Center
EPIP-16	5	Termination and Recovery

This letter is being sent in accordance with NRC RIS 2001-05.
If you have any questions concerning this matter, please
telephone me at (423) 843-7170 or J. D. Smith at (423) 843-6672.

Sincerely,


Pedro Salas
Licensing and Industry Affairs Manager

Enclosure

A045

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP - 6
**ACTIVATION AND OPERATION OF THE
TECHNICAL SUPPORT CENTER**

Revision 37

QUALITY RELATED

PREPARED BY: D. A. Porter

RESPONSIBLE ORGANIZATION: Emergency Preparedness

APPROVED BY: J. Randy Ford Date: 09/04/2003

EFFECTIVE DATE: 09/04/2003

Level of Use: Reference

Revision History

Rev	Date	Revised Pages	Reason for Revision
32	03/30/2001		Clarified inter-relation of Apps U and B. Reformatted TSC minimum staffing to more clearly define necessary staff. Added TAT actions concerning Aux Air Dryers from DCN D20393A. Revised PAR chart in accordance with REP revision. Removed iodine channels from 101, 106, and 112 rad monitors. Added Area monitor RM-90-61. Corrected instrument IDs.
33	05/31/2001		Reformatted index and cover page. Added Revision history. Revised header to smaller format. Added evaluation of Control Building Ventilation isolation as part of actions of PER 01-002674-000. Added Shift turnover verification EP Manager and added necessary forms as Apps BB and CC.
34	10/01/2001		Revised App L to instruct the clerks to disable "Memory Fax" option (PER 01-006615-000). Deleted App Y (PER 01-008461-000). Revised Title for App Z due to no longer having equipment listed in App. Minor formatting changes.
35	06/18/2003	All	Intent Change. Changed PHYSI-32 to SSI-1. Rolled all responsibilities into the checklists for clarity. Reordered and renumbered appendices for human factoring. Added TSC Relocation section. Changed position checklists in EPIP-6 to more closely match position responsibilities in App. B of the REP. Changed the name of the App on PARs to match REP, Section 10, terminology, changed phone prefix in 3.2.1.B to "9" for consistency. Revised initial steps on all checklists. Added lines to SED checklist to record times when TSC and OSC were activated. Added checkoffs to identify main types of onsite protective actions and item #4: "Site Radiological Problems" to SED Turnover. Changed 4 PARs to 2 PARs to match current PAR Logic Diagram and added "use 46 meters" behind the met data on SED Turnover App B. Added ERN to CR Com. checklist. Added security items to Sec. Mgr. for standardization. Moved NRCC checklist pg.2 into training materials. Removed "(A) Particulate ___ cpm" from App K, on Aux Big Vent. Divided the Logkeeper and TSC Clerk's responsibilities into two sep. checklists. Removed note from Clerk's chklst on Fax memory due to new fax machines. Added "Directs onsite RADCON activities." To RC Mgr checklist. Added and changed several items on Maint Mgrs. Checklist. Added ERN and eSOMS to Ops Com., TSC Logkeeper's, Maintenance Manager's and RADCON Manager's responsibilities. Renamed App entitled "Control Building Battery Room Exhaust Fan Failure" to "Ventilation Problems" and added procedural guidance for the condition of PER 00-4645, the containment penetration configuration. Removed the "App Y". Deleted TSC Roster from Procedure, will use EPIP-8 form. Human factored Emergency Responder Notification Form (now App M). Removed source notes (now found in rev file). Reformatted and edited procedure.
36	08/08/2003	5, 6, 26, 28, 40, 41	Intent Change. Added information on containment sump blockage in response to NRC Bulletin 2003-01.
37	09/04/2003	36, 40	Intent Change. Revised containment sump level vortexing setpoint as a result of DCN E20591A. Changed Feedback to TAT from TAM recommendations wording on App.C.

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1.0 PURPOSE

The purpose of this procedure is to describe activation of the Technical Support Center (TSC), describe the TSC organization, and provide for TSC operation once it has been staffed. The TSC is activated by EPIP-1 to respond to emergency conditions.

2.0 REFERENCES

EPIP-1, "Emergency plan Classification Matrix"
EPIP-7, "Activation and Operation of the Operations Support Center (OSC)"
EPIP-8, "Personnel Accountability and Evacuation"
EPIP-11, "Security and Access Control"
EPIP-13, "Dose Assessment"
EPIP-14, "Radiological Control Response"
EPIP-15, "Emergency Exposure Guidelines"
EPIP-16, "Termination and Recovery"
0-SO-67-3, "ERCW Strainers and Traveling Screens"
Memorandum from J. B. Hosmer to R. J. Johnson dated 1/15/88, Implementing PRDCS and Operation Training (RIMS-B25880115028)

3.0 INSTRUCTIONS

3.1 Activation

The TSC is activated by EPIP-1 to augment on shift personnel. When the TSC is activated by the on-shift Site Emergency Director (SED), the on-call SED will obtain a turnover from the on-shift SED using Appendix B and report to the TSC. The SED shall be responsible for implementing this procedure, coordinating TSC activities, and overseeing the operations of the Operations Support Center (OSC).

3.2 Activation Methods

The SED will activate the TSC by announcing the emergency condition by one or more of the following methods:

- A. Emergency Paging System (EPS).
- B. Operations Duty Specialist (ODS) activate EPS from the Central Emergency Control Center (CECC).
- C. Plant Public Address (PA) announcement.
- D. The Shift Manager or operations clerk will contact the persons designated on the REP Duty Roster and/or Call List.
- E. Assembly and accountability sirens

3.3 Call List

The Emergency Preparedness Manager (EPM) maintains a REP Duty Roster and Call List book listing key TSC personnel by name, plant and home telephone numbers. The REP Call List and Duty Roster book will be updated at least quarterly by the EPM or designee with input by the appropriate section/group supervisors.

3.4 Response Personnel

The following personnel normally report to the TSC or the assigned TSC support location upon activation of the TSC by the SED. Additional replacement personnel will be called as replacements to establish 24 hours operations while typically maintaining a 12 hour or shorter shift (excluding turnover). Appendix M may be used to facilitate establishing this rotation.

- A. Site Emergency Director
- B. Site Vice President
- C. Operations Manager
- D. Operations Communicator
- E. Technical Assessment Manager
- F. Tech Assessment Team Leader
- G. Tech Assessment Team Members - Reactor, Mech, Elec Engineer(s)
- H. Operations Advisor to the TAT
- I. RADCON Manager
- J. Chemistry Manager
- K. Maintenance Manager
- L. Emergency Preparedness Manager
- M. Security Manager
- N. NRC Coordinator
- O. Control Room Communicator
- P. TSC Logkeeper
- Q. Other plant staff the SED determines to be necessary to support OSC functions will be called:
 - 1. Clerks
 - 2. RADCON Boardwriter
 - 3. RADCON ICS Operator

3.5 TSC Relocation

It is highly unlikely that the TSC will be required to relocate due to the physical and radiological protection provided by its location. However, should the SED determine that relocation TSC is necessary, an alternate location will be selected based on the following guidance:

- A. Location should have adequate access to the plant (preferably is within the Protected Area), have a current radiological survey, be upwind from plant, and have adequate ventilation control.
- B. Location should have adequate communications capabilities (including at least three telephone circuits).
- C. Location should have physical space for at least 15 persons (may be divided into two areas - one for TAT and one for Command & Control).
- D. Locations for consideration include:
 - Co-locating with the OSC
 - O&PS 1st Floor
 - Work Coordination Center
 - Sequoyah Training Center

3.6 Deactivation

The TSC will be deactivated when directed by the SED. All TSC personnel as a part of deactivation will:

- A. Ensure all assigned tasks and assignments are completed.
- B. Ensure all emergency response teams have been debriefed.
- C. Ensure all emergency equipment and supplies have been returned to their specified storage locations.
- D. Collect and review all records for completeness and forward all records to the Emergency Preparedness Manager.

3.7 Procedure Adherence

Normal plant maintenance procedures will be followed whenever possible. Should a situation arise where normal procedures would be inappropriate, maintenance will be performed as determined by the OSC Manager.

4.0 RECORDS RETENTION**4.1 Records of Classified Emergencies**

The materials generated in support of key actions during an actual emergency classified as NOUE or higher are considered Lifetime retention Non-QA records. Materials shall be forwarded to the EP Manager who shall submit any records deemed necessary to demonstrate performance to the Corporate EP Manager for storage.

4.2 Drill and Exercise Records

The materials deemed necessary to demonstrate performance of key actions during drills are considered Non-QA records. These records shall be forwarded to the EP Manager who shall retain records deemed necessary to demonstrate six-year plan performance for six years. The EP Manager shall retain other records in this category for three years.

APPENDIX A, CHECKLIST A.01

SITE VICE PRESIDENT

Page 1 of 1

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the Organizational/Staffing Chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **ESTABLISH** log of communications/events.
- / **ESTABLISH** contact with the Media Relations Specialist.
- / **CHECK** the status of emergency actions already in effect such as accountability or site evacuation.

OPERATIONAL RESPONSIBILITIES LIST

- Provides TVA policy direction to the Site Emergency Director.
- Directs site resources to support and assist the SED in accident mitigation activities.
- Provides direct interface on overall site response activities with NRC, FEMA, Federal organizations, the CECC Director, and onsite media.
- Provides interface/briefings (as needed) at offsite locations on the overall site response activities with Federal, State and Local agencies.
- Serves as the primary site representative to function as a TVA Spokesperson in the Local News Center (LNC) at the Sequoyah Training Center (if activated) and the Joint Information Center (if necessary).
- Provides support to other emergency operation centers as necessary. As applicable, designates an alternate to provide direction and/or support for the overall site response and support to the SED.
- Serves as a corporate interface for SED relieving him from duties which could distract from the SED's primary purpose of plant operations and accident mitigating activities.
- Will assure that following all changes in emergency classification that the State has been notified in accordance with established procedures. Will appoint an alternate to complete this function if absent from the TSC.

APPENDIX A, CHECKLIST A.02
SITE EMERGENCY DIRECTOR

Page 1 of 3

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

___/___ **OBTAIN** turnover briefing from SM/SED in accordance with Appendix B, (may be done concurrent with this Appendix).

Note: Transfer of responsibilities does not take place until minimum staffing has been confirmed.

___/___ **ENTER** badge into the TSC Accountability Card Reader.

___/___ **SIGN IN** on the staffing chart and **PUT ON** position badge.

___/___ **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)

___/___ **ESTABLISH** log of communications/events.

___/___ **ESTABLISH** contact with the CECC Director and determine if the Director has assumed responsibility for primary contact with the site and state. (NOTE: the ODS has this responsibility until the CECC Director assumes the function.)

___/___ **IF** the emergency classification is escalated and the CECC has not assumed responsibility for communications with the State, **THEN** ensure the State is notified within 15 minutes by implementing EPIP-3, EPIP-4 or EPIP-5, as appropriate.

___/___ **CHECK** the status of emergency actions already in effect such as emergency notifications (NRC, State, etc.) accountability or site evacuation.

___/___ **REVIEW** checklist completion status for key positions (Operations, Technical Assessment Manager, RADCON, Maintenance Manager, etc.).

___/___ **ENSURE** minimum staffing is present for TSC operability and checklists are complete. The following individuals must be present:

- SED
- RADCON Manager
- Operations Manager or Operations Communicator
- TAM or TATL or (Rx Engr and Mech Engr and Elec Engr)

APPENDIX A, CHECKLIST A.02
SITE EMERGENCY DIRECTOR

Page 2 of 3

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ASSUME** role of SED from SM/SED and
 NOTIFY CECC that the TSC is operational.
 NOTIFY OSC that the TSC is operational.

- / **ANNOUNCE**, using x4900:

"This is _____. I have assumed the responsibility of the Site Emergency Director. I am declaring the TSC activated at _____ and OSC activated at _____."

OPERATIONAL RESPONSIBILITIES LIST

- Directs onsite emergency organization accident mitigation activities.
- Establishes and maintains site priorities for accident mitigation.
- Responsible for determining the emergency classification and periodically reevaluates the classification. Changes to the classification will be reported to the CECC Director within about five minutes and the NRC. This responsibility cannot be delegated.
- Prior to the CECC being staffed, in accordance with Appendix F or EPIP-5 makes recommendations for protective actions to State and Local agencies through the Operations Duty Specialist within about five minutes of the determination. This responsibility cannot be delegated, except to the CECC Director.
- Initiates onsite protective actions.
- Performs CECC functions for the Alert emergency class, Site Area Emergency Class and General Emergency Class until the CECC is activated.
- Briefs the TSC/OSC staff on the current situation.
- Direct key TSC positions to provide status summary to TSC staff.
- Updates the plant staff on plant status and emergency conditions.
- Reviews operation of the OSC with the OSC Manager.
- Directs activities of onsite emergency organizations.

APPENDIX A, CHECKLIST A.02
SITE EMERGENCY DIRECTOR

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OPERATIONAL RESPONSIBILITIES LIST

- Consults with the CECC Director and Site VP on important decisions, significant events, and their related impacts.
- When necessary, establish a radiological checkpoint for site evacuation.
- Coordinates emergency actions with onsite NRC.
- Initiates long-term 24 Hour/day accident mitigation operations.
- Approves or authorizes, in accordance with EPIP-15, emergency doses that may exceed occupational dose limits. This responsibility cannot be delegated.
- May be relieved by the Operations Manager as needed.
- Evaluates conditions and determines if additional emergency procedures should be implemented.
 - A. CECC EPIP-9, "Emergency Environmental Radiological Monitoring Procedures"
 - B. SQN EPIP-10, "Emergency Medical Response"
 - C. SQN EPIP-11, "Security and Access Control"
 - D. SQN SSI-1, "Security Instructions to Members of the Security Force"
 - E. SQN EPIP-8, "Personnel Accountability and Evacuation"
 - F. SQN EPIP-13, "Dose Assessment"
 - G. SQN EPIP-14, "Radiological Control Response"
- Assumes responsibility for Severe Accident Management when directed by the Main Control Room and the TSC is functional and the Severe Accident Management Guidelines (SAMG) evaluators are monitoring the Diagnostic Flow Chart. The TSC must have three evaluators monitoring SAMGs to assume the accident responsibility.

APPENDIX A, CHECKLIST A.04
OPERATIONS MANAGER

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INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **ESTABLISH** log of communications/events.
- / **LOG ON** to ICS.
- / **ESTABLISH** communications with SM and OSC Ops Advisor.
- / **CHECK** the status of emergency actions already in effect such as personnel dispatched for emergency response, Accountability or Site Evacuation.
- / **VERIFY** notification of the NRC has been accomplished.
- / **DESIGNATES** an operationally competent person to establish and maintain communications with the NRC using the NRC ENS phones.

OPERATIONAL RESPONSIBILITIES LIST

- Directs operational activities, prevent congestion in the control room.
- Provide input to the SED for emergency classification.
- Informs the SED of plant status and operational problems.
- Provides status updates to the OSC Operations Advisor.
- Recommends solutions and mitigating action for operational problems.
- Reviews the emergency status with the control room. Reviews trended parameters, time history information, and status boards with the control room staff. Performs damage assessment as necessary.

APPENDIX A, CHECKLIST A.04
OPERATIONS MANAGER

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OPERATIONAL RESPONSIBILITIES LIST

- Assures that the control room is aware of the TSC accident assessment and response.
- Discuss with the control room the OSC activities such as repair and response priorities and, status of damage control and repair teams.
- During long term accident operating conditions, evaluate routine activities which would be performed under normal plant operating conditions, e.g., AUO rounds, equipment inspections, surveillance instructions, compensatory measures, or other similar activities. Determine if any of these actions should be performed on a normal or reduced frequency.
- Assume SED responsibilities if the SED must leave the TSC.

APPENDIX A, CHECKLIST A.05
TECHNICAL ASSESSMENT MANAGER

Page 1 of 2

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **ESTABLISH** log of communications/events.
- / **CHECK** the status of emergency actions already in effect such as Accountability or Site Evacuation.
- / **CHECK** status of staff
- TATL,
 - Reactor Engineer,
 - Mechanical Engineer,
 - Electrical Engineer,
 - TAT Ops Advisor
 - Westinghouse Rep.

OPERATIONAL RESPONSIBILITIES LIST

- Provide input to the SED for emergency classification declaration.
- Directs onsite effluent assessment.
- Directs activities of the Technical Assessment Team.
- Projects future plant status based on present plant conditions.
- Keeps assessment team informed of plant status.
- Provides information, evaluations, and projections to the SED.
- Communicates with the CECC Plant Assessment Manager.
- Coordinates assessment activities with the CECC plant assessment team.
- Establishes and maintains a status of significant plant problems.

APPENDIX A, CHECKLIST A.05
TECHNICAL ASSESSMENT MANAGER

Page 2 of 2

OPERATIONAL RESPONSIBILITIES LIST

- Assures predictive release rate information (Appendix E) is sent to the CECC to be used in the predictive release rate model.
- If the need for post accident sampling is anticipated, alert TSC Chemistry Manager so that they can prepare RWP and support.
- Assures Post Accident sampling in accordance with 1/2-TI-CEM-043-066.1 is initiated as required.
- Designates personnel to maintain Plant Status and Trending Boards.
- Provides for trending of significant parameters.
- Assumes role as SAMG evaluator when required (if qualified).

APPENDIX A, CHECKLIST A.06
OPERATIONS ADVISOR, TAT

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INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **LOG** on to ICS.
- / **ESTABLISH** contact with the Control Room. (Dial x101, keep on mute as much as possible.)
- / **CHECK** the status of emergency actions already in effect such as personnel dispatched into the field and Accountability or Site Evacuation.

OPERATIONAL RESPONSIBILITIES LIST

- Operates ICS to obtain plant status and parameters.
- Monitors procedure direction taken by the main control room operators and keeps Technical Assessment Team Leader informed of potential future problems and status of safety related equipment.
- Provides information from the Control Room to the Technical Assessment Manager and Technical Assessment Team.
- Obtains supplemental data as needed by the TSC, OSC, or CECC.
- Completes portions of plant parameters data sheets (Appendix K) as needed. Plots/trends as designated by TAM.

APPENDIX A, CHECKLIST A.07
OPERATIONS COMMUNICATOR

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INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **OBTAIN** headset and **DIAL** into the Control Room Operations Bridge (x 101).
- / **PROVIDE** the completed checklist to the TSC log keeper.

OPERATIONAL RESPONSIBILITIES LIST

- Monitors the Control Room Operations Bridge (x101).
- Provides information from the MCR and OSC to TSC personnel including information on AUO activities.
- Monitors plant status boards and ICS.
- Obtains supplemental data as needed by the TSC, OSC, or CECC.
- Makes inquiries to the Control Room Communicator to obtain specific information as necessary (includes emergency procedure status).
- Maintains a current log of major operational events for the Operations Manager's use (may use eSOMS, ERN Data).

APPENDIX A, CHECKLIST A.08
SITE SECURITY MANAGER

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INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / ENTER badge into the TSC Accountability Card Reader.
- / SIGN IN on the staffing chart and PUT ON position badge.
- / SIGN roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / ESTABLISH log of communications/events.
- / ESTABLISH contact with the CAS and the SAS.
- / CHECK the status of emergency actions already in effect such as Accountability or Site Evacuation and report status to the SED.

OPERATIONAL RESPONSIBILITIES LIST

- Directs activities of Site Security personnel and mobilizes additional personnel as needed.
- Controls access to the Site and Control Rooms.
- Reports on site accountability/evacuation as defined in SQN EPIP-8.
- Assures an officer is dispatched to areas outside the protected area such as the Sequoyah Training Center, Security Training Center, Livewell, and Design Services Complex during accountability / evacuation using EPIP-8 or EPIP-11.
- Advises incoming emergency response personnel at the gate house of any radiological, security, or environmental hazards in route to the TSC or OSC.
- Assists in establishing search teams, as required. (SQN EPIP-8)
- Coordinates Security activities with emergency response organization.
- Provides status updates to Site Security personnel.
- Reports status of Security related events to the SED.
- Remain aware of Plant Radiological Conditions and report locations(s) of Security Personnel/Patrols (as needed) to the RADCON Manager and the SED.

APPENDIX A, CHECKLIST A.09

RADCON MANAGER

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INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **ESTABLISH** log of communications/events.
- / **ESTABLISH** contact with the OSC RADCON Supervisor (x103), the radiological monitoring van (if dispatched), and the CECC Radiological Assessment Coordinator (RAC) or Radiological Assessment Manager (RAM) if the RAC is not available.
- / **LOG** on to ICS and the Emergency Response Network (must be activated from the CECC and OSC).
- / **CHECK** the status of emergency actions already in effect such as RADCON personnel in the field, and Accountability or Site Evacuation.
- / **ESTABLISH** communications with environs monitoring van (IF dispatched and not under the control of the CECC).
- / **ENSURES** the OSC RADCON Supervisor has designated a qualified/knowledgeable person to provide inplant radiological data to the NRC Health Physics Network (HPN) upon request.

OPERATIONAL RESPONSIBILITIES LIST

- Collects and provides plant radiological data to TSC as applicable.
- Directs onsite RADCON activities.
- Directs and/or performs assessments of inplant and onsite radiological conditions. Uses the Integrated Computer System and the Emergency Response Network (ERN).
- Directs the OSC RADCON Supervisor in performing radiological assessments.
- Keeps the CECC RAM/RAC informed of site radiological conditions.

APPENDIX A, CHECKLIST A.09
RADCON MANAGER
Page 2 of 2OPERATIONAL RESPONSIBILITIES LIST

- Coordinates additional RADCON support with the CECC RAM/RAC.
- Makes recommendations for protective actions for onsite personnel to the SED.
- Authorizes issue of KI, by following SQN EPIP-14, to onsite personnel, after informing the SED.
- Coordinates assessment of radiological conditions offsite with CECC RAM/RAC.
- Maintains status maps of offsite radiological conditions and inplant radiation status board.
- Provides RADCON surveillance through the OSC for off-site personnel assigned to the SQN Training Center, MET station, Communication Node Building, etc. if required by environmental releases. Ensure these off-site personnel are tracked through the Maintenance Manager on the Team Tracking Board on ERN.
- Obtains MET data as needed by using ICS or the CECC Computer.
- Provides periodic status reports to the SED on radiological conditions and input on the emergency classification and Protective Action Recommendations (PARs).
- Makes recommendations to the SED for personnel entry into radiological hazardous environments.

APPENDIX A, CHECKLIST A.10
CHEMISTRY MANAGER

Page 1 of 1

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / ENTER badge into the TSC Accountability Card Reader.
- / SIGN IN on the staffing chart and PUT ON position badge.
- / SIGN roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / ESTABLISH log of communications/events.
- / ESTABLISH contact with the Chemistry Supervisor in the lab and the CECC Radiological Assessment Coordinator. Obtain assessment of any radiological release in progress and provide to the SED.
- / LOG ON to ICS.
- / CHECK the status of emergency actions already in effect such as Chemistry personnel in the field and Accountability or Site Evacuation.

OPERATIONAL RESPONSIBILITIES LIST

- Directs the Chem. Lab Supervisor to implement the applicable portions of EPIP-14.
- Coordinates the assessment of radioactive effluents with the CECC Radiological Assessment Coordinator.
- Directs Chemistry lab in performing Post Accident Sampling Activities.
- Determines impact of the incident on radwaste and various effluent treatment systems.
- Performs/directs release rate calculations, onsite/off-site dose assessments and dose projections in accordance with EPIP-13 when required.
- Completes Predictive Release Data sheet (Appendix E) and transmits it to CECC PAT.
- Completes portions of plant parameter data sheets (Appendix K) as needed.
- Provides all plant chemistry data to the Technical Assessment Team.
- Provide input to the SED for emergency classification and PARs.

APPENDIX A, CHECKLIST A.11
NRC COORDINATOR
 Page 1 of 1

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **ESTABLISH** log of communications/events.
- / **CHECK** the status of emergency actions already in effect such as Accountability or Site Evacuation.
- / **CONTACT** the Operations Manager to determine if the Emergency Notification System (ENS) line requires continuous communications.

OPERATIONAL RESPONSIBILITIES LIST

- Acts as primary liaison with onsite NRC personnel.
- Updates NRC personnel on plant status (use Appendix D as a guide when ICS is unavailable).
- Provides information requests from NRC to TSC personnel.
- Obtain copy of Appendix D from the TATL and report data to NRC in the event Emergency Response Data System (ERDS) fails.
- **IF** requested, maintain contact with the NRC on the NRC Emergency Notification System (ENS) phone line. Coordinate the transfer of responsibility for ENS continuous communications with the Main Control Room (Main Control Room).

NOTE: It is recommended that the NRCC use the cordless phone and get on the NRC bridge by dialing 9-1-301-816-5100. The NRCC should listen long enough to determine the status of questions and when ready, instruct the existing MGR ENS communicator that you are assuming responsibility and identify yourself as the TSC NRCC.

APPENDIX A, CHECKLIST A.12
CONTROL ROOM COMMUNICATOR

Page 1 of 2

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- ENTER** badge into the TSC Accountability Card Reader.
- SIGN IN** on the staffing chart and **PUT ON** position badge.
- SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- OBTAIN** headset from the TSC and **REPORT** to the Control Room (portable phone is located at the Shift Manager's station).
- ESTABLISH** log of communications/events.
- ESTABLISH** contact with the TSC Operations Communicator and OSC Operations Advisor. (x101).
- CHECK** the status of emergency actions already in effect such as Accountability or Site Evacuation.
- LOCATE** all Operations personnel/teams currently or previously tasked and ensure each is tracked on the AUO OSC Team board.

OPERATIONAL RESPONSIBILITIES LIST

- Serves as the control room - TSC and OSC communications link.
- Provides operational knowledge for status evaluation of plant systems.
- Provides advice regarding Technical Specifications, system response, safety limits, etc.
- Assists in development of recommended solutions to developing problems.
- May use ICS to trend parameters.
- Assures the control room staff is aware of the TSC accident assessments and OSC activities.

APPENDIX A, CHECKLIST A.12
CONTROL ROOM COMMUNICATOR

Page 2 of 2

OPERATIONAL RESPONSIBILITIES LIST

- Ensures the OSC Operations Advisor and TSC Operations Communicator are informed of the status of all Operations personnel/teams dispatched by the Shift Manager. OSC maintenance activities status are available through the Emergency Response Network.
- Communicate operational status of plant systems and major equipment, automatic and manual initiation of ESF equipment, important system parameters associated with EALs, and procedure transitions by the MCR.
- Communicate messages between the Shift Manager and the TSC.

APPENDIX A, CHECKLIST A.13
MAINTENANCE MANAGER

Page 1 of 2

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **ESTABLISH** contact with the OSC Manager, Assistant OSC Manager or Status Board Writer in the OSC. (x104)
- / **ESTABLISH** a log of communications/activities.
- / **CHECK** the status of emergency actions already in effect such as teams already dispatched by the Main Control Room, Accountability or Site Evacuation.
- / **CHECK** status of deployed emergency response teams (Operations, Maintenance, Medical Emergency Response Teams, etc.)”.

OPERATIONAL RESPONSIBILITIES LIST

- Directs activities of the OSC.
- Directs repairs and corrective actions.
- Makes team task assignments to the OSC Assistant Manager.
- Performs damage assessment.
- Maintains cognizance of deployed OSC emergency response teams purpose and status. Provides updates to the SED on emergency teams status.
- Assists the SED and the OSC Manager in determining the priorities of activities.
- Monitors the emergency response team tracking (Projects team activities using the Emergency Response Network (ERN) “Team Tracking” screen.
- Provides assistance to the SED as needed.

APPENDIX A, CHECKLIST A.13
MAINTENANCE MANAGER

Page 2 of 2

OPERATIONAL RESPONSIBILITIES LIST

- Communicates with the Assistant OSC Manager on matters concerning equipment and/or plant assessments.
- Ensures OSC and TSC status boards are consistent.
- Provides TSC personnel with a debriefing summary for each returning OSC team.

APPENDIX A, CHECKLIST A.14
TECHNICAL ASSESSMENT TEAM LEADER

Page 1 of 3

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / ENTER badge into the TSC Accountability Card Reader.
- / SIGN IN on the staffing chart and PUT ON position badge.
- / SIGN roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / ESTABLISH a log of communications/activities.
- / ESTABLISH contact with the Technical Assessment Manager.
- / ESTABLISH contact with the CECC Plant Assessment Team (9-751-1629).
- / ASSIGN team member to maintain equipment out of service and TAT assignments boards.
- / CHECK the status of emergency actions already in effect such as Accountability or Site Evacuation.

OPERATIONAL RESPONSIBILITIES LIST

- Team leader may designate a TSC log keeper and board writer(s).
- Monitors and performs trending of key plant parameters against EAL criteria and provides technical assessment.
- Determines the condition of the reactor and nuclear fuel.
- Project future status based on present plant conditions.
- Provide technical support to plant operations on mitigating actions.
- Prepares and provides current assessment on plant conditions and provides this information to the CECC Plant Assessment Team (on Appendix K when requested).
- Uses Appendix C, Tat Recommendation Form for communicating with the TAM.
- Evaluate containment sump level and actions to mitigate sump screen blockage per Appendix G.

APPENDIX A, CHECKLIST A.14
TECHNICAL ASSESSMENT TEAM LEADER

Page 2 of 3

OPERATIONAL RESPONSIBILITIES LIST

- Provides direction for environmental qualification operating concerns for containment cooling following a non-LOCA event inside containment (i.e., loss of secondary side coolant) per Appendix H.
- Prepares TSC accident assessment sheet Appendix D and transmits to the CECC when requested.
- Provides Technical Assessment to TAM on Appendix D when requested.
- Verifies that all ABSCE doors are closed (call Fire Ops, x7447 or OSC Fire Ops Advisor, x6407).
- Identifies and tracks the status of current ABSCE breaches (call Fire Operations, x7447 or OSC Fire Ops Advisor, x6407).
- Verifies that all Control Room Emergency Ventilation Pressure Boundary (CREVS) doors are closed (call Fire Ops, x7447 or OSC Fire Ops Advisor x6407).
- Identifies and tracks the status of current CREVS breaches (call Fire Ops, x7447 or OSC Fire Ops Advisor, x6407).
- If all control building battery room exhaust fans are off, then refer to Appendix I.
- Monitor the temperature of the 6.9kv shutdown board rooms in accordance with Appendix I.
- Refer to Appendix J, for contingency plan for control and processing of large volumes of contaminated water in the plant secondary side.
- Interface with Nuclear Engineering onsite and in the CECC (9-751-1634) for specific technical assistance and support as needed.
- In the event of a high energy line break (HELB) in the Auxiliary Building, evaluate the need to restore the environmental condition of the Auxiliary Building back to a normal condition within 6 to 24 hours. If environmental conditions are adverse, make recommendations to the Technical Assessment Manager to mitigate the condition.

APPENDIX A, CHECKLIST A.14
TECHNICAL ASSESSMENT TEAM LEADER

Page 3 of 3

OPERATIONAL RESPONSIBILITIES LIST

- Auxiliary Air Dryers should be turned on within 24 hours after an accident and, if one or more trains of dryers are inoperable and the outside ambient air temperature is at or below freezing, then monitor the rooms listed below for freezing temperatures at least once every 24 hours. If necessary, actions such as turning off ventilation fans and instituting freeze protection shall be taken until both trains are operable.
 - (DCN D20393A)
 - 480V Transformer Rooms (Rooms 749-A6, -A7, -A10, and -A11)
 - Mechanical Equipment Rooms (Rooms 763-A3, and -A4)

- In the event of a radiological, chemical, or smoke release that may impact the air intake at the north or south end of the Control Building, evaluate stopping the Control Bldg Emergency Pressurization Fan from the affected intake.

Note: Train A takes suction from north end and Train B takes suction from the south end.
Reference: FSAR 11.4.2.2.5 and 47W866-4.

APPENDIX A, CHECKLIST A.15

EP MANAGER

Page 1 of 1

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **ESTABLISH** log of communications/events.
- / **CHECK** the status of emergency actions already in effect such as Accountability or Site Evacuation.
- / **VERIFIES** checklists are distributed and are being completed.
- / **VERIFIES** all essential positions are filled.
- / **VERIFIES** all activation activities (TSC and OSC) are proceeding normally.
- / **CALL IN** Clerical Support and other personnel as necessary (actions may be delegated).

OPERATIONAL RESPONSIBILITIES LIST

- Advises the SED regarding overall REP, use of EIPs, emergency equipment availability, and coordination with the CECC.
- Confirms TSC and OSC are operating properly.
- Provides assistance to the SED and OSC Manager as requested.
- Makes P/A announcements to update plant personnel of the emergency status of current plant conditions as directed by the SED.
- Ensures that a Shift Turnover using Appendix M is prepared. Clerks may be assigned this task.
- Assists SED in listing overall mitigation priorities and filling out EIPs.
- Tracks entry into EAL's and PAR's.

APPENDIX A, CHECKLIST A.16
TSC LOGKEEPER
Page 1 of 1

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **ESTABLISH** a log of activities.

OPERATIONAL RESPONSIBILITIES LIST

- Uses REP Call List to obtain staff for unfilled positions or replacement staff for shift turnover. (Use Appendix M).
- Logkeeper maintains a chronological log of the SED and TSC activities to include time of classification changes and PARs and the level of each, changes in plant conditions, times of briefings, team status, content of discussions, and decisions made by the SED and any other entry as directed by the SED.
- Projects Emergency Response Network (ERN) screens. (Sequence Of Events, Plant Status, etc.)
- Regularly prints eSOMS (electronic Shift Operating Management System) control room logs and provides copies to the Operations Manager and the Operations Advisor to the TAT.
- Verifies the SED priorities by calling the CECC Plant Assessment Team Engineer (9-751-1634) initially and when SED priorities change.
- Logkeeper assists the SED in preparing briefing notes. The notes should include activities since the last briefing and include team status, changes in classifications and PARs and current plant conditions.
- Collect initial TSC checklists if requested from:

<input type="checkbox"/> Site Emergency Director	<input type="checkbox"/> Operations Manager	<input type="checkbox"/> RADCON Manager
<input type="checkbox"/> Site Vice President	<input type="checkbox"/> Chemistry Manager	<input type="checkbox"/> TAT Leader
<input type="checkbox"/> Ops Communicator	<input type="checkbox"/> TAT Operations Advisor	<input type="checkbox"/> EP Manager
<input type="checkbox"/> TAM	<input type="checkbox"/> Maintenance Manager	<input type="checkbox"/> NRC Coordinator
<input type="checkbox"/> Security Manager	<input type="checkbox"/> Control Room Communicator (on deactivation)	

APPENDIX A, CHECKLIST A.17
TSC CLERICAL
Page 1 of 1INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER CHECKLIST

- / **ENTER** badge into the TSC Accountability Card Reader.
- / **SIGN IN** on the staffing chart and **PUT ON** position badge.
- / **SIGN** roster upon arrival. (Ref.: use roster from EPIP-8, Appendix I)
- / **ESTABLISH** a log of activities.

OPERATIONAL RESPONSIBILITIES LIST

- Assists in setup and activation of the TSC.
- Provides pager reports to the Site Emergency Director and EP Manager.
- Maintains ongoing accountability of TSC personnel.
- Answers telephones.
- Distributes plant parameter data sheets when ICS is not functional.
- Distributes faxes to the appropriate personnel in the TSC.
- Uses REP Call List to obtain staff for unfilled positions or replacement staff for shift turnover (Appendix M).
- Operates fax machines and keeps a fax log.
- Verifies that faxes have been received in the CECC and OSC
- Provides faxes of AUO status from the OSC to the Operations Manager and Operations Advisor to the TAT.
- Changes classifications on the TSC classification clock.

APPENDIX B
SED TURNOVER DATA SHEET
Page 1 of 2

1. Current Emergency Classification: NOUE ALERT SAE GE
 EAL(s) _____
 Time Declared _____ Time ODS Notified _____
 State Notified _____ Time NRC Notified _____

2. Event Description:

3. Equipment Problems:

4. Site Radiological Problems:

5. Rad Release > Tech Specs: Yes No
 Liquid Yes No
 Gaseous Yes No

6. Dose Assessment Initiated: Yes No
 Filtered Unfiltered
 Monitored Unmonitored
 Controlled Uncontrolled
 Projected Duration _____ (Hours/Minutes)
 Wind Speed ___ mi/hr Wind Dir From _____ Deg (use 46 meters)
 Projected TEDE _____ mrem @ _____ miles
 Projected Thyroid CDE _____ mrem @ _____ miles

7. Protective Action Recommendations to Offsite Officials
 NOUE, Alert, or SAE None
 General Emergency 1 OR 2

APPENDIX B
SED TURNOVER DATASHEET
Page 2 of 2

8. Onsite Protective Actions Taken:

ACCOUNTABILITY SITE EVAC SPECIFIC AREA EVAC

9. Field Monitoring Vans Activated: Yes No

10. Emergency Facilities Activated: TSC OSC CECC

11. Status of personnel in the field dispatched by the SM/control room:

Names	Status/Locations

SED responsibility was transferred at: Time: _____ Date: _____

From _____ To _____
SM SED in Control Room SED in the TSC

APPENDIX C
TAT RECOMMENDATION FORM
Page 1 of 1

Check one <input type="checkbox"/> This is a drill. <input type="checkbox"/> This is a real emergency.	Recommendation No. _____						
To: Technical Assessment Manager From: Technical Assessment Team Leader <table style="margin-left: 100px; border: none;"> <tr> <td style="border-bottom: 1px solid black; width: 50px;"></td> <td style="border-bottom: 1px solid black; width: 50px;"></td> <td style="border-bottom: 1px solid black; width: 50px;"></td> </tr> <tr> <td style="text-align: center; font-size: small;">Initials</td> <td style="text-align: center; font-size: small;">Date</td> <td style="text-align: center; font-size: small;">Time</td> </tr> </table>					Initials	Date	Time
Initials	Date	Time					
Prepared by TAT Member _____							
Recommendation:							
Is there another parallel or related path that should be considered?							
Reviewed by Technical Assessment Manager: <table style="margin-left: 100px; border: none;"> <tr> <td style="border-bottom: 1px solid black; width: 50px;"></td> <td style="border-bottom: 1px solid black; width: 50px;"></td> <td style="border-bottom: 1px solid black; width: 50px;"></td> </tr> <tr> <td style="text-align: center; font-size: small;">Initials</td> <td style="text-align: center; font-size: small;">Date/Time</td> <td></td> </tr> </table>					Initials	Date/Time	
Initials	Date/Time						
Feedback to TAT from TAM: <table style="margin-left: 100px; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Accepted - Assigned to OSC <input type="checkbox"/> Accepted - Assigned to Operations <input type="checkbox"/> Other _____ </td> <td style="width: 50%; vertical-align: top;"> <input type="checkbox"/> Rejection of Recommendation: <input type="checkbox"/> Recommendation "on hold": </td> </tr> </table>		<input type="checkbox"/> Accepted - Assigned to OSC <input type="checkbox"/> Accepted - Assigned to Operations <input type="checkbox"/> Other _____	<input type="checkbox"/> Rejection of Recommendation: <input type="checkbox"/> Recommendation "on hold":				
<input type="checkbox"/> Accepted - Assigned to OSC <input type="checkbox"/> Accepted - Assigned to Operations <input type="checkbox"/> Other _____	<input type="checkbox"/> Rejection of Recommendation: <input type="checkbox"/> Recommendation "on hold":						
<i>(If rejected, provide a copy of completed form back to the TAT.)</i>							

APPENDIX D
TSC ACCIDENT ASSESSMENT SHEET
Page 1 of 1

To: Technical Assessment Manager (cc: CECC PAT & NRC Coordinator)
From: SQN Technical Assessment Team (To be filled out when ICS is not operable or as requested)

1. HEAT REMOVAL CAPABILITY (FR-H and FR-C; S/G Level, RCP Flow, ECCS Flow, Subcooling RCS):
2. FUEL INTEGRITY: (Rad Monitors, Core Exit T/Cs, RCS Chemistry, RVLIS, H2 Concentration):
3. RADIOACTIVITY IN CONTAINMENT: (Rad Monitors, Rad Surveys, Fuel Integrity):
4. CONTAINMENT INTEGRITY: (FR-Z; CNTMT Pressure, CNTMT Breaches, Releases Outside CNTMT):
5. SUBCRITICALITY: (FR-S; Rods all inserted, NIS SR + IR Decreasing):
6. RCS INVENTORY: (FR-1; PZR Level, RVLIS, RCS Subcooling, Core Exit T/Cs):
7. OVERALL ASSESSMENT:
8. RECOMMENDATIONS:

TAT Leader: _____ Time: _____ Date: _____

**APPENDIX E
PREDICTIVE RELEASE DATA SHEET
Page 1 of 1**

TO: CECC PAT DATE: _____ TIME: _____ UNIT: _____
DATA NEEDED FOR CECC TO PERFORM PREDICTIVE RELEASE METHODOLOGY

1. PRIMARY COOLANT CONCENTRATION

Isotope	Gas $\mu\text{Ci/cc}$	Liq $\mu\text{Ci/ml}$	SAMPLE DATA
I-131	_____	_____	DATE _____ TIME _____
I-132	_____	_____	
I-133	_____	_____	LOCATION _____
I-134	_____	_____	
I-135	_____	_____	TEMPERATURE: _____ DEG F
CS-137	_____	_____	
CS-138	_____	_____	PRESSURE _____ PSIA
KR-85m	_____	_____	
KR-85	_____	_____	GAS VOLUME: _____ CC
KR-87	_____	_____	
KR-88	_____	_____	WATER MASS: _____ GRAMS
XE-133	_____	_____	
XE-135	_____	_____	WATER LEVEL: _____

2. CONCENTRATION OF HYDROGEN IN CONTAINMENT ATMOSPHERE

H CONC (MOLE %): _____	DEGREES F _____	DATE: _____
CNTMT TEMP: _____	PSID _____	TIME: _____
CNTMT PRESS _____	LOCATION _____	

3. OPERATING POWER HISTORY (IF ICS DATA LINK INOPERABLE)

Date/Time of Shutdown: _____

Start Period	End Period	Avg Power in MWt	Start Period	End Period	Avg Power in MWt
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

4. EXO-SENSOR CORE EXIT THERMOCOUPLE READINGS (IF ICS DATA LINK INOPERABLE)

Thermocouple	Date	Time	Reading °F	Notes:
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

5. Rx WATER LEVEL HISTORY (IF ICS DATA LINK INOP) * See TI-28, Appendix B, Page 5

Date	Time	RVLIS%	RCS Elev (ft)	RCS Vol Gals	RCS Vol CuFt
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

DATA COLLECTED BY: _____

APPENDIX F
PROTECTIVE ACTION RECOMMENDATIONS
Page 1 of 1

Note : If conditions are unknown utilizing the flowchart, then answer NO.

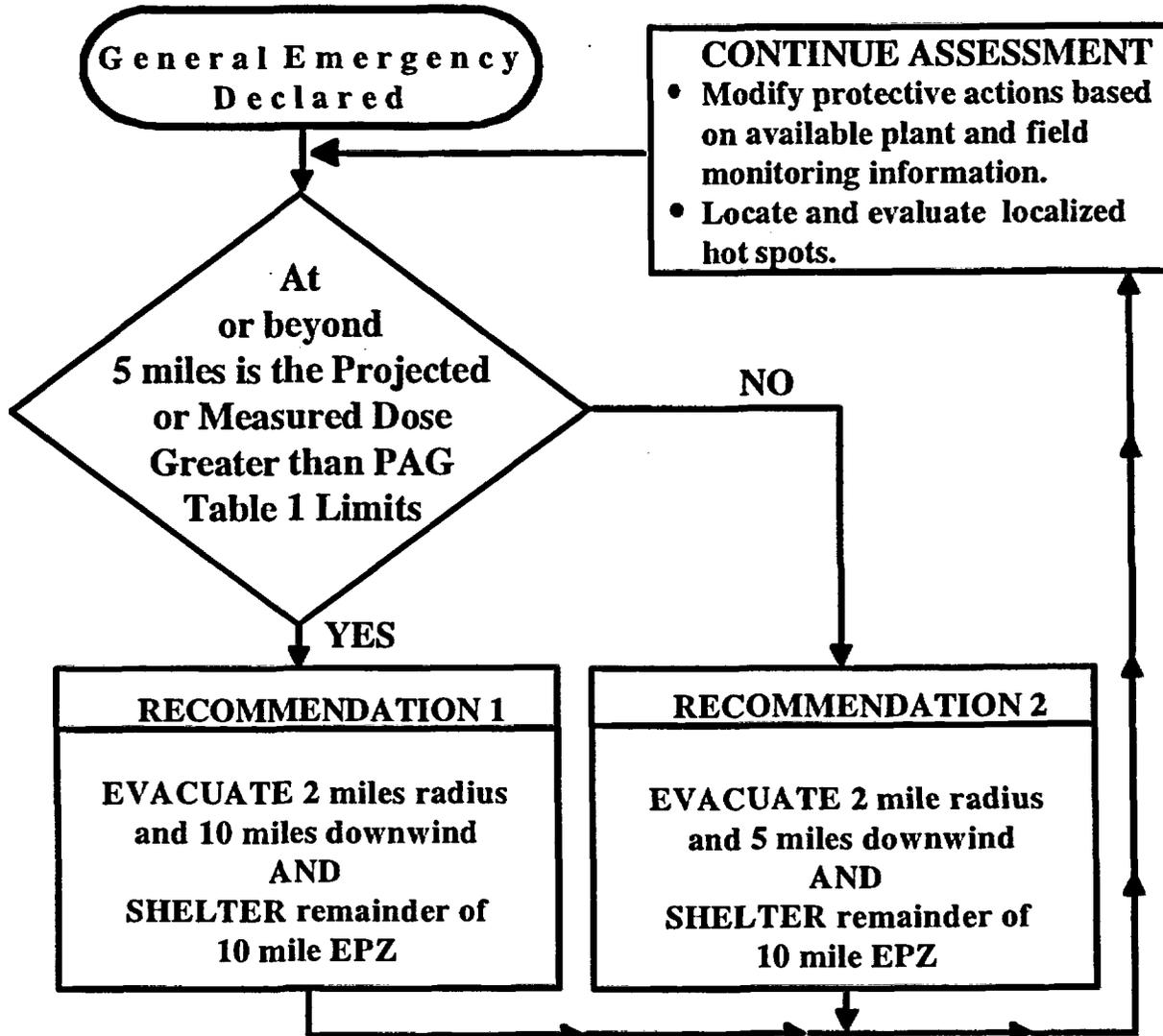


Table 1 Radioactivity Release Dose	
Note: Unknown conditions are assumed less than listed conditions	
TYPE	Protective Action Guide (PAG) Limits
Measured	3.9E-6 micro Curie/cc Iodine 131
	1 Rem/hr External Dose
Projected	1 Rem TEDE
	5 Rem Thyroid CDE

APPENDIX G
CONTAINMENT SUMP OPERATION AND LEVEL GUIDANCE

Page 1 of 2

Part I Containment Level Information

1. The 11 percent containment level set point for switch over was specified to prevent an inappropriate automatic switch over to the containment sump for steam line breaks in the yard that could damage the RWST. Switch over, as required for a LOCA, is based on change in RWST level (i.e., volume of water injected). Based upon RWST Technical Specification limits and switch over setpoints, the actual sump level will be at least 63.5 percent (el. 693) at the time of switch over.
2. During the injection phase following a LOCA, the only function of the containment sump level instrumentation is to provide a permissive input for the switch over.
3. Until the inflow into the containment sump and the leakage out of it through the crane wall reaches equilibrium, the actual transient sump level could approach 90 percent. When instrumentation errors are considered, the sump level indication could go high off scale for a short period of time.
4. Actual equilibrium level in the containment sump is expected to be 63.5 percent (i.e., crane wall penetrations are sealed up to 63.5 percent, and more than enough water will be injected to reach this level; surplus water will flow into the area outside the crane wall). However, due to instrument inaccuracies, the indicated level could vary between 50 percent and 78 percent.
5. After the sump has reached equilibrium and temperature effects on instrumentation have stabilized, the indicated sump level should remain constant. Because the sump volume is large and will tend to mask small leaks, any significant trend showing an increase or decrease in level, however slow, should be investigated.
6. The containment sump is subject to vortexing, which could damage the pumps if the sump is operated at too low level. As long as the indicated level stays above 22 percent, the sump will operate as designed with full ECCS flow.
7. The limiting set point for sump operation at full flow (22 percent level) is based upon vortex prevention requirements.
8. If recirculation from the sump is required with a low sump level (less than 22 percent) following a large break LOCA, then the operator should be aware that vortex-free sump operation is no longer assured. If operation under these conditions is required, the probability of effective ECCS operation will improve if flow from the sump is reduced. Also, other system indicators (e.g., pump amps, pressure, and flow) should be monitored for signs of vortexing.
9. For near normal conditions (i.e., containment spray is no longer required and total flow from the sump is less than 11,000 gal/min) the instrument inaccuracies are less than +/- 8 percent and a minimum indicated level of 18 percent will ensure vortex free sump operation.
10. Utilize the "External Leakage Rates" notebook, in the affected unit Control Room, to anticipate areas of potentially high dose rates when sump recirculation is initiated.

APPENDIX G
CONTAINMENT SUMP OPERATION AND LEVEL GUIDANCE
Page 2 of 2

Part II Information on Blockage of Containment Sump Screens after establishing sump recirculation

1. **MONITOR** for indications of sump blockage. Transport of debris to the containment sump screens during sump recirculation could result in a flow restriction on the RHR and CS pump suction. Although significant sump clogging is not expected, the potential exists for loss of adequate NPSH resulting in loss of ECCS and CS flow. EA-63-8, "Monitoring for Containment Sump Blockage," provides guidance for the MCR staff on monitoring ECCS and CS indications to detect the onset of sump clogging. The following may indicate sump screen blockage:
 - ECCS flow, discharge pressure, and motor amps gradually dropping (unexplained) or erratic/dropping to zero (if adequate NPSH has been lost). Note that RCS pressure rising will cause flow and motor amps to decrease.
 - CS pump flow and motor amps gradually dropping or erratic/dropping to zero (if adequate NPSH has been lost).

2. **IF** indications of sump clogging are observed, **THEN** the following actions should be evaluated:
 - a. Evaluate reducing containment spray flow and/or ECCS flow by stopping one train. This is expected to slow the rate of debris buildup and will reduce the differential pressure across the sump screens. If containment pressure is not excessive, reducing CS flow to single train is preferred over reducing ECCS flow. Caution should be exercised since deliberately stopping one train of ECCS or CS may violate accident analysis assumptions (a subsequent single failure will result in complete loss of flow).
 - b. Evaluate the need for RWST refill to allow realigning pump suction to RWST. Caution should be exercised prior to pumping an additional large water volume into containment due to the potential for containment flooding resulting in loss of instrumentation and eventual loss of containment integrity.
 - c. If sump clogging results in severely degraded flow, then evaluate the need for entry into ECA-1.1, "Loss of RHR Sump Recirculation." This ECA initiates actions to refill the RWST, allows reducing or stopping CS flow, initiates RCS cooldown/depressurization, and initiates RCS makeup from alternate source (normal charging).
 - d. Briefly stopping and then restarting all flow across sump screens (by stopping all ECCS and CS) may allow debris to fall off. (Screens are sloped to allow gravity to assist in debris removal). This action should NOT be recommended without carefully considering the impact on core temperatures and containment pressure.

APPENDIX H
ERCW CONCERNS FOR TECHNICAL ASSESSMENT TEAM
Page 1 of 2

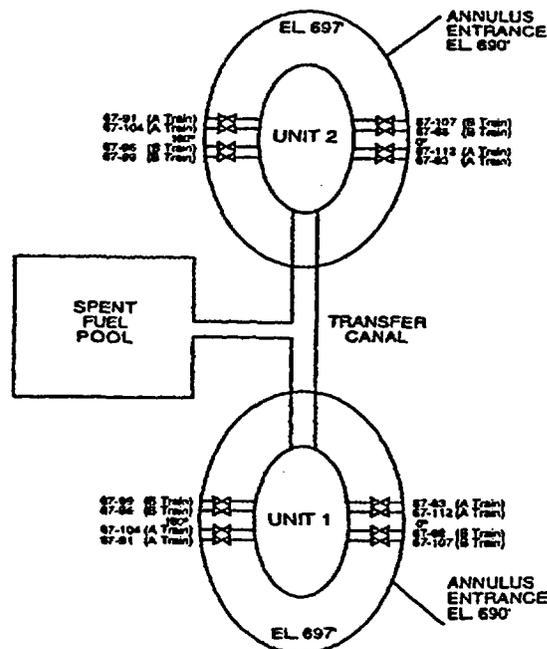
1. Provide direction for environmental qualification operating concerns for containment cooling following a non-LOCA event (e.g. loss of secondary coolant) inside containment. Items which should be addressed are listed below:
 - a. Cooldown the RCS to less than 350°F within 12 hours and continue as conditions allow.
 - b. In case of failure of the normal RHR suction valve FCV-74-1 to open, continue cooldown using the steam generators.

CAUTION: Prior to initiating ERCW flow to the LCC coils, the potential for water hammer must be considered. Parameters to consider are containment temperature which can cause boiling in the coils, available system pressure to prevent boiling, and maintenance of system inventory after initiating ERCW flow.

- c. Within one to four hours after event initiation, place at least two lower containment coolers in service. Ensure ERCW is aligned before placing coolers in service. This action will require entry into the annulus to manually open the ERCW valve if one train of power is lost. Preferably, all lower containment coolers should be placed in service.
 - (1) If A-train power is lost, A-train valves FCV-67-104, FCV-67-112, FCV-67-83 and FCV-67-91, located in the annulus (approx. el. 690) will have to be manually operated in order to place the B-train ERCW header to the B-train lower compartment coolers in service. See Appendix W, page 3, for the specific location of these valves.
 - (2) If B-train power is lost, B-train valves FCV-67-88, and FCV-67-96, FCV-67-99 and FCV-67-107, located in the annulus (approx. el. 690) will have to be manually operated in order to place the A-train ERCW header to the A-train lower compartment coolers in service. See Appendix W, page 3, for the specific location of these valves.
 - (3) The Temperature Control Valves (TCV's) for each Lower Compartment Cooler must be opened to obtain ERCW flow. The TCV's are operated from panel M-9 for Units 1 & 2 or can also be failed open from the Auxiliary Control Room via transfer switches.
- d. Evaluate containment heat loads. If a reactor coolant pump is running, then at least three lower containment coolers should be in service.

APPENDIX H
ERCW CONCERNS FOR TECHNICAL ASSESSMENT TEAM
Page 2 of 2

- e. ERCW gages are located in the 669 Penetration Room. Expect that each string of ERCW entering containment would require >400 gpm if all coolers in that string are receiving flow. Evaluate the ERCW flow to the lower compartment coolers and consider reducing flow to other equipment such as the containment spray heat exchangers if the required flow is not available. (The system flow balance assumes that containment spray flow will be removed if the lower compartment coolers are used.)
 - f. In case of failure of both the CVCS letdown and excess letdown flow paths, then evaluate use of the reactor vessel head vent system or pressurizer PORV.
2. Monitor ERCW screens and strainers. Within 3 hours after an operating basis earthquake (1/2 SSE), a loss of downstream dam, a stage I flood, a tornado warning or within 12 hours following a LOCA, then perform the following actions
 - a. Isolate chlorination to ERCW.
 - b. Inspect ERCW traveling screens and place screens into continuous backwash.
 - c. Inspect ERCW strainers differential pressure and place into continuous backwash.
 3. For events other than those listed in previous step, then maintain the normal monitoring and cleaning frequency of the ERCW screens and strainers per 0-SO-67-3.



APPENDIX I
VENTILATION PROBLEMS
Page 1 of 2**A. CONTROL BUILDING BATTERY ROOM EXHAUST FAN FAILURE AND 6.9KV SHUTDOWN BOARD ROOMS TEMPERATURE MONITOR**

With all control building battery room exhaust fans off there is a potential for Hydrogen buildup in the battery rooms. Calculations (EEB 800723 901 and EEB 800723 902) show that it will take approximately 11 days to reach potentially explosive limits of hydrogen in the room. The TSC staff shall monitor the time frame that the battery room exhaust fans are off. The TSC staff shall determine how and when the fans are to be returned to service prior to the explosive limits being reached.

Monitor the temperature of the 6900V shutdown board rooms within the first hour and then every 24 hours in accordance with 0-PI-OPS-000-606.0 to ensure that the temperature remains below 80°F. If the temperature of a Board Room exceeds 80°F, actions must be taken (as determined by the TSC) to reduce the temperature below 80°F and the temperature of the affected Board Room(s) must be monitored at an increased frequency as determined by the TSC.

B. ISOLATION OF A LEAKING AIR OR WATER LINE WITHIN 2 HOURS FOLLOWING A LOCA or HELB

The containment penetration configuration consisting of an outboard active valve and an inboard check valve could result in air or water leakage into containment should:

- the outboard valve fail to close and
- the associated air or water line be ruptured as the result of a LOCA or HELB (Main Steam or Main Feedwater line break).

Air leakage results in an uncontrolled increase in containment pressure following a LOCA. Water leakage results in sump boron concentration dilution and a water level in containment above the design limit.

A HELB induced failure of an ERCW line in containment could result in loss of the LCCs which are needed to maintain acceptable long-term containment temperatures post-HELB. An alternate method of cooling containment under this scenario is to use the containment sprays to cool the air in the upper compartment and the air return fans (ARFs) to circulate this air from the upper compartment to the lower compartment. The fans/ductwork from the LCCs should be used to circulate this air throughout the lower compartment.

APPENDIX I
VENTILATION PROBLEMS
Page 2 of 2

The leaking air or water line needs to be isolated within 2 hours of a LOCA or HELB. The following Table identifies the outboard isolation valve which needs to be confirmed to be closed and the action to take should positive indication that the listed valve is closed is not available.

Valve UNID	Action
1-FSV-32-110	see EA-32-3
2-FSV-32-111	see EA-32-3
1-FSV-32-80	close 1-VLV-32-1830 or isolate ACA from SCSA and shutdown the ACA Compressor-A (0-CMP-32-60-A)
1-FSV-32-102	close 1-VLV-32-1920 or isolate ACA from SCSA and shutdown the ACA Compressor-B (0-CMP-32-86-B)
2-FSV-32-81	close 2-VLV-32-1834 or isolate ACA from SCSA and shutdown the ACA Compressor-A (0-CMP-32-60-A)
2-FSV-32-103	close 2-VLV-32-1919 or isolate ACA from SCSA and shutdown the ACA Compressor-B (0-CMP-32-86-B)
1,2-FCV-70-90	close 1,2-VLV-70-690
1,2-FCV-70-92	close 1,2-VLV-70-700
1,2-FCV-67-99 or 1,2-FCV-67-107	close 1,2-VLV-67-523A*
1,2-FCV-67-83 or 1,2-FCV-67-91	close 1,2-VLV-67-523B*
1,2-FCV-67-88 or 1,2-FCV-67-96	close 1,2-VLV-67-577A*
1,2-FCV-67-104 or 1,2-FCV-67-112	close 1,2-VLV-67-577B*

APPENDIX J
CONTINGENCIES FOR CONTROL AND PROCESSING LARGE VOLUMES
OF SECONDARY SIDE CONTAMINATED WATER

Page 1 of 1

The method of processing large amounts of contaminated water in the secondary side of the plant due to a steam generator tube rupture will be determined by the Chemistry Lab, based on condensate samples for activity.

The preferred method is to process the water through the condensate D.I. Waste Regeneration System to the High Crud Tanks (HCT). The water can then be released to the release header using 0-SI-CEM-077-400.1 or 0-SI-CEM-077-400.2. Reference flow diagrams 1,2-47W838-1 and 4.

If the contamination levels of the condensate are almost within limits for release, consideration should be given to using one of the condensate D.I. beds to reduce the activity level to a point that release using method one is possible. This will depend on the age and condition of the resins. Contact the WWPG manager or Technical Support Engineer for guidance.

If the contamination levels are high enough to prevent release, consider processing the water through a Demineralizer System similar to the Rad Waste D.I. being supplied by Chem Nuclear, under agreement contract #93N7B-79294A-000.

Two methods of D.I. operation are discussed here. The first being the best method.

METHOD 1 (PREFERRED)

Process the water through the condensate D.I. Waste Regeneration System. This will provide a flow path from the condensate system through a vendor supplied demineralizer system back to the unit hotwell through an open manway (vacuum will have to be broken). This will allow recirculation of water from the condensate system of up to 200 gpm back to the hotwell until the activity levels are at a point that the water can be released to the HCT's, or after Chem Lab analysis indicates that it can be saved as condensate.

METHOD 2 (ALTERNATE)

Process water through a vendor supplied D.I. System to the HCT's and then release the HCT's to the release header, using 0-SI-CEM-077-400.1 or 0-SI-CEM-077-400.2, as clean D.I. water. As this water is being removed additional make-up water will be required to maintain inventory in the unit hotwell.

**APPENDIX K
PLANT PARAMETER DATA SHEETS**
Page 1 of 3

GENERAL INFORMATION

Date: _____ Time: _____

Unit: _____

1.	CST level: Gallons	(LI-2-230A)	(LI-2-233A)	
2.	SG Heat Sink:	<input type="checkbox"/> CONDENSER		<input type="checkbox"/> ATMOSPHERE
3.	AFW Pump Running:	<input type="checkbox"/> MD-A	<input type="checkbox"/> MD-B	<input type="checkbox"/> TD
4.	SG Levels: NR: percent	(LI-3-39)	(LI-3-52)	(LI-3-94) (LI-3-107)
5.	SG Levels: WR: percent	(LI-3-43)	(LI-3-43)	(LI-3-99) (LI-3-98)
6.	SG Pressures: WR: psig	(PI-1-2A)	(PI-1-9A)	(PI-1-20A) (PI-1-27A)
7.	RVLIS: percent	LOWER RANGE	(LI-68-367)	(LI-68-370)
		WIDE RANGE	(LI-68-368)	(LI-68-372)
		PLENUM	(LI-68-369)	(LI-68-371)
8.	PZR Level: percent	(LI-68-335)	(LI-68-320)	
9.	PZR Pressure: psig	(PI-68-342A)	(PI-68-340A)	
10.	RCS Pressure: psig	WR: LOOP 1 HOT LEG (PI-68-69)		
11.	RCS HL Temp: °F	(TR-68-1)	(TR-68-24)	(TR-68-43) (TR-68-65)
12.	RCS CL Temp: °F	(TR-68-1)	(TR-68-24)	(TR-68-43) (TR-68-65)
13.	RCS Flow:	<input type="checkbox"/> RCPs Running: 1 2 3 4		<input type="checkbox"/> Natural Circulation
14.	ECCS Status:	<input type="checkbox"/> Standby	<input type="checkbox"/> Injecting	<input type="checkbox"/> Recirculation <input type="checkbox"/> Spray
15.	RWST Level: percent	(LI-63-50)	(LI-63-51)	
16.	CNTMT Sump Level: WR	(LI-63-176)		
17.	Charging SI Flow: gpm	(FI-62-93)	(FI-63-170)	
18.	CNTMT Press: NR - psid	(PI-30-44)	(PI-30-45)	
19.	Incore Thermocouples: °F	QUAD 1 (1 of #41,28,24,56,55,29,6)	QUAD 3 (1 of #54,12,8,40,4,3,7)	
		QUAD 2 (1 of #44,22,58,21,16,63,64)	QUAD 4 (1 of #60,9,45,6,46,42,36)	
20.	NIS Source Range: cps	(N31)	(N32)	

DATA COLLECTED BY: _____

**APPENDIX K
PLANT PARAMETER DATA SHEETS**
Page 2 of 3

RADIATION MONITORS

Date: _____ Time: _____

Unit: _____

1	Lower Containment	<input type="checkbox"/> Isolated <input type="checkbox"/> Blocked (M-12)		
		RM-90-106A cpm (M-12) Particulate		RM-90-106B cpm (M-12) Total Gas
		RM-90-273 R/Hr (M-30) #2 & #3		RM-90-274 R/Hr (M-30) #1 & #4
2	Upper Containment	<input type="checkbox"/> Isolated <input type="checkbox"/> Blocked <input type="checkbox"/> To Lower (M-12)		
		RM-90-112A cpm (M-12) Particulate		RM-90-112B cpm (M-12) Total Gas
		RM-90-271 R/Hr (M-30) #2 & #3		RM-90-272 R/Hr (M-30) #1 & #4
3	Shield Bldg: Unit 1	RM-90-400 uCi/sec (M-30) Release Rate		RM-90-260 mr/hr (M-30) Low Range
		1-FE-90-400 cfm (M-28) Flow		RM-90-261 mr/hr (M-30) High Range
4	Shield Bldg: Unit 2	RM-90-400D uCi/sec (M-30) Release Rate		RM-90-260 mr/hr (M-30) Low Range
		2-FE-90-400D cfm (M-28) Flow		RM-90-261 mr/hr (M-30) High Range
5	Aux Bldg Vent	<input type="checkbox"/> Isolated <input type="checkbox"/> Blocked (M-12)		
6	SG Blowdown:	RM-90-120A cpm (M-12)		RM-90-121A cpm (M-12)
7	Condenser Exhaust	RM-90-99 cpm (M-12)		RM-90-119 cpm (M-12)
		RM-90-255 mr/hr (M-30) Mid Range		RM-90-256 mr/hr (M-30) High Range
8	ERCW Header A	RM-90-133A cpm (M-12)		RM-90-140A cpm (M-12)
	B	RM-90-134A cpm (M-12)		RM-90-141A cpm (M-12)
9	RHR Pump Rm: A	RM-90-290 mr/hr (M-30) Low Range		RM-90-291 mr/hr (M-30) High Range
	B	RM-90-292 mr/hr (M-30) Low Range		RM-90-293 mr/hr (M-30) High Range
10	RCDT Pump Disch	RM-90-277 mr/hr (M-30)		RM-90-278 mr/hr (M-30)
11	Rx Floor/Eqpt Drain Disch	RM-90-275 mr/hr (M-30)		RM-90-276 mr/hr (M-30)
12	Main Steam Lines	RM-90-421 μ Ci/cc (M-30)		RM-90-423 μ Ci/cc (M-30)
		RM-90-422 μ Ci/cc (M-30)		RM-90-424 μ Ci/cc (M-30)
13	Area Monitors	RM-90-59 mr/hr (M-12)	RM-90-60 mr/hr (M-12)	RM-90-61 mr/hr (M-12)

DATA COLLECTED BY: _____

APPENDIX K
PLANT PARAMETER DATA SHEETS
Page 3 of 3

RADIATION RELEASES

Date: _____ Time: _____

Unit: _____

Release Point:									
Release Information:									
Release Began at _____ and expected to end at _____ (for duration of _____ hours).									
Release Potential of _____ Ci in volume of _____ ft ³ /gal									
Release Rates: <input type="checkbox"/> Decreasing <input type="checkbox"/> Stable <input type="checkbox"/> Increasing <input type="checkbox"/> Unknown									
Airborne Releases				Liquid Releases					
Gross Release Rates (uCi/sec)			Concentration		Flow		Total Release		
Noble Gas			Isotope	Value	Units	Value	Units	Value	Units
Iodines									
Particulate									
Isotopic Release Rates (uCi/sec)									
Isotope	Release Rate								
Met Data									
Date	Time	Sensor Elevation (m)	Wind Speed (m/sec)	Wind Direction (from)	Temp Differential				
Remarks/Comments:									

DATA COLLECTED BY: _____

APPENDIX L
REFERENCE MATERIALS LIST
Page 1 of 1

The following reference materials are provided in the TSC:

1. Sequoyah Nuclear Plant FSAR.
2. Sequoyah Nuclear Plant Technical Specifications (Unit 1).
3. Sequoyah Nuclear Plant Technical Specifications (Unit 2).
4. Surveillance Instructions (Selected).¹
5. Technical Instructions (Selected).¹
6. Radiological Control Instructions.
7. Site Health and Safety Manual.
8. System Operating Instructions.
9. General Operating Instructions.
10. REP and SQN and CECC Emergency Plan Implementing Procedures
11. Plant Functional Drawings.
12. Abnormal Operating Procedures.
13. Emergency Operating Instructions.

¹ Selection to be made by Technical Support Manager.

Appendix M
EMERGENCY RESPONDER NOTIFICATION
Page 1 of 1

Date: _____

ERO POSITION	Replacement	Notifications
SED		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
Operations Manager		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
Control Room Communicator		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
RADCON Manager		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
TAM		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
TAT Leader		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
TAT Electrical Engineer		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
TAT Mechanical Engineer		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
TAT I&C Engineer		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
TAT		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
TAT		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
Reactor Engineer		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
Operations Communicator		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
Chemistry Manager		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
Maintenance Manager		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
Operations Advisor to TAT		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
EP Manager		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
VP		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
NRC Coordinator		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
TSC Logkeeper		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
Security Manager		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
TSC Clerk		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
RADCON ICS Operator		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>
		NOTIFIED AT _____ <input type="checkbox"/> AND FFD <input type="checkbox"/>

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EPIP-16
TERMINATION AND RECOVERY

Revision 5

QUALITY RELATED

PREPARED/PROOFREAD BY: Bill Peggram

RESPONSIBLE ORGANIZATION: Emergency Preparedness

APPROVED BY Randy Ford

EFFECTIVE DATE: August 29, 2003

LEVEL OF USE: REFERENCE

SEQUOYAH	TERMINATION AND RECOVERY	EPIP-16
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REVISION HISTORY

REV	EFFECTIVE DATE	PAGES EFFECTED	SUMMARY OF CHANGES
5	08/29/2003	2, 7, 8, 9	Intent Revision. Added a revision history. Changed records section. Added step to contact CECC to ensure they can perform their functions. Moved SED sign off to end of Appendix A and B. Removed source notes section. Reformatted Checklists.

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1.0 PURPOSE

This procedure gives guidance on terminating an emergency classification by the Site Emergency Director (SED) following staffing of the Emergency Response Facilities (ERFs), and the development of recovery procedures to efficiently utilize resources and keep radiation doses ALARA.

This procedure also provides a minimum list, in the form of a checklist, of the plant system parameters to be considered prior to termination of an emergency. A checklist of guidelines for development of a recovery strategy are also included.

These checklist should not be considered as all inclusive. They should be used only as a minimum basis, excluding the specifics of the event, for termination and recovery.

2.0 REFERENCES

2.1 Interface Documents

- A. NP Radiological Emergency Plan
- B. EPIP-15, Emergency Exposure Guidelines

2.2 Development Documents

- A. None.

3.0 INSTRUCTIONS

3.1 Termination

- A. The decision to terminate an event where the ERFs are not staffed is the responsibility of the SM /SED.
- B. The decision to terminate an event following staffing of the ERFs will be made by the SED after consultation with the plant technical and operations staffs and coordinated with the CECC Director. This decision will be based upon a comprehensive review of plant system parameters and completion of Appendix A, Termination Guidelines.
- C. Should an emergency situation occur following the termination, the SED shall reactivate the Emergency Response Organization.

3.2 Recovery

- A. The overall goal of the recovery effort is to assess the plant condition resulting from the emergency, perform clean-up and repair operations to restore the plant to a predetermined status.
- B. The decision to enter the recovery phase will be made by the SED with concurrence from the CECC Director and the Senior Vice President, Nuclear Operations. Following the decision to enter into the recovery phase, the Senior Vice President, Nuclear Operations or his designee will direct the overall recovery effort.
- C. If the recovery phase is expected to be a long-term process, he may form a team to be responsible for continuous control of the recovery operation. The organizational structure of such a team would be contingent upon the emergency situation and procedures required for recovery. The Local Recovery Center (LRC) is available to provide additional office space near the site for the recovery team at the discretion of the Senior Vice President, Nuclear Operations. See section 3.3 for information concerning the Local Recovery Center.
- D. All major post accident onsite recovery measures shall be performed in accordance with written procedures.
- E. Personnel protective measures shall be taken on initial entries and throughout the assessment and recovery operation to limit exposures As Low As Reasonable Achievable (ALARA) in accordance to SQN EPIP-15, Emergency Exposure Guidelines.
- F. The State of Tennessee has the authority for actions taken offsite however, TVA will serve as an important source of technical and analytical assistance for the State in offsite monitoring and sampling. The Senior Vice President, Nuclear Operations, or his designee will serve as the State's contact for coordination of TVA's efforts in offsite monitoring, sampling and recovery.

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3.3 Local Recovery Center (LRC)

- A. The purpose of the LRC, located at the Sequoyah Training Center (STC), is to provide a nearsite facility for TVA recovery management as well as NRC emergency response personnel and other emergency and/or recovery personnel.
- B. The LRC provides adequate space for TVA and others who may locate there to support the site should additional office space near the site become necessary during the recovery phase.
- C. The LRC will provide dedicated space for NRC personnel containing adequate supplies, communication, and data necessary for them to carry out appropriate functions. See NP-REP, Appendix B for description.

3.4 Radiation Dose Management

- A. Radiological Control (RADCON) personnel will provide monitoring services and dosimetry and prescribe the protective equipment to be used during the recovery of personnel or equipment.
- B. Before entry to the affected area is attempted, RADCON will estimate airborne and direct radiation levels in the recovery area. From the information obtained, respiratory protection and occupancy times will be established.
- C. RADCON personnel will accompany the recovery personnel on the initial entry to confirm that the airborne radioactivity and radiation levels are as expected.
- D. Dose for recovery personnel will be kept within the limits described in EPIP-15, and NP-REP. Respiratory protection factors given in EPIP-15 may be used in determining appropriate respiratory protection for the entry team.
- E. TLD badges worn by recovery personnel will be processed by TVA. Process time for a badge would be approximately 2 hours.
- F. Although an emergency situation transcends the normal requirements of limiting exposure, there are suggested levels in NP-REP and EPIP-15 for exposure to be accepted in emergencies. However, every reasonable effort to minimize exposure to ALARA would be made, even in emergencies.

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4.0 RECORD RETENTION

4.1 Records of Classified Emergencies

The materials generated in support of key actions during an actual emergency classified as NOUE or higher are considered Lifetime retention Non-QA records. Materials shall be forwarded to the EP Manager who shall submit any records deemed necessary to demonstrate performance to the Corporate EP Manager for storage.

4.2 Drill and Exercise Records

The materials deemed necessary to demonstrate performance of key actions during drills are considered Non-QA records. These records shall be forwarded to the EP Manager who shall retain records deemed necessary to demonstrate six-year plan performance for six years. The EP Manager shall retain other records in this category for three years.

APPENDIX A
Page 1 of 2

TERMINATION GUIDELINES

<p>1. ENSURE THE STABILITY OF THE REACTOR SHUTDOWN CONDITION, I.E. SUCCESSFUL PROGRESS TOWARD A COLD SHUTDOWN CONDITION. COMMENTS:</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A</p>
<p>2. ENSURE THE INTEGRITY OF THE REACTOR CONTAINMENT BUILDING. COMMENTS:</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A</p>
<p>3. ENSURE THE OPERABILITY OF THE ENGINEERED SAFETY SYSTEMS AND DECONTAMINATION FACILITIES. COMMENTS:</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A</p>
<p>4. ENSURE THE AVAILABILITY AND OPERABILITY OF A HEAT SINK. COMMENTS:</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A</p>
<p>5. ENSURE THE INTEGRITY OF POWER SUPPLIES AND ELECTRICAL EQUIPMENT. COMMENTS:</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A</p>
<p>6. ENSURE THE OPERABILITY AND INTEGRITY OF INSTRUMENTATION INCLUDING RADIATION MONITORING EQUIPMENT AND ANY PORTABLE EQUIPMENT THAT MAY HAVE BEEN ASSIGNED DURING THE EMERGENCY. COMMENTS:</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A</p>
<p>7. ENSURE THE AVAILABILITY OF TRAINED PERSONNEL AND SUPPORT SERVICES. COMMENTS:</p>	<p><input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A</p>

Continued on next page.

APPENDIX A
Page 2 of 2

TERMINATION GUIDELINES

<p>8. ENSURE THAT ANY RADIOLOGICAL EFFLUENT RELEASES ARE UNDER CONTROL. COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
<p>9. COORDINATE THE TERMINATION OF THE EVENT WITH THE CECC DIRECTOR, TECHNICAL SUPPORT AND OPERATIONS. COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
<p>10. COORDINATE WITH SQN RADIOLOGICAL CONTROL OR CHEMISTRY MANAGER SPECIFICS REGARDING THE USE OR NEED FOR POST ACCIDENT SAMPLING. COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
<p>11. CONTACT CECC DIRECTOR AND MAKE SURE STATE IS ABLE TO PERFORM THEIR FUNCTIONS. COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
<p>12. ENSURE THAT THE CECC DIRECTOR HAS INFORMED THE NRC AND THE AFFECTED STATE AGENCIES THE DECISION TO TERMINATE THE EMERGENCY. AND THAT HE/SHE HAS ANNOUNCED THAT THE EMERGENCY HAS TERMINATED AND THE RECOVERY PHRASE IS TO BE INITIATED. COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A

Site Emergency Director (Signature) _____ TIME _____
 Date ____/____/____
 FORWARD TO EMERGENCY PREPAREDNESS MANAGER, OPS 41-SQN

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APPENDIX B
Page 1 of 1

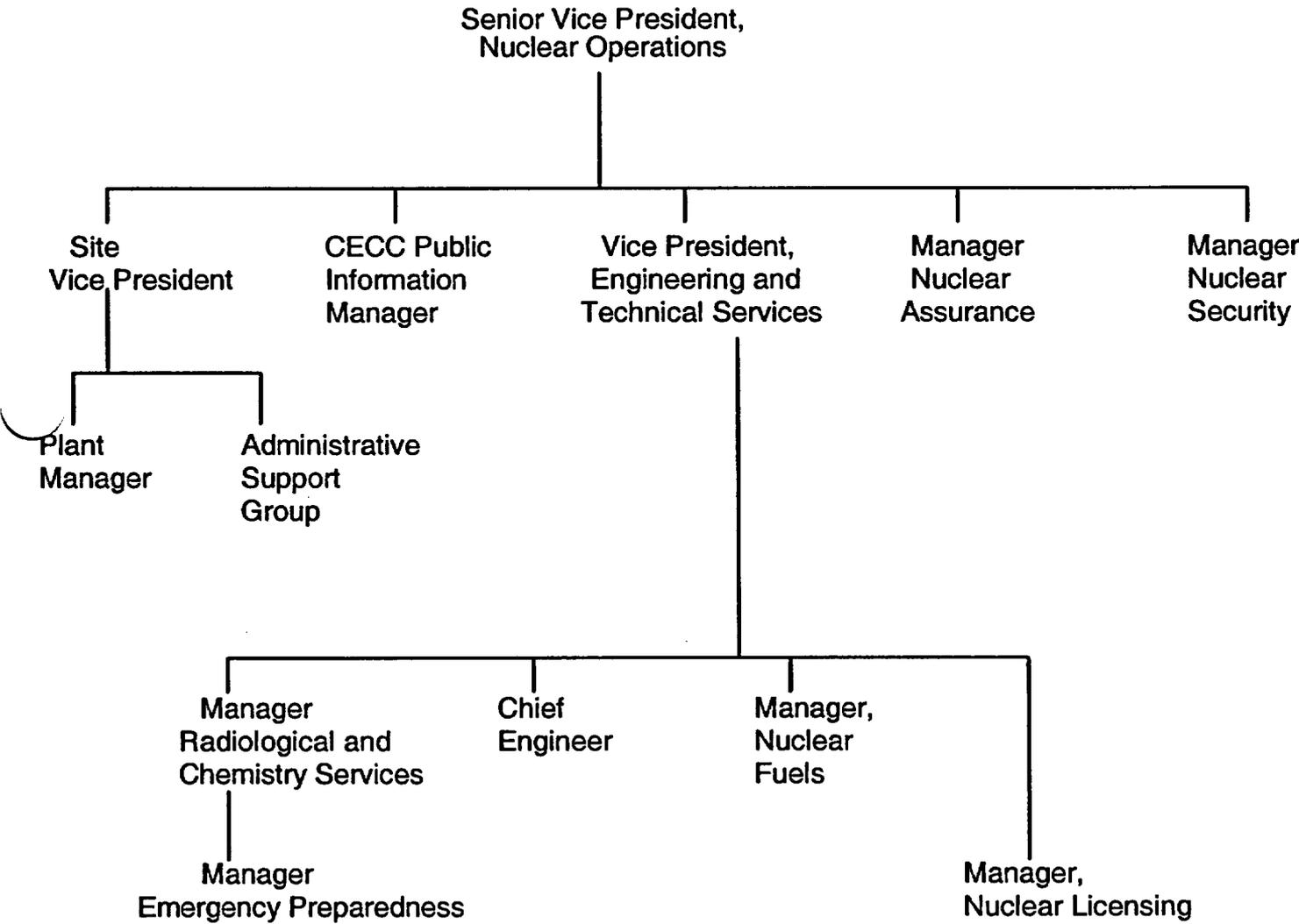
RECOVERY GUIDELINES

<p>1. ENSURE THAT A DETAILED SEQUENCE OF EVENTS IS RECONSTRUCTED COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
<p>2. ENSURE THAT THERE IS A RECONSTRUCTION OF OPERATION'S ACTIVITIES DURING THE EVENT (I.E., SYSTEM ALIGNMENTS AND EQUIPMENT CONFIGURATIONS). COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
<p>3. ENSURE THAT A RECOVERY ORGANIZATION IS ESTABLISHED AND THAT DIRECTION AND CONTROL ARE PROVIDED. SEE APPENDIX C FOR ORGANIZATION STRUCTURE. COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
<p>4. COORDINATE ASSESSMENT OF CURRENT CONDITIONS AND PLANNED RECOVERY ACTIVITIES FOR TECHNICAL SPECIFICATION IMPACT. COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
<p>5. ENSURE A RECOVERY PLAN INCLUDES WRITTEN PROCEDURES FOR ALL MAJOR POST INCIDENT RECOVERY MEASURES. THESE PROCEDURES MAY INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:</p> <ul style="list-style-type: none"> • FIRST REACTOR BUILDING ENTRY • FIRST CONTAINMENT BUILDING ENTRY • DAMAGE EVALUATION • DECONTAMINATION • DISASSEMBLY • REPAIR • DISPOSAL • TEST AND STARTUP OF RESTORED FACILITIES <p>COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
<p>4. ENSURE THAT STATION RECOVERY ACTIVITIES ARE CONDUCTED IN ACCORDANCE THE RADIATION EXPOSURE LIMITS OF 10 CFR 20 AND SQN EPIP-15. COMMENTS:</p>	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A

Site Emergency Director (Signature) _____ TIME _____
Date ____/____/____
FORWARD TO EMERGENCY PREPAREDNESS MANAGER, OPS 4I-SQN

APPENDIX C
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TVA RECOVERY ORGANIZATION



For position responsibilities refer to the Radiological Emergency Plan, Section 13.2.