



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

October 5, 2001

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

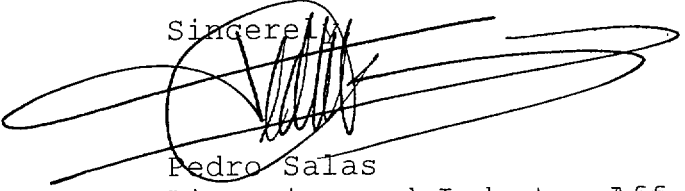
**SEQUOYAH NUCLEAR PLANT - UNITS 1 AND 2 - EMERGENCY PLAN  
IMPLEMENTING PROCEDURE (EPIP) REVISIONS**

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	34	Activation and Operation of the Technical Support Center
EPIP-7	20	Activation and Operation of the Operations Support Center (OSC)
EPIP-13	2	Dose Assessment
EPIP-14	17	Radiological Control Response
EPIP-17	22	Emergency Equipment and Supplies

This letter is being sent in accordance with 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

Enclosures

A045

TENNESSEE VALLEY AUTHORITY  
SEQUOYAH NUCLEAR PLANT  
EMERGENCY PLAN IMPLEMENTING PROCEDURE

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

Revision 34

**QUALITY RELATED**

PREPARED BY: W. C. Peggram  
RESPONSIBLE ORGANIZATION: Emergency Preparedness  
APPROVED BY: J. Randy Ford  
EFFECTIVE DATE: 10/01/2001  
Level of Use: Reference

### Revision History

Rev	Date	Reason for Revision
32	03/30/2001	Clarified inter-relation of Appendix 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 Appendices BB and CC.
34	10/01/2001	Revised Appendix L to instruct the clerks to disable "Memory Fax" option (PER 01-006615-000). Deleted Appendix Y (PER 01-008461-000). Revised Title for Appendix Z due to no longer having equipment listed in Appendix. Minor formatting changes.

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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 during an Alert, Site Area Emergency, and General Emergency.

## **2.0 REFERENCES**

### **2.1 Interface Documents**

- A. EPIP-15, "Emergency Exposure Guidelines"
- B. EPIP-16, "Termination and Recovery"
- C. O-SO-67-3, "ERCW Strainers and Traveling Screens"
- D. EPIP-7 "Activation and Operation of the Operations Support Center"
- E. EPIP-14 "Radiological Control Response"

### **2.2 Developmental Documents**

- A. Memorandum from J. B. Hosmer to R. J. Johnson dated 1/15/88, Implementing PRDCS and Operation Training (RIMS-B25880115028)
- B. EPIP-7, "Activation and Operation of the Operations Support Center (OSC)"

## **3.0 INSTRUCTIONS**

### **3.1 Declaration of the Event**

The Shift Manager (SM) upon detection of an emergency condition becomes the Site Emergency Director (SED), classifies the emergency, and declares the event. Upon arrival of the Plant Manager or alternate defined in the Duty Roster or Call List, the SM will be relieved of the SED duties. Appendix U may be used to ensure a complete turnover. The SED activates and operates the TSC (Appendix B) and oversees the operations of the Operations Support Center (OSC).

#### **3.1.1 Procedure Usage**

During declared radiological emergencies follow procedures to the extent practical. Regardless of the use of procedures, system configuration will be maintained.

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### 3.2 Activation of the TSC

#### 3.2.1 Shift Manager (SM)

The SM will activate the TSC and OSC by announcing the emergency condition by one or more of the following methods.

- A. Plant Public Address (PA) announcement.
- B. The SM or Operations Clerk will normally activate the Emergency Paging System (EPS) or, contact the persons designated on the call list. If the EPS cannot be activated from the site, contact the Operations Duty Specialist (ODS) on the ringdown line or 5-751-1700 and have the EPS activated from the CECC.
- C. The SM may activate the onsite emergency sirens at an "Alert" and shall activate the sirens at a "Site Area Emergency" or "General Emergency."

#### 3.2.2 Call List

The Emergency Preparedness Manager (EPM) shall maintain a call list listing all TSC personnel by name, plant and home telephone numbers. The REP Call List will be updated at least quarterly by the EPM or designee with input by the appropriate section/group supervisors. The list will be provided to the SM and placed in the TSC.

#### 3.2.3 Response

Personnel performing the following REP functions should report to the TSC, or the assigned TSC support locations (see NP-REP Appendix B Figure B-3 for TSC Layout), upon announcement of an "ALERT" or higher emergency classification or at the direction of the SED.

- A. Site Vice President
- B. Site Emergency Director
- C. Operations Manager
- D. Technical Assessment Manager
- E. Operations Advisor, TAT
- F. Site Security Manager
- G. Radiological Control Manager (RCM)
- H. Chemistry Manager
- I. NRC Coordinator
- J. Control Room Communicator (affected Unit Control Room)
- K. EP Manager
- L. TSC Clerical/Logkeeper Staff (Clerical will be called)
- M. Maintenance Manager
- N. Technical Assessment Team
- O. Operations Communicator
- P. Other Plant staff the SED determines to be necessary to support TSC functions will be called.

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### 3.2.4 TSC Operations

The TSC shall operate to ensure the following:

- A. Provide plant management and technical support to plant operations personnel during emergency conditions.
- B. Perform CECC functions for the Alert Emergency class, the Site Area Emergency class, and General Emergency class until the CECC is functional.
- C. Help the reactor operators determine the plant safety status.
- D. Relieve the reactor operators of peripheral duties and communications not directly related to reactor system manipulations.
- E. Prevent congestion in the control room.
- F. Provide assistance to the operators by technical personnel who have comprehensive plant data at their disposal.
- G. Provide a coordinated emergency response by both technical and management personnel.
- H. Provide reliable communications between onsite and offsite emergency response personnel.
- I. Provide a focal point for development of recommendations for offsite actions.
- J. Provide relevant plant data to the NRC for its analysis of abnormal plant operating conditions.

### 3.2.5 Site Vice President

The Site Vice President serves as a corporate interface for the SED, relieving him from duties which could distract from the SED's primary purpose of plant operations and accident mitigating activities. The Site Vice President shall provide assistance in the areas of TVA Policy, site resources, direct interface with the CECC, onsite media, NRC, FEMA, or other federal organizations responding to the site. The Site Vice President may assist the SED as requested. Appendix A, Site Vice President Checklist, shall be used to ensure required actions are completed.



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### **3.2.6 Site Emergency Director (SED)**

The SED directs activities of the onsite emergency organization; determines the emergency classification; initiates protective actions onsite; prior to the CECC being staffed, makes notification of escalated emergency classification to the State and recommendations for protective actions to State and local agencies in accordance with Appendix R, Protective Action Recommendation Guidance or EPIP-5; coordinates emergency actions with onsite NRC; and approves or authorizes emergency doses that will exceed occupational dose limits. May be relieved by the Operations Manager as needed. Appendix B, Site Emergency Director Checklist, shall be used to ensure required actions are completed.

### **3.2.7 Operations Manager**

The Operations Manager directs operational activities; informs SED of plant status and operational problems; provides input to the SED for emergency classification declaration; performs damage assessment as necessary; and recommends solutions and mitigating action for operational problems. The Operations Manager may relieve the SED when the SED must leave the TSC. Appendix C, Operations Manager Checklist, shall be used to ensure required actions are completed.

### **3.2.8 Technical Assessment Manager (TAM)**

The TAM directs onsite effluent assessment; directs activities of Technical Assessment Team (TAT); provides information, evaluations, and projections to the SED; provides input to the SED for emergency classification declaration; coordinates assessment activities with the CECC plant assessment team; and establishes and maintains a status of significant plant problems. Appendix D, Technical Assessment Manager Checklist, shall be used to ensure required actions are completed.

### **3.2.9 Technical Assessment Team (TAT)**

The TAT prepares and provides periodic current assessment on plant conditions and provides this information to the CECC Plant Assessment Team on Appendix Q when requested; monitors and trends key plant parameters against EAL criteria and provides technical assessment; projects future plant status based on present plant conditions; provides technical support to plant operations on mitigating actions. Appendix N, Technical Assessment Team Checklist, shall be used to ensure required actions are completed.

### **3.2.10 Operations Advisor, TAT**

The Operations Advisor, TAT operates the ICS to obtain plant status and parameters; completes plant parameter data sheets, as needed, and provides information from the Control Room to the Technical Assessment Manager and Technical Assessment Team. Appendix E, Operations Advisor, TAT Checklist, shall be used to ensure required actions are completed.

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### **3.2.11 Site Security Manager**

The Site Security Manager directs activities of Site Security; controls access to site and control room; and reports on site accountability/evacuation. Appendix F, Site Security Checklist, shall be used to ensure required actions are completed.

### **3.2.12 Radiological Control Manager**

The TSC RCM directs assessment of inplant and onsite radiological conditions; coordinates additional RADCON support with CECC; recommends protective actions for onsite personnel to the SED; after notifying the SED authorizes KI issue; coordinates assessment of radiological conditions offsite with CECC; and provides RADCON surveillance/support to MET station personnel ensuring the Maintenance Manager is tracking those off-site personnel on the Team Tracking Board. Provides input to the SED for emergency classification declaration and PARs. Appendix G, RADCON Manager Checklist, shall be used to ensure required actions are completed.

### **3.2.13 Chemistry Manager**

The Chemistry Manager coordinates assessment of radioactive effluents with the CECC; directs post accident sampling system (PASS) activities; directs the initiation of onsite/off-site dose assessment if needed prior to the CECC being staffed; and determines impact of the incident on radwaste and various effluent treatment systems; and provides input to the SED for emergency classification and PARs. Appendix H, Chemistry Manager Checklist, shall be used to ensure required actions are completed.

### **3.2.14 NRC Coordinator**

The NRC Coordinator acts as primary liaison with onsite NRC personnel; updates NRC personnel on plant status; and obtains information from TSC personnel as requested by the NRC; and may be assigned communication duties on the ENS line to the NRC. Appendix I, NRC Coordinator Checklist, shall be used to ensure required actions are completed.

### **3.2.15 Control Room Communicator**

The Control Room Communicator serves in the control room as the communications interface with the Operations Communicator in the TSC and OSC Operations Advisor; provides advice regarding Technical Specifications, system response, safety limits, etc.; communicates status of plant systems and major equipment, automatic and manual initiation of ESF equipment, important system parameters, procedure transitions, and communicates messages between the Shift Manager and the TSC; assists in development of recommended solutions to developing problems; informs the Operations Communicator and OSC Ops. Advisor of Ops. personnel/teams dispatched by the SM. Appendix J, Control Room Communicator Checklist, should be used to ensure required actions are completed.

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### **3.2.16 EP Manager**

The EP Manager advises the SED regarding the overall radiological emergency plan, use of implementing procedures, emergency equipment availability, and coordination with CECC; and confirms TSC and OSC are operating properly. He will keep the plant staff informed, by P/A system, of current plant conditions as directed by the SED. He will be responsible for the call in of Clerks (action may be delegated). He will provide assistance to the OSC Manager as requested. Appendix K, EP Planning Manager Checklist, shall be used to ensure required actions are completed.

### **3.2.17 TSC Clerical/Logkeeper Staff**

The TSC clerks provide logistics support to the TSC. The designated TSC logkeeper will maintain a chronological log of the SED and TSC activities. The log should include entries such as decisions made by the SED, content of SED discussions, time of classification upgrades and PARs and the level of each, status of repair and damage control teams, briefing times and any other entry as directed by the SED. The logkeeper may prepare briefing notes for the SED. The notes should include activities since the last briefing and include team status, changes in classification and PARs, and current plant conditions. The TSC logkeeper should have some technical writing ability. Appendix L, TSC Clerical Staff Checklist, shall be used to ensure required actions are completed.

### **3.2.18 Maintenance Manager**

The Maintenance Manager maintains communications between the OSC and TSC, maintains cognizance of dispatched teams and status, and assists the SED and OSC Manager in establishing OSC work priorities. Appendix M, Maintenance Manager checklist, shall be used to ensure required actions are completed.

### **3.2.19 Operations Communicator**

The Operations Communicator monitors the Control Room Operations Bridge, provides information from the MCR to the TSC, and maintains a current log of major operational events for the Operations Manager's use. Appendix AA shall be used to ensure required actions are completed.

## **3.3 Termination and Deactivation**

- A. The TSC will be deactivated when the indicated plant conditions are such that in accordance with EPIP-16 "Termination and Recovery" the emergency has been terminated, and the OSC has been deactivated.
- B. All records generated during the operation of the TSC and OSC have been reviewed and forwarded to the Emergency Preparedness Manager.
- C. All equipment and usable supplies have been returned to their storage locations.

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## **4.0 RECORDS**

### **4.1 QA Records**

The following appendices and checklists necessary to demonstrate key actions during an emergency are considered QA records. These records shall be forwarded to the EP Manager who shall submit QA records and any other records deemed necessary to corporate Emergency Preparedness for maintenance.

- A. TSC Checklists
- B. Plant Parameter Data Sheets
- C. Predictive Release Data Sheets
- D. TSC Accident Assessment Sheets
- E. TSC Log Book

### **4.2 Non-QA Records**

The appendices and checklists in this instruction necessary to demonstrate key actions during NRC evaluated exercises will be retained by the SQN EP Manager for at least two years.

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APPENDIX A  
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SITE VICE PRESIDENT

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |       |   |
|-------|---|
| _____ | 1. Fill out the Organizational/Staffing Chart.  |
| _____ | 2. Establish log of communications/events.  |
| _____ | 3. Establish contact with the Media Relations Specialist.   |
| _____ | 4. Check the status of emergency actions already in effect such as accountability or site evacuation. |

OPERATIONAL RESPONSIBILITIES

- Provides TVA policy direction to the Site Emergency Director.
- Directs the site resources to support the SED in the accident mitigation activities.
- Provides direct interface on overall site response activities with NRC, FEMA, Federal organizations, the CECC Director, and onsite media.
- At your discretion, may provide interface at the appropriate offsite location on the overall site response activities with State and Local agencies, NRC region/corporate, and the Joint Information Center.
- 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.
- 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.

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APPENDIX B  
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SITE EMERGENCY DIRECTOR

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- \_\_\_\_\_ 1. Obtain turnover briefing from SM/SED in accordance with Appendix U (may be done concurrent with this Appendix).  
Note: Transfer of responsibilities does not take place until Step 8 below has been confirmed.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing Chart.
- \_\_\_\_\_ 3. Establish log of communications/events.
- \_\_\_\_\_ 4. 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.)
- \_\_\_\_\_ 5. Note that if the emergency classification is escalated, and the CECC has not assumed responsibility for communications with the State, ensure the State is notified within 15 minutes by implementing EPIP-3, EPIP-4 or EPIP-5, as appropriate.
- \_\_\_\_\_ 6. Check the status of emergency actions already in effect such as accountability or site evacuation.
- \_\_\_\_\_ 7. Review checklist with key positions (Operations, Technical Assessment Manager, RADCON, Maintenance Manager, etc.).
- \_\_\_\_\_ 8. Ensure minimum staffing is present for TSC operability. The following individuals must be present:
  - SED
  - RADCON Manager
  - Operations Mgr or Ops Communicator
  - TAM or TATL or (Reactor & Mech & Elec Engineers)
- \_\_\_\_\_ 9. Assume role of SED from SM/SED and
  - Notify CECC that TSC is operational.
  - Notify OSC that TSC is operational.
  - Announce on plant PA system TSC is operational.
- \_\_\_\_\_ 10. Clearly announce the time of activation of the TSC and OSC to the TSC and OSC staffs.

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SITE EMERGENCY DIRECTOR

OPERATIONAL RESPONSIBILITIES

- Periodically briefs the TSC/OSC staff on the current situation.
- Periodically direct key TSC positions to provide status summary to TSC staff.
- Periodically updates the plant staff on plant status and emergency conditions.
- Periodically reviews operation of the OSC with the OSC Manager.
- Directs activities of onsite emergency organizations.
- Consults with the CECC Director and Site VP on important decisions.
- Initiates onsite protective actions.
- When necessary, establish a RADCON checkpoint for site evacuation.
- Coordinates emergency actions with onsite NRC.
- Initiates long-term 24 Hour/day operation.
- Approves or authorizes, in accordance with EPIP-15, emergency doses that may exceed occupational dose limits. This responsibility cannot be delegated.
- Prior to the CECC being staffed, in accordance with Appendix R 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.
- Determines 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. The classification of the event cannot be delegated.
- Evaluates conditions and determines if additional emergency procedures should be implemented.
  - a. CECC EPIP-9 "Emergency Environmental Radiological Monitoring Procedures"
  - b. SQN EPIP-10 "Medical Emergency Response"
  - c. PHYSI-32 "Security Instructions to Members of the Security Force"
  - d. SQN EPIP-8 "Personnel Accountability and Evacuation"
  - e. SQN EPIP-13 "Dose Assessment"
  - f. SQN EPIP-14 "Radiological Control Response"

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SITE EMERGENCY DIRECTOR

OPERATIONAL RESPONSIBILITIES CONTINUED

- Assumes responsibility for Severe Accident Management when directed by the MCR and the TSC is functional and the SAMG evaluators are monitoring the Diagnostic Flow Chart. The TSC must have Three evaluators monitoring SAMGs to assume the accident responsibility.

DEACTIVATION RESPONSIBILITIES

- Declare the event to be terminated in accordance with EPIP-16 "Termination and Recovery."
- Activate recovery personnel.
- Declare the OSC is deactivated.
- Declare the TSC deactivated



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APPENDIX C  
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OPERATIONS MANAGER

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |       |   |
|-------|---|
| _____ | 1. Fill out the Organizational/Staffing Chart.  |
| _____ | 2. Establish log of communications/events.  |
| _____ | 3. Log on to ICS.   |
| _____ | 4. Check the status of emergency actions already in effect such as Accountability or Site Evacuation.   |
| _____ | 5. Verify notification of the NRC has been accomplished.  |
| _____ | 6. Designates an operationally competent person to establish and maintain communications with the NRC via the NRC emergency communication phones. |

OPERATIONAL RESPONSIBILITIES

- Directs operational activities.
- Provide input to the SED for emergency classification.
- Informs the SED of plant status and operational problems.
- Recommends solutions and mitigating action for operational problems.
- Periodically reviews the emergency status with the control room. Reviews trended parameters, time history information, and status boards with the control room staff.
- Assures the control room is aware of the TSC accident assessment.
- 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

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APPENDIX D  
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TECHNICAL ASSESSMENT MANAGER

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |  |   |
|--|---|
|  | 1. Fill out the Organizational/Staffing Chart.  |
|  | 2. Establish log of communications/events.  |
|  | 3. Check the status of emergency actions already in effect such as Accountability or Site Evacuation.         |
|  | 4. Check status of staff members (TATL, Rx Engr, Mech Engr, Elec Engr, TAT Ops Advisor and Westinghouse Rep). |

OPERATIONAL RESPONSIBILITIES

- 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.
- Coordinates assessment activities with the CECC Plant Assessment team.
- Establishes and maintains a status of significant plant problems.
- Assures information on EPIP-6, Appendix P, 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-043-066.0 is initiated as required.
- Provides for trending of significant parameters.
- Designates personnel to maintain Plant Status and Trending Boards.
- Provide input to the SED for emergency classification.

APPENDIX E  
Page 1 of 1

OPERATIONS ADVISOR, TAT

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |       |  |
|-------|--|
| _____ | 1. Fill out the Organizational/Staffing Chart.   |
| _____ | 2. Log on to ICS.  |
| _____ | 3. Establish contact with the Control Room. (Dial x101)  |
| _____ | 4. Check the status of emergency actions already in effect<br>such as Accountability or Site Evacuation. |

OPERATIONAL RESPONSIBILITIES

- Operates ICS to obtain plant status and parameters.
- Monitors procedure direction taken by the main control room operators and keeps TATL 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.
- Completes portions of plant parameters data sheets (Appendix O and Appendix P) as needed.
- Plots/trends as designated by TAM.
- Obtains supplemental data as needed by the TSC, OSC, or CECC.

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APPENDIX F  
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SITE SECURITY MANAGER

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |       |  |
|-------|--|
| _____ | 1. Fill out the Organizational/Staffing Chart.   |
| _____ | 2. Establish log of communications/events.   |
| _____ | 3. Establish contact with the CAS and the SAS.   |
| _____ | 4. Check the status of emergency actions already in effect such as Accountability or Site Evacuation and report status to the SED. |

OPERATIONAL RESPONSIBILITIES

- Directs activities of Site Security personnel.
- Controls access to Site and control room.
- Reports on site accountability/evacuation as defined in EIPs.
- Assures an officer is dispatched to areas outside the protected area such as the STC, Old Visitor Center, Livewell, and Design Services Complex during accountability / evacuation.
- Advises incoming emergency response personnel at the gate house of any radiological hazards in route to the TSC or OSC.
- Assists in establishing search teams, as required.
- Provides status updates to Site Security personnel.

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APPENDIX G  
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RADCON Manager

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |  |  |
|--|--|
|  | 1. Fill out the Organizational/Staffing Chart.   |
|  | 2. Establish log of communications/events.   |
|  | 3. Establish contact with the OSC RADCON Supervisor (Bridge x103), the radiological monitoring van (if dispatched), and the CECC Radiological Assessment Coordinator (RAC) or Radiological Assessment Manager if the RAC is not available. |
|  | 4. Log on to ICS.  |
|  | 5. Check the status of emergency actions already in effect such as Accountability or Site Evacuation.  |

OPERATIONAL RESPONSIBILITIES

- Remains cognizant of assessments of inplant and onsite radiological conditions from the OSC RADCON Manager.
- Keeps the CECC Radiological Assessment Coordinator informed of site radiological conditions.
- Coordinates supplemental RADCON support with the CECC Radiological Assessment Coordinator
- Makes recommendations for protective actions for onsite personnel to the SED.
- Authorizes issue of KI to onsite personnel, after informing SED.
- Coordinates assessment of radiological conditions offsite with CECC Radiological Assessment Coordinator.
- 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.
- Assures the RADCON Laboratory Supervisor has designated a qualified/ knowledgeable person to provide inplant radiological data to the NRC HP Network (HPN) upon request.
- Provides periodic status reports to the SED on radiological conditions and input on the emergency classification and PARs.

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APPENDIX H  
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CHEMISTRY MANAGER

INT/TIME

- |  |   |
|--|---|
|  | 1. Fill out the Organizational/Staffing Chart.  |
|  | 2. Establish log of communications/events.  |
|  | 3. 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. |
|  | 4. Log on to ICS.   |
|  | 5. Check the status of emergency actions already in effect such as Accountability or Site Evacuation.   |

OPERATIONAL RESPONSIBILITIES

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

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APPENDIX I  
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NRC COORDINATOR

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |  |   |
|--|---|
|  | 1. Fill out the Organizational/Staffing Chart.  |
|  | 2. Establish log of communications/events.  |
|  | 3. Check the status of emergency actions already in effect such as Accountability or Site Evacuation. |
|  | 4. Contact the Operations Manager to determine if the ENS line requires continuous communications.    |

OPERATIONAL RESPONSIBILITIES

- Acts as primary liaison with onsite NRC personnel.
- Updates NRC personnel on plant status.
- Provides information requests from NRC to TSC personnel.
- Maintain contact with the NRC on ENS line, if requested and coordinate the transfer of responsibility for ENS continuous communications with the MCR..
- Obtain copy of Appendix Q from the TATL and report data to NRC in the event ERDS fails.
- If necessary establish NRC communication at 9-1-301-816-5100 (see below).

If requested to maintain contact with the NRC, coordinate the turnover of responsibilities with the MCR. 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 MCR ENS communicator that you are assuming responsibility and identify yourself as the TSC NRCC. The next page provides information on expected questions and sources of information.

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Typical questions and sources of information:

1. **Classification change and reason** - This information is available thru SED briefings.
2. **Ongoing/imminent damage to the facility, including affected equipment and safety features** - This information should be available thru SED briefings and by discussions at the SED table.
3. **Toxic or radiological release current or projected, both onsite and offsite and what is the basis** - This information should be provided by the Chemistry Manager.
4. **What are the health effects onsite and offsite and how many people are affected** - Same as item 3 only the RadCon Mgr will provide the input.
5. **What is being done to bring the event under control** - this information should be available thru the SED briefings and the OSC tracking board (NRCC will probably need to know why we are doing these items).
6. **Onsite protective measures** - Available by SED briefing.
7. **Offsite protective measures** - Available by SED briefing.
8. **Status of State/local/Federal agencies if known** - This information should be provided by the Site VP through CECC.
9. **Status of public information activities such as alarms, broadcast press releases and status of JIC** - same as 8.



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APPENDIX J  
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CONTROL ROOM COMMUNICATOR

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |  |  |
|--|--|
|  | 1. Fill out the Organizational/Staffing Chart.   |
|  | 2. Pick up headset report to the Control Room (phone is already in MCR).   |
|  | 3. Establish log of communications/events.   |
|  | 4. Establish contact with the TSC Operations Communicator and OSC Operations Advisor. (Dial x101).                             |
|  | 5. Check the status of emergency actions already in effect such as Accountability or Site Evacuation.                          |
|  | 6. Locate all Operations personnel/teams currently or previously tasked and ensure each is tracked on the OSC Ops. Team board. |

OPERATIONAL RESPONSIBILITIES

- 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
- Ensures the OSC Ops. Advisor and TSC Ops. Communicator are informed of the status of all Ops. personnel/teams dispatched by the SM.
- 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.

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APPENDIX K  
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EP MANAGER

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |  |   |
|--|---|
|  | 1. Fill out the Organizational/Staffing Chart.  |
|  | 2. Establish log of communications/events.  |
|  | 3. Check the status of emergency actions already in effect such as Accountability or Site Evacuation. |
|  | 4. Verifies checklists are distributed and are being completed.                                       |
|  | 5. Verifies all essential positions are filled.   |
|  | 6. Verifies all activation activities (TSC and OSC) are proceeding normally.                          |
|  | 7. Call in Clerical Support and other personnel as necessary.   |

OPERATIONAL RESPONSIBILITIES

- Advises the SED regarding overall REP, use of EPIPs, 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 emergency status.
- Ensures Clerks prepare for Shift Turnover using Appendices BB and CC.
- Tracks entry into EAL's and PAR's.

DEACTIVATION RESPONSIBILITIES

- Collect all logs and information from all TSC and OSC staff.
- Return the TSC and OSC to "stand by" condition.

APPENDIX L  
Page 1 of 1

TSC CLERICAL/LOGKEEPER STAFF

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |  |   |
|--|---|
|  | 1. Fill out the Organizational/Staffing Chart.  |
|  | 2. Establish a log of activities.   |
|  | 3. Notify the EP Manager of arrival (if called in by phone to support otherwise N/A). |

OPERATIONAL RESPONSIBILITIES

- Assists in setup and activation of the TSC.
- Maintains accountability of TSC personnel.
- Answers telephones.
- Distributes plant parameter data sheets.
- Uses REP Call List to obtain staff for unfilled positions or replacement staff for shift turnover.
- Operates fax machines. (Note; deactivate memory fax if so equipped, light must be off)  
Provides faxes of AUO status from the OSC to the Operations Manager and TAT Leader.
- Operates the TSC classification clock.
- Logkeeper maintains a chronological log of the SED and TSC activities to include classification changes, PARs, changes in plant conditions, briefings, team status, content of discussions, and decisions made by the SED.
- Logkeeper assists the SED in preparing briefing notes.
- Obtain TSC checklist if requested:

<input type="checkbox"/> SED	<input type="checkbox"/> Ops Mgr	<input type="checkbox"/> RADCON Mgr
<input type="checkbox"/> Site VP	<input type="checkbox"/> Chemistry Mgr	<input type="checkbox"/> TATL
<input type="checkbox"/> Ops Communicator	<input type="checkbox"/> TAT Ops Advisor	<input type="checkbox"/> EP Mgr
<input type="checkbox"/> TAM	<input type="checkbox"/> Maint Mgr	<input type="checkbox"/> NRCC
<input type="checkbox"/> Security	<input type="checkbox"/> Control Room Communicator	
	(on deactivation)	

DEACTIVATION OF THE TECHNICAL SUPPORT CENTER

- Transfers all logs, notes, and other materials to the EP Planning Manager for documentation and storage.
- Deactivates the TSC by returning all equipment, reference materials and supplies to the TSC storage cabinets.

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APPENDIX M  
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MAINTENANCE MANAGER

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |  |   |
|--|---|
|  | 1. Fill out the Organizational/Staffing Chart.  |
|  | 2. Establish log of communications/events.  |
|  | 3. Establish contact with the Assistant OSC Manager or Maintenance Shift Supervisor in the OSC.<br>(Bridge X104). |
|  | 4. Check the status of emergency actions already in effect such as Accountability or Site Evacuation.             |
|  | 5. Check status of deployed emergency response teams.   |

OPERATIONAL RESPONSIBILITIES

- Makes task assignments tasks to the OSC.
- Maintains cognizance of deployed OSC emergency response teams purpose and status.
- Assists the SED and the OSC Manager in determining the relative priorities of activities.
- Monitors the emergency response team tracking.

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TECHNICAL ASSESSMENT TEAM

INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTER

INT/TIME

- |  |   |
|--|---|
|  | 1. Fill out the Organizational/Staffing Chart.  |
|  | 2. Establish log of communications/events.  |
|  | 3. Establish contact with the Technical Assessment Manager.   |
|  | 4. Establish contact with the CECC Plant Assessment Team (751-1629).                                  |
|  | 5. Check the status of emergency actions already in effect such as Accountability or Site Evacuation. |

OPERATIONAL RESPONSIBILITIES

- Prepares and provides current assessment on plant conditions and provides this information to the CECC Plant Assessment Team.
- Project future status based on present plant conditions.
- Provide technical support to plant operations on mitigating actions.
- Monitor containment sump level per Appendix S.
- 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 T.
- Determines the condition of the reactor and nuclear fuel.
- Prepares TSC accident assessment sheet Appendix Q and transmits to the CECC when requested.
- Performs trending of key plant parameters against EAL criteria and provides technical assessment.
- Provides Technical Assessment to TAM on Appendix Q when requested.
- Team leader may designate a TSC log keeper and board writer.

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## APPENDIX N

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- Verifies that all ABSCE doors are closed (call Fire Ops at 7447 or OSC Fire Ops Advisor at 6407).
- Identifies and tracks the status of current ABSCE breaches (call Fire Ops at 7447 or OSC Fire Ops Advisor at 6407).
- Verifies that all Control Room Emergency Ventilation Pressure Boundary (CREVS) doors are closed (call Fire Ops at 7447 or OSC Fire Ops Advisor at 6407).
- Identifies and tracks the status of current CREVS breaches (call Fire Ops at 7447 or OSC Fire Ops Advisor at 6407).
- If all control building battery room exhaust fans are off, then refer to Appendix V.
- Monitor the temperature of the 6.9kv shutdown board rooms in accordance with Appendix V.
- Refer to Appendix W, 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 (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.
- 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 O  
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PLANT PARAMETER DATA SHEETS

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_  
UNIT: \_\_\_\_\_

GENERAL INFORMATION

1. CST LEVEL: (LI-2-230A) \_\_\_\_\_ GAL (LI-2-233A) \_\_\_\_\_ GAL
2. SG HEAT SINK: CONDENSER \_\_\_\_\_ ATMOSPHERE \_\_\_\_\_
3. AFW PUMPS RUNNING: MD-A \_\_\_\_\_ MD-B \_\_\_\_\_ TD \_\_\_\_\_
4. SG LEVELS: NR: (1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_ (4) \_\_\_\_\_ %  
(LI-3-39) (LI-3-52) (LI-3-94) (LI-3-107)  
WR: (1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_ (4) \_\_\_\_\_ %  
(LR-3-43) (LR-3-98)
5. SG PRESSURES: (1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_ (4) \_\_\_\_\_ PSIG  
(PI-1-2A) (PI-1-9A) (PI-1-20A) (PI-1-27A)
6. RVLIS: (LOWER RANGE) (WIDE RANGE) (PLENUM)  
(LI-68-367) \_\_\_\_\_ (LI-68-368) \_\_\_\_\_ (LI-68-369) \_\_\_\_\_ %  
(LI-68-370) \_\_\_\_\_ (LI-68-371) \_\_\_\_\_ (LI-68-372) \_\_\_\_\_ %
7. PZR LEVEL: (LI-68-335) \_\_\_\_\_ (LI-68-320) \_\_\_\_\_ %
8. PZR PRESSURE: (PI-68-342A) \_\_\_\_\_ (PI-68-340A) \_\_\_\_\_ PSIG
9. RCS PRESSURE: WR: (LOOP 1 HOT LEG) (PI-68-69) \_\_\_\_\_ PSIG
10. RCS HL TEMP: WR: (1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_ (4) \_\_\_\_\_ °F  
(TR-68-1) (TR-68-24) (TR-68-43) (TR-68-65)
11. RCS CL TEMP: WR: (1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_ (4) \_\_\_\_\_ °F  
(TR-68-1) (TR-68-24) (TR-68-43) (TR-68-65)
12. RCS FLOW: RUNNING RCPs \_\_\_\_\_ NATURAL CIRCULATION \_\_\_\_\_
13. ECCS STATUS: STANDBY \_\_\_\_\_ INJECT \_\_\_\_\_ RECIRC \_\_\_\_\_ SPRAY \_\_\_\_\_
14. RWST LEVEL: (LI-63-50) \_\_\_\_\_ (LI-63-51) \_\_\_\_\_ %
15. CONTAINMENT SUMP LEVEL: WR: (LI-63-176) \_\_\_\_\_ %
16. CHARGING SI FLOW RATE: (FI-62-93) \_\_\_\_\_ (FI-63-170) \_\_\_\_\_ GPM
17. CONTAINMENT PRESSURE: NR: (PI-30-44) \_\_\_\_\_ (PI-30-45) \_\_\_\_\_ PSID

APPENDIX O  
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PLANT PARAMETER DATA SHEETS

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_  
UNIT: \_\_\_\_\_

GENERAL INFORMATION (Continued)

18. INCORE THERMOCOUPLES:

(Exo-Sensor)	QUAD 1 - (1 of #41,28,24,56,55,29,6)	_____ °F
	QUAD 2 - (1 of #44,22,58,21,16,63,64)	_____ °F
	QUAD 3 - (1 of #54,12,8,40,4,3,7)	_____ °F
	QUAD 4 - (1 of #60,9,45,6,46,42,36)	_____ °F

19. NIS SOURCE RANGE: (N31) \_\_\_\_\_ (N32) \_\_\_\_\_ CPS

DATA BY: \_\_\_\_\_



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PLANT PARAMETER DATA SHEETS

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_  
UNIT: \_\_\_\_\_

RADIATION MONITORS

1. LOWER CONTAINMENT (RM-90-106) (A) PARTICULATE \_\_\_\_\_ CPM  
ISOLATED \_\_\_\_\_ BLOCKED \_\_\_\_\_ (B) TOTAL GAS \_\_\_\_\_ CPM  
0-M-12
2. UPPER CONTAINMENT (RM-90-112) (A) PARTICULATE \_\_\_\_\_ CPM  
ISOL \_\_\_\_\_ BLOCKED \_\_\_\_\_ TO LOWER \_\_\_\_\_ (B) TOTAL GAS \_\_\_\_\_ CPM  
0-M-12
3. SHIELD BLDG VENT (RM-90-400) M-30 Eff. Level \_\_\_\_\_  $\mu$ Ci/sec
4. AUXILIARY BLDG VENT (RM-90-101) (A) PARTICULATE \_\_\_\_\_ CPM  
ISOLATED \_\_\_\_\_ BLOCKED \_\_\_\_\_ (B) TOTAL GAS \_\_\_\_\_ CPM  
0-M-12
5. SG BLOWDOWN: (RM-90-120A) \_\_\_\_\_ (RM-90-121A) \_\_\_\_\_ CPM  
0-M-12 0-M-12
6. CONDENSER EXHAUST:(LR) \_\_\_\_\_ or (LR) \_\_\_\_\_ CPM  
RM-90-99 RM-90-119  
0-M-12 0-M-12
7. ERCW DISCHARGE: HEADER A: \_\_\_\_\_ CPM  
RM-90-133A RM-90-140A  
0-M-12 0-M-12  
HEADER B: \_\_\_\_\_ CPM  
RM-90-134A RM-90-141A  
0-M-12 0-M-12

DATA BY: \_\_\_\_\_

APPENDIX O  
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## PLANT PARAMETER DATA SHEETS

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_  
UNIT: \_\_\_\_\_POST ACCIDENT AND AREA RADIATION MONITORS

1. UPPER CONTAINMENT: (TOP OF #2 & #3 SG) RM-90-271: \_\_\_\_\_ R/HR  
(TOP OF #1 & #4 SG) RM-90-272: \_\_\_\_\_ R/HR
2. LOWER CONTAINMENT: (BETWEEN #2 & #3 SG) RM-90-273: \_\_\_\_\_ R/HR  
(BETWEEN #1 & #4 SG) RM-90-274: \_\_\_\_\_ R/HR
3. SHIELD BLDG VENT (LR/RM-90-260) U1 \_\_\_\_\_ U2 \_\_\_\_\_ MR/HR  
(HR/RM-90-261) U1 \_\_\_\_\_ U2 \_\_\_\_\_ MR/HR  
(FLOW/FE-90-400) U1 \_\_\_\_\_ U2 \_\_\_\_\_ CFM
4. RCDT PUMP DISCH: (RM-90-277) \_\_\_\_\_ (RM-90-278) \_\_\_\_\_ MR/HR
5. RX FLOOR/EQ SUMP  
DISCHARGE HEADER: (RM-90-275) \_\_\_\_\_ (RM-90-276) \_\_\_\_\_ MR/HR
6. RHR PUMP A-A: (LR/RM-90-290) \_\_\_\_\_ (HR/RM-90-291) \_\_\_\_\_ MR/HR  
ROOMS: B-B: (LR/RM-90-292) \_\_\_\_\_ (HR/RM-90-293) \_\_\_\_\_ MR/HR
7. COND VAC EXHAUST: (MR/RM-90-255) \_\_\_\_\_ (HR/RM-90-256) \_\_\_\_\_ MR/HR
8. AREA MONITORS: (RM-90-59) \_\_\_\_\_ MR/HR  
(RM-90-60) \_\_\_\_\_ MR/HR  
(RM-90-61) \_\_\_\_\_ MR/HR
9. ERCW DISCH A: (RM-90-133A) \_\_\_\_\_ (RM-90-140A) \_\_\_\_\_ CPM  
HEADERS: B: (RM-90-134A) \_\_\_\_\_ (RM-90-141A) \_\_\_\_\_ CPM
10. MN STM LINES: (RM-90-421) \_\_\_\_\_ (RM-90-422) \_\_\_\_\_  $\mu\text{Ci/cc}$   
(RM-90-423) \_\_\_\_\_ (RM-90-424) \_\_\_\_\_  $\mu\text{Ci/cc}$

DATA BY: \_\_\_\_\_

APPENDIX O  
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PLANT PARAMETER DATA SHEETS

DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_  
 UNIT: \_\_\_\_\_

RADIOLOGICAL RELEASE DATA

1. RELEASE POINT: \_\_\_\_\_
2. RELEASE RATES: ☐ DECREASING    ☐ STABLE    ☐ INCREASING    ☐ UNKNOWN

AIRBORNE		LIQUID RELEASE				TOTAL RELEASE	
GROSS RELEASES $\mu$ Ci/SEC	ISO- TOPE	CONCENTRATION VALUE	UNITS	FLOW RATE VALUE	UNITS	VALUE	UNITS
NOBLE GAS _____	_____	_____	_____	_____	_____	_____	_____
IODINES _____	_____	_____	_____	_____	_____	_____	_____
PARTICULATE _____	_____	_____	_____	_____	_____	_____	_____
ISOTOPE    RELEASE RATE	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

3. RELEASE BEGAN \_\_\_\_\_ EXPECTED TO END \_\_\_\_\_ EST/EDT. DURATION \_\_\_\_\_ HR  
 RELEASE POTENTIAL: \_\_\_\_\_ Ci, IN VOLUME OF \_\_\_\_\_ (CU FT OR GAL)
4. METEOROLOGICAL CONDITIONS: (IF REQUESTED DUE TO MET DATA LINK INOPERABLE)

DATE	TIME	WINDSPEED	FROM	ELEVATION
TEMPERATURE		(METER/S)	(DEGREES)	(METERS)
DIFFERENTIAL	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

5. REMARKS/COMMENTS:
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

DATA COLLECTED BY: \_\_\_\_\_

APPENDIX P  
Page 1 of 1PREDICTIVE RELEASE DATA SHEETTO: CECC PAT DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ UNIT: \_\_\_\_\_  
DATA NEEDED FOR CECC TO PERFORM PREDICTIVE RELEASE METHODOLOGY

## 1. PRIMARY COOLANT CONCENTRATION

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

## 2. CONCENTRATION OF HYDROGEN IN CONTAINMENT ATMOSPHERE

H CONC (MOLE %): \_\_\_\_\_ DATE: \_\_\_\_\_  
CNTMT TEMP: \_\_\_\_\_ DEGREES F TIME: \_\_\_\_\_  
CNTMT PRESS \_\_\_\_\_ PSID 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 NUMBER	DATE	TIME	READING (°F)	NOTES:
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

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

TIME	RVLIS %	RCS COOLANT ELEVATION (FT)	RCS GALS.* BY VOL.	RCS VOL. BY CUFT.
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

## APPENDIX Q

To: Technical Assessment Manager (cc: CECC PAT & NRC Coordinator)

From: SQN Technical Assessment Team

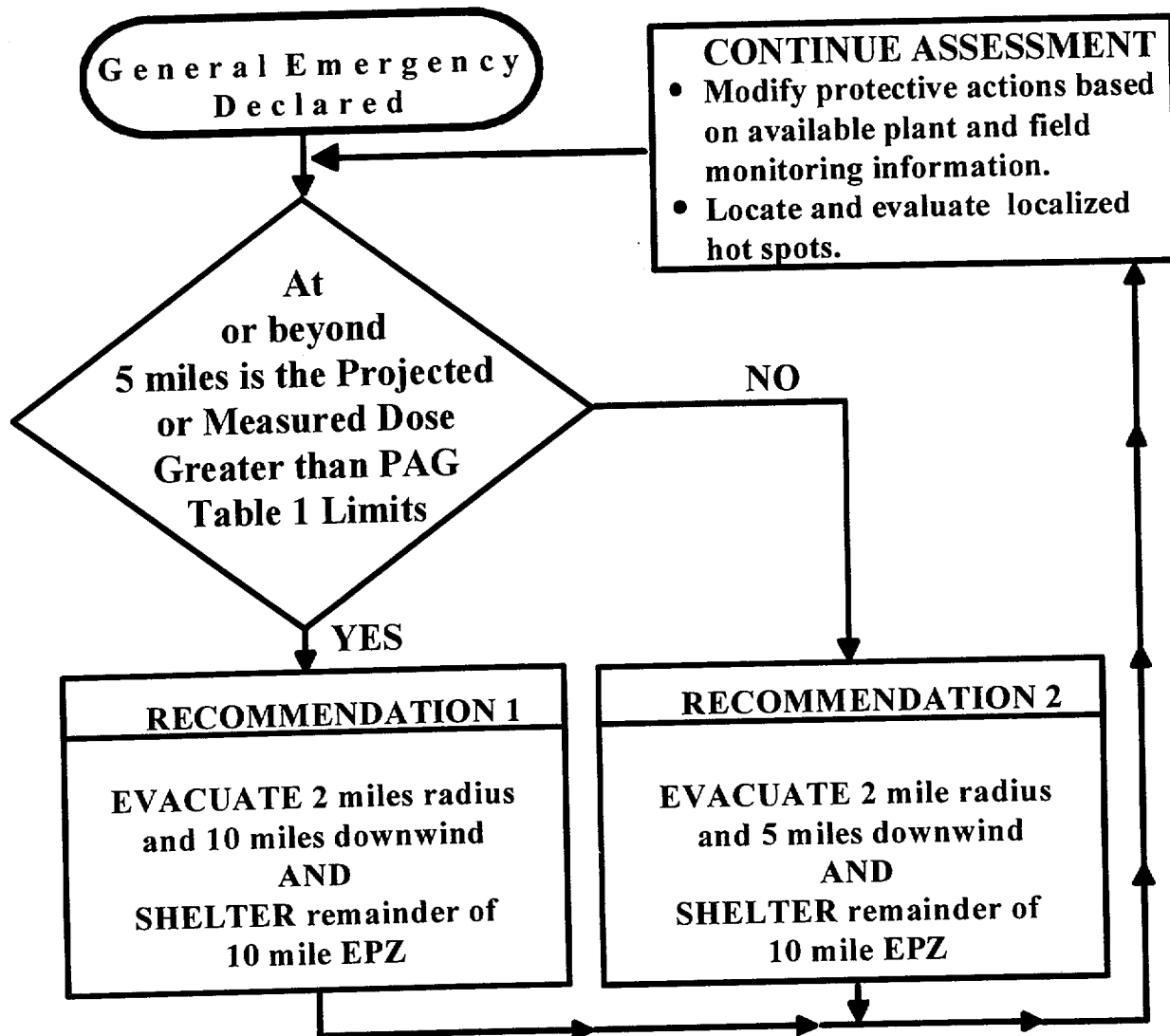
(To be filled out when ICS is not operable or as requested)

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 Breeches, 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 R

Page 1 of 1

PROTECTIVE ACTION RECOMMENDATION LOGIC DIAGRAM**Table 1**

Radioactivity Release Dose

Note: Unknown conditions are assumed less than listed conditions

TYPE	Protective Action Guide (PAG) Limits
Measured	3.9E-6 microCurie/cc Iodine 131
	1 Rem/hr External Dose
Projected	1 Rem TEDE
	5 Rem Thyroid CDE

## APPENDIX S

Page 1 of 1

CONTAINMENT SUMP OPERATION AND LEVEL GUIDANCE

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 37 percent, the sump will operate as designed with full ECCS flow.
7. The limiting set point for sump operation at full flow (37 percent level) is based upon vortex prevention requirements.
8. If recirculation from the sump is required with a low sump level (less than 37 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 T  
Page 1 of 3

ERCW CONCERNS FOR TECHNICAL ASSESSMENT TEAM

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.

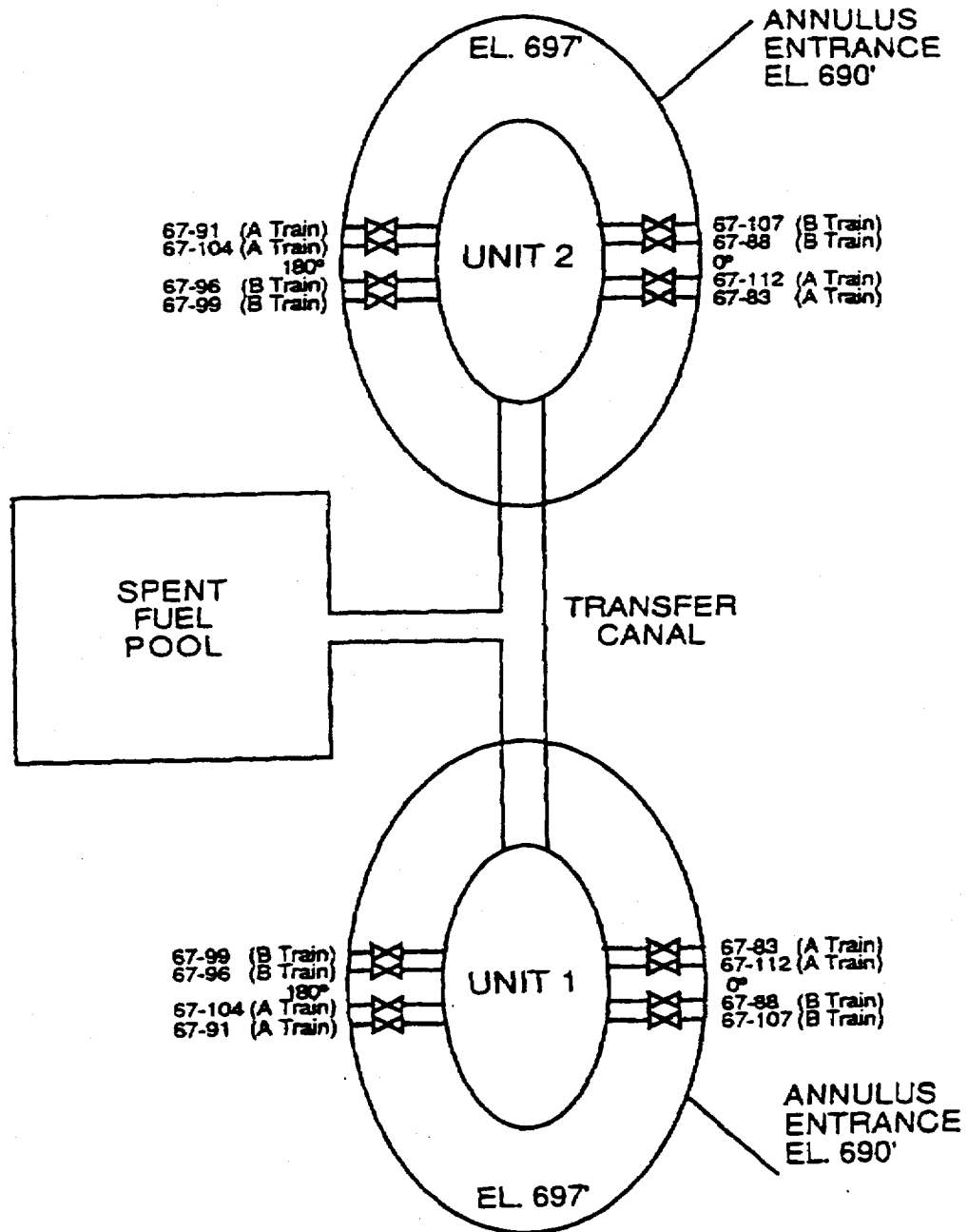
**CAUTION: Prior to initiating ERCW flow to the LCC coils, the potential for water hammer must be considered. Parameters to consider are containment temperature which can cause boiling in the coils, available system pressure to prevent boiling, and maintenance of system inventory after initiating ERCW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



APPENDIX T  
Page 2 of 3ERCW CONCERNS FOR TECHNICAL ASSESSMENT TEAM

- 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 [C.2] 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 T  
Page 3 of 3

APPENDIX U  
Page 1 of 2SED TURNOVER DATASHEET

1. Current Emergency Classification: ☐UE ☐ALERT ☐SAE ☐GE  
EAL(s) \_\_\_\_\_  
Time Declared \_\_\_\_\_ Time ODS Notified \_\_\_\_\_  
State Notified \_\_\_\_\_ Time NRC Notified \_\_\_\_\_
2. Event Description:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Equipment Problems:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Rad Release: ☐ Yes ☐ No  
Onsite Dose Assessment Initiated: ☐ Yes ☐ No  
☐ Filtered ☐ Unfiltered  
☐ Monitored ☐ Unmonitored  
☐ Controlled ☐ Uncontrolled  
Projected Duration \_\_\_\_\_ (Hours/Minutes)  
Wind Speed \_\_\_\_\_ mi/hr Wind Direction From \_\_\_\_\_ Degrees  
Projected TEDE \_\_\_\_\_ mrem @ \_\_\_\_\_ miles  
Projected Thyroid CDE \_\_\_\_\_ mrem @ \_\_\_\_\_ miles
5. Protective Action Recommendations to Offsite Officials (General Emergency Only)  
☐ None ☐1 ☐2 ☐3 ☐4

APPENDIX U  
Page 2 of 2

6. Onsite Protective Actions Taken:

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7. Field Monitoring Vans Activated: ☐ Yes ☐ No

8. Emergency Facilities Activated: ☐ TSC ☐ OSC ☐ CECC

9. Personnel/Actions Dispatched by the SM:

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10. Ensure minimum staffing of the TSC has completed (see App B Step #8)

11. Review this turnover Appendix with SM for any changes.

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12. Ensure Appendix B complete through step 8.

13. SED Responsibility Transferred:

From \_\_\_\_\_ To \_\_\_\_\_  
SED SED

Time \_\_\_\_\_ Date \_\_\_\_\_

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APPENDIX V  
Page 1 of 1

**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 O-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.

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APPENDIX W  
Page 1 of 1

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

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.

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APPENDIX Y  
Page 1 of 1

This appendix has been intentionally deleted.  
Telephone numbers are available in the  
Radiological Emergency Notification Directory (REND).

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APPENDIX Z  
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).<sup>1</sup>
5. Technical Instructions (Selected).<sup>1</sup>
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.

<sup>1</sup> Selection to be made by Technical Support Manager.



## APPENDIX AA

OPERATIONS COMMUNICATOR  
Page 1 of 1INITIAL ACTIVATION OF THE TECHNICAL SUPPORT CENTERINT/TIME

- \_\_\_\_\_ 1. Fill out the Organization/Staffing Chart.
- \_\_\_\_\_ 2. Obtain headset connect to the Control Room  
Operations Bridge(dial X 101).
- \_\_\_\_\_ 3. Provide the completed checklist to the TSC log keeper.

OPERATIONAL RESPONSIBILITIES

- Monitors the Control Room Operations Bridge.
- 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.
- Maintains a current log of major operational events for the Operations Manager's use.

APPENDIX BB  
**TSC ROSTER**

[illegible]

Date of TSC Activation: \_\_\_\_\_

EP Records Coordinator: \_\_\_\_\_

## EMERGENCY RESPONDER NOTIFICATION FORM

## Date \_\_\_\_\_

[illegible]

SOURCE NOTES

REQUIREMENTS

STATEMENT

To address emergency classification by the Site Emergency Director SED) in the TSC.

Operation of ERCW screens/strainers to be consistent with DNE USQD (RIMS-B25871008558).

IMPLEMENTING  
SOURCE DOCUMENT  
STATEMENT

NRC Exercise Weakness 50/327, 328/86-64-08

C.1

NRC-IE-87-52-02 Weakness No. 1 NCO-870324038

C.2

NP Radiological Emergency Plan (NP-REP)

NUREG-0696

TENNESSEE VALLEY AUTHORITY  
SEQUOYAH NUCLEAR PLANT  
EMERGENCY PLAN IMPLEMENTING PROCEDURE

**EPIP-7**

**ACTIVATION AND OPERATION OF THE  
OPERATIONS SUPPORT CENTER (OSC)**

Revision 20

**QUALITY RELATED**

PREPARED/PROOFREAD BY: Bill Peggram

RESPONSIBLE ORGANIZATION: Emergency Preparedness

APPROVED BY Randy Ford

EFFECTIVE DATE: 10/01/2001

LEVEL OF USE: REFERENCE

SQN	ACTIVATION AND OPERATION OF THE OPERATIONS SUPPORT CENTER	EPIP-7 Rev. 20 Page 2 of 37
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# REVISION HISTORY:

19	04/26/2001	RadCon Supervisor in the OSC to reactivate the Emergency Response RWP's that are kept in a deactivated status as a corrective action of PER 01-000449-000. Conditions requiring Habitability surveys were clarified to allow professional discretion in determining when an air sample is necessary. OSC Clerical no longer faxes Maintenance Team status if ERN is functional as this is now available on the web page and now also sends AUO team status. Corrected Procedure Number for Radio Sensitivity Procedure. Changed the reference in Section 3.2.13 from EPIP-14 to EPIP-13. Revised App. O to match current REND. Corrected Title of App. B in Table of Contents. Removed the "yes" or "no" from the RWP line in the RADCON Requirements section of the App.D, OSC Team Briefing/Debriefing Form.
20	10/01/2001	Corrected pagination references on Table of Contents. Corrected title of Materials Coordinator in Table of Contents. Removed Appendix Q - REND section references, removed reference to Section G of the REND from App H. Reworded announcement to dispatch team and added Emergency Tool Kit Numbers and Tools Needed items to Appendix D. Added Security to examples of outlying groups in App. E. Corrected erroneous Appendix E reference to "SITE AREA EMERGENCY declaration" Moved staffing verification to higher on Appendix E checklist. (PER -01-008641-000) Revised format of staffing checks in Appendix E to match Maintenance Briefers. Re-worded reminder to check teams radiological protection status after major changes in Appendix E. Added statements in Appendices A, H and M after major changes, OSC Manager, OSC Safety and Fire Ops Advisor to reassess the status of teams. Reformatted Appendix S to be like EPIP-6 Appendixes BB and CC. Added note to Appendix J for Clerical staff to turn off memory fax mode before faxing.

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## 1.0 PURPOSE

The purpose of this procedure is to describe the activation of the Operations Support Center (OSC), describe the OSC organization, and provide for OSC operation once it has been staffed. The OSC is activated during an "Alert," "Site Area Emergency," or "General Emergency."

## 2.0 REFERENCES

Developmental Documents

- A. EPIP-6, "Activation and Operation of the Technical Support Center"
- B. EPIP-8, "Personnel Accountability and Evacuation"
- C. EPIP-14, "Radiological Control Response"
- D. EPIP-16, "Termination and Recovery"

## 3.0 INSTRUCTIONS

### 3.1 An Alert or higher Emergency Classification

At an Alert or higher Emergency Classification, the OSC Manager will report directly to the OSC and shall be responsible for implementing this procedure and coordinating OSC personnel and activities.

### 3.2 Activation of OSC

#### 3.2.1 Shift Manager (SM) Actions

The SM will activate the OSC by announcing the emergency condition by one or more of the following methods:

- A. Plant Public Address (PA) announcement.
- B. The Shift Manager or operations clerk will normally activate the Emergency Paging System (EPS) or contact the persons designated on the REP Duty Roster and/or Call List. If the EPS cannot be activated from the site, the SM will contact the Operations Duty Specialist (ODS) and have the EPS activated from the CECC.
- C. The SM may activate the onsite emergency sirens at an "Alert" and shall activate the sirens at a "Site Area Emergency" or "General Emergency".



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### 3.2.2 Call List

The Emergency Preparedness Manager (EPM) shall maintain a REP Duty Roster and Call List book listing key OSC 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. This book will be provided to the SM and will also be maintained in the TSC and OSC.

### 3.2.3 Response

The following personnel should report to the OSC or the assigned OSC support location upon announcement of an "ALERT" or higher emergency classification, or at the direction of the SED:

- A. OSC Manager
- B. Assistant OSC Manager
- C. Maintenance Shift Supervisor
- D. OSC RADCON Supervisor
- E. Fire Operations Advisor
- F. OSC Operations Advisor
- G. Two Instrument Maintenance Briefers
- H. Two Mechanical Maintenance Briefers
- I. Two Electrical Maintenance Briefers
- J. RADCON Briefer
- K. Chemistry Shift Supervisor
- L. OSC Personnel Pool Manager
- M. Two Duty Damage Control Teams - one team will dress-out and standby for assignment
- N. RADCON Lab Supervisor
- O. Other plant staff the OSC Manager determines to be necessary to support OSC functions will be called:
  - 1. OSC Clerks
  - 2. OSC Log Keeper
  - 3. HIS-20 Operator
  - 4. Maintenance Personnel needed for support
  - 5. Operations Personnel needed for support
  - 6. Transmission and Customer Service
  - 7. Technical Support Personnel needed for support
  - 8. DCRM support
  - 9. Materials support
  - 10. Industrial Safety support
  - 11. Security Advisor

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### 3.2.4 Maintenance Shift Supervisor (MSS)

The Maintenance Shift Supervisor (MSS) shall ensure that the OSC and Tool Room are unlocked and open for access when required. The MSS maintains responsibility as single point maintenance contact for the Shift Manager until the OSC Manager is in place. The MSS initiates OSC setup and may sign designated actions on the Assistant OSC Manager's Checklist. The MSS may assist in the activation of the Emergency Response Organization to ensure adequate personnel are available. The MSS will provide a briefing to the OSC Manager when he arrives and then becomes the second Assistant OSC Manager.

### 3.2.5 OSC Operation

The OSC shall operate to ensure the following actions are taken:

- A. All personnel or teams previously tasked by the Control Room or Site Emergency Director prior to OSC staffing and activation shall be located and assigned a Team Tracking Letter designation for tracking and debriefing purposes.
- B. All teams shall be briefed and/or coordinated with the OSC prior to dispatch and debriefed by the OSC upon task completion. The exceptions are:
  - AUO teams responding to procedure driven missions or are otherwise under the direction of the SM. These teams shall be tracked on the OSC Ops tracking board via communication between the Control Room Communicator and the OSC Operations Advisor.
  - The Fire Brigade or Medical Emergency Response Team may be briefed in route by radio when response time is critical. These teams will be tracked by the OSC.
  - If an Emergency Response Team is responding or near the task area prior to OSC staffing the team may be briefed by radio or telephone and shall be tracked by the OSC.
  - RADCON Survey Teams and Chemistry Teams may be dispatched directly from their respective labs provided they are coordinated through the OSC RADCON Supervisor and tracked on the RADCON/CHEM board
- C. Each potential damage control and repair team member shall have qualifications verified and dosimetry issued prior to assignment to a response team.
- D. RADCON and Operations should be members of each response team.
- E. Each team should have a radio for communications with the OSC. The Operations or RADCON member of each team should be the radio talker. Muted radios are available for use in radio-sensitive areas of the plant.
- F. RADCON shall maintain sufficient respiratory protection equipment available for issue in a manner that will not delay teams response.

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### 3.2.5 OSC Operation (Continued)

- G. Teams should respond with damage control tool kits to the assigned task.
- H. If a person/team is unable to complete a mission or is reassigned a task after briefing, the OSC shall be immediately notified by the team leader.
- I. At least one Emergency Response Team is on standby at all times.

### 3.2.6 OSC Manager

The OSC Manager is responsible for directing repairs and corrective actions; performing damage assessment; coordinating repair activities with the TSC; coordinating maintenance teams and ensuring proper briefings and accompaniment by RADCON; activating the Fire Brigade, Search and Rescue, and Medical Emergency Response Teams as necessary; relocation of the OSC in accordance with 3.2.6.A; deactivating the OSC. Appendix A, OSC Manager Checklist, shall be used to ensure required actions are completed.

- A. Relocate OSC personnel and equipment to an alternate OSC location when conditions require:
  - 1. Direct OSC RADCON Supervisor to make habitability survey for the OSC if a release has occurred. Surveys are to include direct radiation readings, area swipes, and air activity monitoring as appropriate for the existing conditions and based on good radiological practices.
  - 2. Inform the SED if conditions exceed habitability criteria.
  - 3. Relocate the OSC (upon direction from the SED) to the backup OSC in the O&PS building if it meets habitability requirements.
  - 4. If the backup OSC does not meet habitability criteria, then an alternate location must be selected based on the following criteria:
    - a. Location has adequate access to the plant (preferably is within the Protected Area), has a current radiological survey, is upwind from plant, and has adequate ventilation control.
    - b. Location has adequate communications capabilities (including three telephone circuits).
    - c. Physical size: space for at least 25 persons.
    - d. Provides access to appropriate reference materials, tools, safety equipment, etc.

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### 3.2.7 Assistant OSC Manager

The Assistant OSC Manager maintains continuous communication with the Maintenance Manager in the TSC, ensuring that OSC tasks are entered on the team tracking board/system; initiates an OSC Team Briefing/Debriefing Form, (Appendix D) for each task; assigns tasks to briefing teams; coordinates and directs damage control and repair activities as directed by the OSC Manager; ensures RADCON support for each team; ensures all teams (except as indicated in 3.2.5.B) are briefed before dispatch in accordance with Appendix D; ensures all teams are debriefed upon return to the OSC in accordance with Appendix D. When available, a qualified individual may assume communications and/or boardwriting responsibilities as delegated by the Assistant OSC Manager. Appendix C, Assistant OSC Manager Checklist, shall be used to ensure required actions are completed.

### 3.2.8 OSC RADCON Supervisor

The OSC RADCON Supervisor provides and coordinates RADCON resources; assigns a HIS-20 Operator and calls in additional support as needed; directs the RADCON Lab through the Lab Supervisor; informs the TSC RADCON Manager, OSC Manager and OSC RADCON briefer of current radiological conditions; enters data on the Radcon/Chem tracking board; provides RADCON support for emergency response teams as warranted. Appendix E, OSC RADCON Supervisor Checklist, shall be used to ensure required actions are completed.

### 3.2.9 OSC RADCON Briefer

The OSC RADCON briefer remains informed of the site radiological conditions; provides technical assistance for radiological concerns; assist in technical briefings of OSC teams; ensures each team has a RADCON member present during briefing or may be dispatched with the team; completes applicable portions of Appendix D. Appendix F, OSC RADCON Briefer Checklist, shall be used to ensure required actions are completed.

### 3.2.10 OSC Operations Advisor

The OSC Operations Advisor provides operational advice, plant status, and important system parameters to support the operation; provides Operations personnel as part of OSC response teams as warranted; maintains the Operations tracking board in the OSC. Provide Operations personnel, advice, and plant status to support the entire OSC including briefing emergency response teams as needed. Keeps the TSC Operations Communicator and Control Room Communicator informed of OSC team activities. May provide briefing/debriefing to AUOs as requested by the Control Room Crew and/or SED. Appendix G, OSC Operations Advisor Checklist, shall be used to ensure required actions are completed.

### 3.2.11 Personnel Pool Manager

The OSC Personnel Pool Manager provides and coordinates a pool of qualified maintenance personnel to staff damage control and repair teams. He also tracks individual team members and assesses their future availability for other assignments. Appendix N, Personnel Pool Manager Checklist, shall be used to ensure required actions are complete. The Personnel Pool Manager Log (Appendix R) should be used to manage information regarding individual qualifications and OSC assignments.

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### **3.2.12 Fire Operations Advisor**

The Fire Operations Advisor initiates fire response, medical emergency response, hazardous material containment; provides personnel to support Nuclear Security in searches of hazardous areas. Provides evaluations of the plant environment and recommendations to OSC management on safety aspects of the response team tasks. Contacts the site and/or corporate Safety Specialist as necessary. Maintain status of Fire Ops personnel. Appendix H, Fire Operations Advisor Checklist, shall be used to ensure required actions are completed.

### **3.2.13 Chemistry Shift Supervisor**

The Chemistry Shift Supervisor in the CHEM lab provides first-line direction of Chemistry support personnel; calls in additional support as required; briefs Chemistry personnel on emergency events and status; initiates onsite/off-site dose assessment, per EPIP-13, as directed by the TSC or the Ops. SM; provides Chemistry support to the OSC as needed.

### **3.2.14 OSC Log Keeper**

The OSC Log Keeper ensures status boards are continuously updated to reflect current plant conditions and collects/maintain all original copies of generated documents. Appendix I, OSC Log Keeper, shall be used to ensure required actions are completed.

### **3.2.15 OSC Clerk**

The OSC Clerk provides logistics support to the OSC. Appendix J, OSC Clerical Staff, shall be used to ensure required actions are completed.

### **3.2.16 OSC Site Security Advisor**

The OSC Site Security Advisor coordinates Nuclear Security activities from the OSC when requested by the TSC Security Mgr or OSC Mgr; supports response to fire, medical emergencies, or other security responses; conducts search and rescue operations. Appendix K, OSC Nuclear Security Advisor, shall be used to ensure required actions are completed.

### **3.2.17 OSC Briefer**

The OSC Briefer provides and coordinates resources to support the OSC Manager; provide damage and repair assessments; remain informed of the site conditions; assist in technical briefings of OSC emergency response teams; and complete applicable portions of Appendix D. Appendix L, OSC Briefer Checklist, shall be used to ensure required actions are completed.

### **3.2.18 OSC Industrial Safety Advisor**

Industrial Safety issues are normally handled by the team briefer and/or assistance from Fire Ops when needed. If necessary, Fire Ops will contact site/corp Safety Specialist. When requested, Appendix M, Industrial Safety Advisor Checklist shall be used to ensure required actions are completed.

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### **3.2.19 DCRM Coordinator**

The DCRM Coordinator provides support to OSC personnel by providing drawings, documents, vendor manuals and provides other support as requested. When requested, Appendix O, DCRM Coordinator Checklist, shall be used to ensure required actions are completed.

### **3.2.20 OSC Materials Coordinator**

The Materials Coordinator provides support to the OSC by determining materials availability, coordinating between Power Stores and the OSC and by expediting materials needed. When requested, Appendix P, OSC Materials Coordinator Checklist shall be used to ensure required actions are completed

### **3.3 Deactivation**

The OSC will be deactivated when directed by the SED. Appendix A, OSC Manager Checklist, may be used to ensure required actions are completed.

## **4.0 RECORDS**

### **4.1 QA Records**

The following records generated during real emergency events are considered QA Records. These shall be forwarded to the EP Manager who shall submit QA Records and any other records deemed necessary to corporate Emergency Preparedness for maintenance.

- A. Appendix B, Emergency Conditions Data Sheets
- B. Appendix D, OSC Team Briefing/Debriefing Forms
- C. Appendices for OSC Position Checklists
- D. OSC Log Sheets

### **4.2 Non-QA Records**

The appendices and checklists to this procedure necessary to demonstrate key actions during NRC evaluated exercises, drills, or used to establish/support NRC Performance Indicators will be retained by the SQN EP Manager for at least 2 years.

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APPENDIX A  
Page 1 of 2

OSC MANAGER CHECKLIST

INITIAL ACTIVATION OF THE OPERATIONS SUPPORT CENTER

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Ensure OSC set-up using materials in OSC Storage closet.
- \_\_\_\_\_ 3. Establish a log of activities and communications.
- \_\_\_\_\_ 4. Ensure OSC Briefing Area set-up using materials in OSC storage closet.
- \_\_\_\_\_ 5. Obtain briefing from the MSS.
- \_\_\_\_\_ 6. Establish communications with the TSC and obtain an update of the emergency conditions. Appendix B should be used as a guideline.
- \_\_\_\_\_ 7. Determine location and function of persons/teams currently and previously tasked by the TSC or Control Room and ensure assignment of Team Tracking Letter designation.
- \_\_\_\_\_ 8. Ensure Activation of OSC.
  - a. Ensure minimum staffing in OSC. (See note below)
  - b. Ensure OSC set-up complete.
  - c. Ensure OSC habitability OR relocate OSC in accordance with 3.2.6.A.
  - d. Ensure OSC support personnel are notified of activation, if needed.
- \_\_\_\_\_ 9. Brief OSC Personnel on Plant Conditions, unless SED has provided briefing.
- \_\_\_\_\_ 10. Announce to the OSC and notify the SED the time that OSC is operational and activated.
- \_\_\_\_\_ 11. Establish necessary emergency teams.

NOTE: Minimum staffing requirements are one representative from Mechanical Maintenance, Electrical Maintenance and Instrument Maintenance.

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APPENDIX A  
Page 2 of 2

OSC MANAGER CHECKLIST

OPERATIONAL RESPONSIBILITIES

- Demonstrate command and control of the OSC throughout the emergency.
- Direct Asst. OSC Manager to form teams for accident assessment and repair and Announce the intent to form OSC teams.
- Approve and Announce the dispatching of teams from the OSC.
- Provide supplemental staffing for the OSC if needed.
- Periodically direct key OSC positions to provide status summary to OSC staff or perform briefing yourself.
- Update the SED and TSC Maintenance Manager as needed.
- Ensure that team activities are prioritized and synchronized with the TSC.
- Announce results of OSC teams following debriefing.
- If event duration expected to exceed 12 hours, then establish relief rotations using Appendix S.
- Request habitability survey by RADCON if a release has occurred.
- Reassess each team's radiological and safety protection status after accountability, after major changes in plant conditions and at emergency classification upgrades.
- Relocate the OSC as habitability conditions dictate.
- Maintain a log of communications and activities.
- Informs TSC of as-found plant conditions and status of emergency conditions.
- Ensure the Emergency Response Teams Tracking Boards/System, Radiological Status Boards and other visual displays are kept current.

DEACTIVATION RESPONSIBILITIES

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





APPENDIX B  
Page 2 of 2

OSC MANAGER BRIEFING OUTLINE

Major Instrument and Control Problems: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Environmental Problems

High Rad Levels: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Toxic Gas: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

High Press. Steam Releases: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Other: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Recorded by: \_\_\_\_\_

Time: \_\_\_\_\_

Date: \_\_\_\_\_

APPENDIX C  
Page 1 of 2

ASSISTANT OSC MANAGER CHECKLIST

INITIAL ACTIVATION OF THE OSC

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader - Assistant OSC Manager.  
\_\_\_\_\_ Swipe Accountability Reader - Maintenance Shift Supervisor.
- \_\_\_\_\_ 2. Obtain keys at Work Coordination Center and open cafeteria (if locked), the OSC, and OSC storage room. (May be signed off by MSS)
- \_\_\_\_\_ 3. Ensure the minimum maintenance personnel are staffed or have been called in as necessary, (May be signed off by MSS)

	Mechanical Craft	Electrical Craft	Instrumentation Craft
ONSITE	<input type="checkbox"/> 1 on shift	<input type="checkbox"/> 1 on shift	
CALL-IN	<input type="checkbox"/> 1 onsite within 1 hour	<input type="checkbox"/> 1 onsite within 30 minutes	<input type="checkbox"/> 1 onsite within 30 minutes
CALL-IN		<input type="checkbox"/> 1 onsite within 1 hour	<input type="checkbox"/> 1 onsite within 1 hour
TOTAL	TOTAL: 2 onsite within 1 hour	2 Available onsite within 30 minutes and TOTAL 3 onsite within 1 hour	TOTAL 2 onsite within 1 hour

- \_\_\_\_\_ 4. Open the Tool Room if it is not staffed. (May be signed off by MSS)
- \_\_\_\_\_ 5. Establish a log of activities and communications.
- \_\_\_\_\_ 6. Establish contact with Maintenance Manager in the TSC (Bridge x104 or 6478).
- \_\_\_\_\_ 7. Obtain initial briefing and status of Operations and Maintenance tasks related to the emergencies that are underway from MSS, OSC Manager, or SM.
- \_\_\_\_\_ 8. Ensure all emergency response teams previously tasked are assigned team tracking letter designation and entered on the Emergency Response Team Tracking Board/System.
- \_\_\_\_\_ 9. Assign a team briefer to any teams previously dispatched.
- \_\_\_\_\_ 10. Ensure that two emergency response teams are pre-staged in the OSC staging area of the cafeteria.
- \_\_\_\_\_ 11. Notify Power Stores (X 7155) and the Tool Room (X 7755) (if staffed), advise them to remain staffed during the emergency unless released by the Site Emergency Director.

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APPENDIX C  
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ASSISTANT OSC MANAGER

INITIAL ACTIVATION OF THE OSC Continued

- \_\_\_\_\_ 12. Verify the priorities of teams dispatched from the OSC, or being formed, with the TSC.
- \_\_\_\_\_ 13. Review the OSC Team Tracking Board/System and reconcile any discrepancies with information obtained from briefing sources.

OPERATIONAL RESPONSIBILITIES

- Assist the OSC Manager in providing direction and control to the OSC areas.
- Open OSC, and OSC storage room.
- Receive direction from SM/SED until OSC Manager arrives.
- Oversee the operations of the OSC Teams and coordinate the supporting activities using Appendix D, "OSC Team Briefing/Debriefing Form".
- Maintains continuous communication with Maintenance Manager in the TSC.
- Receives TSC-assigned tasks, enters them on the Team Tracking Board/System, informs the OSC Manager, and assigns the task to a specific OSC Team Briefer.
- Keeps the OSC Manager informed of important communications from the TSC.
- Coordinate with OSC RADCON Supervisor and Operations Advisor as needed regarding OSC Team activities (determines if teams need RADCON and/or Operations support).
- Maintain log of communications and activities.

DEACTIVATION RESPONSIBILITIES

- Ensure all assigned tasks and assignments are completed.
- Ensure all emergency response teams have been accounted for and debriefed.
- Ensure all emergency equipment and supplies have been returned to their specified storage locations.
- Ensure all log and team briefing forms are completed and signed.

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APPENDIX D  
Page 1 of 2

OSC TEAM BRIEFING/DEBRIEFING FORM

TEAM \_\_\_\_\_

<b>ASST. MGR.</b> _____ Init/Time  _____ Date	<b>TEAM TASK:</b> <input type="checkbox"/> Inspection <input type="checkbox"/> Trouble Shooting <input type="checkbox"/> Repair  <b>TASK LOCATION:</b> (Bldg, EL., Rm. Name, etc.) _____  <input type="checkbox"/> <b>ASSIGN</b> Team next Letter designator (A, B, C etc.): _____ <input type="checkbox"/> <b>ENTER</b> on Team Tracking Board. <input type="checkbox"/> <b>INFORM</b> OSC Mgr. of task and make PA Announcement in OSC. <input type="checkbox"/> <b>ASSIGN</b> task to Lead Briefer Name: _____  <b>Heads-up to Briefer:</b> <input type="checkbox"/> Ops <input type="checkbox"/> R/C <input type="checkbox"/> Safety <input type="checkbox"/> Other _____
<b>RAD SUPV.</b> _____ Init/Time	<b>RADCON REQUIREMENTS:</b> RWP: _____ RWP # _____ <input type="checkbox"/> SCBA <input type="checkbox"/> Respirator <input type="checkbox"/> Dressout <input type="checkbox"/> Other _____ <b>Emergency Exposure</b> Approved by SED: <input type="checkbox"/> Yes (REM _____) (Ref: EPIP-15) <input type="checkbox"/> No <b>KI ISSUE</b> Approved by TSC Radcon Mgr.: <input type="checkbox"/> Yes <input type="checkbox"/> No (Ref: EPIP-14)
<b>BRIEFER</b> _____ Init/Time  (Use Page 2 to conduct briefing)	<b>Team Members Names</b> _____ <b>Discipline (MM, EM, IM, etc.)</b> _____ <b>Team Leader Name:</b> _____ _____ _____ _____ _____ _____ <b>AUO</b> _____ <b>RADCON Tech</b> _____  <b>Briefing conducted by:</b> _____ / _____  <b>Communication Method:</b> <input type="checkbox"/> Phone# _____ <input type="checkbox"/> Pager# _____ <input type="checkbox"/> Messenger _____ <input type="checkbox"/> OSC Hotline (x6406) _____ <input type="checkbox"/> Radio Ch# _____ Radio Sensitive Area (0-TI-OPS-000-061.0) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Contact OSC Briefer Every _____ Minutes
<b>OSC MGR.</b> _____ Init/Time	<b>FINAL APPROVAL TO RELEASE TEAM</b> Team Necessary? <input type="checkbox"/> Yes <input type="checkbox"/> No Radiological Condition Change Since Briefing? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Announce to OSC: "Is there any reason that we should not dispatch (Use Team Designator) team at this time?"
<b>TEAM LEADER or BRIEFER</b> _____ Init/Time	<b>DEBRIEFING</b> (Use Page 2 to conduct debriefing)  <b>Debriefing conducted by:</b> _____  <input type="checkbox"/> <b>PROVIDE</b> Summary to the OSC Manager. <input type="checkbox"/> <b>UPDATE</b> the OSC Team Tracking Board.
<b>OSC MGR.</b> _____ Init/Time	<input type="checkbox"/> <b>ANNOUNCE</b> Team results over the OSC P/A system. <input type="checkbox"/> <b>ENSURE</b> TSC is informed of Team results.

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APPENDIX D  
Page 2 of 2

EMERGENCY RESPONSE TEAM BRIEFING/DEBRIEFING CHECKLIST  
**BRIEFING**

- ☐ Description of problems -Team Priority
- ☐ Plant system status
- ☐ Plant radiological status
- ☐ Route to/from work area
- ☐ Hazards between OSC and work location
- ☐ Radiation Work Permit (RWP)
- ☐ RADCON support
- ☐ OPS support
- ☐ Procedures to be used
- ☐ Tools Kits needed: (See tool pouch number and description in O-PI-REM-000-001.Q, "Quarterly Tool Kit Inventory". )  
Emergency Tool Kit to be obtained from the Tool Room in MMG Shop: 1☐, 2☐, 3☐, 4☐, 5☐, 6☐, 7☐, 8☐
- ☐ Other Tools needed: \_\_\_\_\_
- ☐ Equipment needed
- ☐ Clearance required/Hold Order # \_\_\_\_\_
- ☐ Safety evaluation of job
- ☐ Communication with OSC
- ☐ Copy of Briefing Form (Appendix D) and clipboard given to team with phone number(s).
- ☐ Key(s) needed for task.

**DEBRIEFING**

- |  |  |
|--|--|
| <input type="checkbox"/> Was assignment completed? | <input type="checkbox"/> Observations from the Field             |
| <input type="checkbox"/> Equipment                 | <input type="checkbox"/> Hazards                                 |
| <input type="checkbox"/> Radiological conditions   | <input type="checkbox"/> Unusual sounds, etc.                    |
| <input type="checkbox"/> Other information         | <input type="checkbox"/> Team directed to Personnel Pool Manager |

NOTES: (Observations/Damage Assessment/Recommendations, etc.)

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APPENDIX E  
Page 1 of 2

**OSC RADCON SUPERVISOR CHECKLIST**  
**INITIAL ACTIVATION OF THE OSC**

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing Chart and obtain OSC badge.
- \_\_\_\_\_ 3. Establish a log of activities and communications.
- \_\_\_\_\_ 4. Verify the minimum number of ANSI qualified RADCON personnel currently onsite. The RADCON Lab Supervisor is counted as a 60 minute responder when relieved by qualified OSC RadCon Supervisor.

ANSI Qualified RadCon Technicians	
<b>ONSITE</b>	2 on shift
<b>CALL-IN</b>	6 additional (8 total onsite) within 30 minutes
<b>CALL-IN</b>	6 additional (14 total onsite) within 1 hour
- \_\_\_\_\_ 5. Ensure
  - a) that a current HIS-20 printout is available in the OSC;
  - b) a HIS-20 Computer Operator is assigned to provide computer access or use the printout for RADCON qualification checks of Emergency Response Team members;
  - c) any Emergency Response Team members already assigned tasks in the field have acceptable RAD and qualifications (Contact MSS to for names and assigned task of individuals);
  - d) the Personnel Pool Manager is notified when the HIS-20 operator is assigned and given the name of the HIS-20 operator.
  - e) Emergency related RWP's are active.
- \_\_\_\_\_ 6. Establish communications with the TSC RADCON Manager and the RADCON Lab Supervisor. (Bridge 103, mute telephone when not speaking. or X 6472/6463 TSC and X 6417 Lab).
- \_\_\_\_\_ 7. Ensure adequate RADCON staffing available for OSC support. (Dosimetry support, boardwriters, RWP support, HIS-20 operators)
- \_\_\_\_\_ 8. Locate all RADCON/CHEM personnel/teams currently and previously tasked and ensure that teams are identified on RADCON/CHEM Team Tracking Board for tracking and debriefing.
- \_\_\_\_\_ 9. Control eating and drinking in the OSC until habitability has been established.
- \_\_\_\_\_ 10. Ensure habitability surveys have been initiated for the of OSC, TSC, and Control Room, if a release has occurred. Surveys are to include direct radiation readings, area swipes, and air activity monitoring as appropriate for the existing conditions and based on good radiological practices.

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OSC RADCON SUPERVISOR CHECKLIST  
OPERATIONAL RESPONSIBILITIES

- Brief Emergency response Teams.
- Provide and coordinate RADCON resources as necessary
- Direct RADCON personnel in the RADCON Lab.
- Ensure all RADCON Teams are coordinated and tracked through the OSC.
- Ensure all Chemistry Teams are tracked through the OSC.
- Ensure Emergency Response Teams have adequate RADCON/dosimetry coverage present during briefings and field support.
- Brief the OSC Manager regularly on radiological conditions status (especially when radiological conditions are changing rapidly).
- Brief the TSC RADCON Manager on radiological conditions status.
- Provide assistance to the OSC Manager as needed.
- Periodically verify habitability of TSC, OSC, and Control Room (especially during changing radiological conditions and at each emergency classification upgrade).
- Conduct habitability surveys for the TSC, OSC and Control Room if a release has occurred. Surveys are to include direct radiation readings, area swipes, and air activity monitoring as appropriate for the existing conditions and based on good radiological practices.
- Reassess each team's radiological protection status after accountability, after major changes in plant conditions and at emergency classification upgrades.
- Log on to the Integrated Computer System (ICS).
- Periodically brief the RADCON and CHEM Lab personnel on plant status.
- Administer KI to emergency response teams according to EPIP-14 and inform the OSC manager. (Forward EPIP-14 KI Issue Report to the TSC RADCON Manager.)
- Ensure outlying teams/groups (i. e., line crews, warehouse, security) have dosimetry and are being protected throughout the emergency.
- Ensure emergency responders' exposures are maintained As Low As Reasonably Achievable (ALARA).

DEACTIVATION RESPONSIBILITY

- Ensure all teams are accounted for and properly debriefed.
- Ensure all logs and team briefing forms are completed and signed.



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APPENDIX F  
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OSC RADCON BRIEFER CHECKLIST

INITIAL ACTIVATION OF THE OSC

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing Chart and obtain OSC badge.
- \_\_\_\_\_ 3. Notify the OSC RADCON Supervisor of arrival.
- \_\_\_\_\_ 4. Establish a log of activities and communications.
- \_\_\_\_\_ 5. Locate all RADCON persons/teams currently and previously tasked and ensure assignment of Team Tracking Letter designator (AA, BB, etc.) for tracking and debriefing.
- \_\_\_\_\_ 6. Establish communications on the RADCON Bridge (x103). Mute telephone when not speaking.

OPERATIONAL RESPONSIBILITIES

- Provide radiological technical assistance to the Briefing Teams.
- Provide radiological conditions for inclusion in the analysis of the job performed by the OSC Briefing Team.
- Assist with portions of the OSC Team briefings and debriefings including a debriefing from the team RADCON member.
- Ensure each OSC team has a RADCON member present during briefings and field support as needed. (Dispatch with team if necessary)
- Complete applicable portions of Appendix D.
- Inform the OSC RADCON Supervisor of any unexpected radiological conditions encountered.
- Write on the RADCON status boards, RADCON Team Tracking Board and ensure wind direction arrow is kept current.
- Post radiological status information in the OSC Teams Staging Area.
- Ensure emergency responders exposures are maintained ALARA.

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APPENDIX G  
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OSC OPERATIONS ADVISOR CHECKLIST

INITIAL ACTIVATION OF THE OSC

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing Chart and obtain OSC badge.
- \_\_\_\_\_ 3. Establish a log of activities and communications.
- \_\_\_\_\_ 4. Establish communications with the TSC Operations Communicator and the Control Room Communicator for updates and to obtain Operations support (Dial 101 on telephone).
- \_\_\_\_\_ 5. Locate all Operations personnel/teams currently and previously tasked and ensure each is tracked on the Operations tracking board.
- \_\_\_\_\_ 6. Activate the ICS terminal to the affected unit.
- \_\_\_\_\_ 7. Announce on the portable radio OPS channel "OSC AUOs Report to the OSC" (Repeat).
- \_\_\_\_\_ 8. Ensure AUOs Swipe Accountability Reader at cafeteria entrance.

OPERATIONAL RESPONSIBILITIES

- Provide Operations personnel, advice, and plant status to support the entire OSC including briefing emergency response teams as needed (additional Operations personnel including AUOs can be used to assist).
- Operate the ICS and provide plant operations advice to support the OSC.
- Provide personnel for any operations actions that may be required while in the field.
- Provide Operations personnel for damage control and repair teams.
- Call-in additional AUOs/Operations personnel from offshift to support OSC activities, if requested.
- Keep the TSC Operations Communicator and the Control Room Communicator appraised of the OSC Team priorities, assignments and activities while in the field.
- Provide assistance to the OSC Manager as needed.
- Maintain the OSC Operations Tracking Board.
- Direct AUOs to maintain a log, and listen to the Operations Bridge (X102) to maintain a current awareness on plant status as needed.
- Ensure OSC AUOs maintain accountability by swiping reader at cafeteria entrance.

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APPENDIX H  
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OSC FIRE OPERATIONS ADVISOR CHECKLIST  
INITIAL ACTIVATION OF THE OSC

Time/Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing Chart and obtain OSC badge.
- \_\_\_\_\_ 3. Establish a log of activities and communications.
- \_\_\_\_\_ 4. Establish communications with the Fire Operations Unit or the Fire Station.
- \_\_\_\_\_ 5. Verify that Fire Operations, if not responding to a fire or medical emergency, has reported to the designated assembly area. (see Note below)
- \_\_\_\_\_ 6. Ensure that Fire Operations if responding to a fire or medical emergency is assigned a Team Tracking Letter designator for tracking and debriefing and team has been entered on tracking board.
- \_\_\_\_\_ 7. Ensure sufficient SCBA equipment and air bottles for response teams are available at established entry points.

Note: If Fire Operations is not involved in the emergency response, dispatch a Fire Operator to the MCR to operate panel 0-M-29. This operator will be tracked on a tracking board and will be recalled at the discretion of the Fire Brigade Leader.

OPERATIONAL RESPONSIBILITIES

- Monitor plant status and initiate fire response.
- Initiate medical emergency response as needed.
- Reassess each team's safety protection status after major changes in plant conditions and at emergency classification upgrades.
- Initiate and provide first response for Hazardous Material Containment.
- Support Nuclear Security in searches of hazardous areas.
- Provide assistance to the OSC Manager as needed.
- Periodically brief Fire Operations Unit personnel of plant status.
- Brief the team in the field by telephone/radio (if necessary) in order to decrease response time.
- Request the SM to sound the fire alarm when needed to form the fire brigade or MERT.
- Provide evaluations of the plant environment, recommendations to OSC Management on safety aspects of response team task.
- Contact or call in the site/corporate Safety Specialist as necessary (see REND).

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APPENDIX I  
Page 1 of 1

OSC LOG KEEPER CHECKLIST

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing Chart and obtain OSC badge.
- \_\_\_\_\_ 3. Notify the OSC Manager of arrival.
- \_\_\_\_\_ 4. Establish a log of OSC activities and communications.
- \_\_\_\_\_ 5. Notify Boardwriter to report to the OSC if requested.
- \_\_\_\_\_ 6. Notify OSC Clerks to report to the OSC if requested.
- \_\_\_\_\_ 7. Notify other staff as determined by the OSC Manager if requested.

OPERATIONAL RESPONSIBILITIES

- Ensure the OSC Status Boards are continuously updated to reflect current plant conditions.
- Ensure a log is maintained of all important OSC activities.
- Collect and maintain all original copies of generated documents.
- Following OSC deactivation forward all records to the Emergency Preparedness Manager.
- Retain completed original of OSC team briefing/debriefing form, Appendix D.

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APPENDIX J  
Page 1 of 1

OSC CLERICAL STAFF CHECKLIST

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing Chart and obtain OSC badge.
- \_\_\_\_\_ 3. Notify the OSC Manager of arrival.
- \_\_\_\_\_ 4. Establish a log of activities and communications.
- \_\_\_\_\_ 5. Ensure FAX is operable.

OPERATIONAL RESPONSIBILITIES

- Uses call list to obtain staff for unfilled positions or replacement staff for shift turnovers as directed by the OSC Manager.
- Assist in set-up and activation of the OSC.
- Answer telephones.
- Distribute forms.
- Ensure OSC responders have signed the OSC Roster, Appendix S when requested.
- Establish OSC Shift change (Use Appendix S page 2 of 2 and ask appropriate Fitness For Duty Questions).
- Operates FAX machine. (Turn off "Memory Fax" mode before faxing)
- FAX AUO Teams summary to Main Control Room (FAX# 6208) and TSC (FAX# 6461) on a routine basis.
- If Emergency Response Network (ERN) is inoperable, then FAX Maintenance Repair Teams summary to Main Control Room (FAX# 6208) and TSC (FAX# 6461) on a routine basis.

DEACTIVATION OF THE OSC

- Transfers all log notes and other materials to the OSC Log Keeper.
- Deactivate the OSC by returning all equipment, materials, and supplies to designated storage areas.

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APPENDIX K  
Page 1 of 1

OSC SITE SECURITY ADVISOR CHECKLIST

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing Chart and obtain OSC badge.
- \_\_\_\_\_ 3. Notify the OSC Manager of arrival.
- \_\_\_\_\_ 4. Establish communications with Site Security Manager in the TSC (X 6469).
- \_\_\_\_\_ 5. Establish a log of activities and communications.
- \_\_\_\_\_ 6. Establish contact with the CAS.
- \_\_\_\_\_ 7. Check status of emergency actions already in effect such as Accountability or Site Evacuation.

OPERATIONAL RESPONSIBILITIES

- Coordinate activities of Site Security personnel in support of OSC activities.
- Provide personnel to support Fire Operations in response to fire, medical emergency, or hazardous material containment.
- Forms, briefs and dispatches search and rescue teams with Fire Operations support.
- Provide assistance to the OSC (including briefing teams) as needed.
- Ensure the OSC Manager/OSC Staff are aware of security hazards that could affect emergency response activities.
- Ensure onsite Security personnel are apprised of radiological and plant conditions and associated hazards.
- Ensure OSC Manager is aware of Security personnel locations and activities.

APPENDIX L  
Page 1 of 2

OSC BRIEFER CHECKLIST  
INITIAL ACTIVATION OF THE OSC

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing Chart and obtain OSC badge.
- \_\_\_\_\_ 3. Establish the "OSC Team Hotline" on position speaker phone by dialing X6406.
- \_\_\_\_\_ 4. Establish a log of OSC activities and communications.
- \_\_\_\_\_ 5. Establish contact with emergency team leaders.
- \_\_\_\_\_ 6. Establish contact with Personnel Pool Manager.
- \_\_\_\_\_ 7. If assigned a team that is already working in the field, establish contact with the team leader and ensure that they are fully briefed on their task and obtain status (report results to the OSC Manager).
- \_\_\_\_\_ 8. Verify and/or ensure the minimum (for the briefer's discipline) maintenance personnel have been called in as necessary,

	Mechanical Craft	Electrical Craft	Instrumentation Craft
ONSITE	<input type="checkbox"/> 1 on shift	<input type="checkbox"/> 1 on shift	
CALL-IN	<input type="checkbox"/> 1 onsite within 1 hour	<input type="checkbox"/> 1 onsite within 30 minutes	<input type="checkbox"/> 1 onsite within 30 minutes
CALL-IN		<input type="checkbox"/> 1 onsite within 1 hour	<input type="checkbox"/> 1 onsite within 1 hour
TOTAL	TOTAL: 2 onsite within 1 hour	2 Available onsite within 30 minutes and TOTAL 3 onsite within 1 hour	TOTAL 2 onsite within 1 hour

- \_\_\_\_\_ 9. Verify that Maintenance Call List is available. As necessary call in additional maintenance personnel for your discipline.

OPERATIONAL RESPONSIBILITIES

- Provide Mechanical, Electrical, and Instrument technical expertise.
- Evaluate job conditions (including RADCON, Fire Operations, and Operational aspects of the task) and analyze the necessary precautions and methods best suited to safe performance of the task.
- When possible combine Damage Assessment and Repair Teams.

Continued Next Page

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APPENDIX L  
Page 2 of 2

OSC BRIEFER CHECKLIST

OPERATIONAL RESPONSIBILITIES Continued

- Brief the OSC Teams based on the analysis of the job.
- Track the OSC Teams while in the field.
- Debrief the OSC Teams after completion of the Task.
- Complete applicable portions of the OSC Team Briefing/Tracking and Debriefing Forms (Appendix D) and forward to OSC Manager.



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APPENDIX M  
Page 1 of 1

OSC INDUSTRIAL SAFETY ADVISOR CHECKLIST

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing chart and obtain OSC badge.
- \_\_\_\_\_ 3. Notify the OSC Manager of arrival.
- \_\_\_\_\_ 4. Establish a log of activities and communications.
- \_\_\_\_\_ 5. Notify the Assistant OSC Manager of arrival.
- \_\_\_\_\_ 6. Notify Fire Ops Advisor of arrival.

OPERATIONAL RESPONSIBILITIES

- Provide and coordinate Industrial Safety personnel needed to support the OSC.
- Reassess each team's radiological protection status after accountability, after major changes in plant conditions and at emergency classification upgrades
- Evaluate plant environment.
- Provide recommendations to OSC management concerning the safety aspects of Emergency Response team tasks.

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APPENDIX N  
Page 1 of 1

PERSONNEL POOL MANAGER CHECKLIST

INITIAL ACTIVATION OF THE OSC

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the organization/Staffing Chart and obtain OSC badge.
- \_\_\_\_\_ 3. Establish a log of communications and activities.
- \_\_\_\_\_ 4. Establish communications with the Assistant OSC Manager and/or Briefer.
- \_\_\_\_\_ 5. Locate all teams previously tasked and ensure assignment of Team Tracking Letter designation for tracking and debriefing.
- \_\_\_\_\_ 6. Ensure at least two teams are fully staged outside OSC in the cafeteria.

OPERATIONAL RESPONSIBILITIES

- Form teams as requested by the OSC.
- Manage personnel in the OSC Staging Area by:
  1. Directing personnel to enter keycards into the Accountability Card Reader (at cafeteria entrance).
  2. Directing responders (potential OSC teams) to check-in with the HIS-20 Operator.
  3. Requiring potential/actual OSC Team members to dress out.
  4. Maintain command and control (quiet/orderly) in OSC Staging Area.
- Recover personnel for future members.
- Ensure at least one team on standby at all times.
- Validate qualifications of team members by completing the information on Appendix R, including remaining allowable dose (RAD)

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APPENDIX O  
Page 1 of 1

DCRM Coordinator

Time/  
Initials

- |                   |   |
|-------------------|---|
| <u>          </u> | 1. Swipe Accountability Reader.   |
| <u>          </u> | 2. Fill out the Organizational/Staffing chart and obtain OSC badge.                                 |
| <u>          </u> | 3. Notify the OSC Manager of arrival.   |
| <u>          </u> | 4. Establish a log of activities.   |
| <u>          </u> | 5. Log in on computer.  |
| <u>          </u> | 6. Notify the Assistant OSC Manager and/or Briefing Teams DCRM information is available on request. |

OPERATIONAL RESPONSIBILITIES

- Provide DCRM expertise as needed.
- Provide drawings, documents, vendor manuals as requested.
- Assist in OSC logistics as requested.

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APPENDIX P  
Page 1 of 1

OSC Materials Coordinator

Time/  
Initials

- \_\_\_\_\_ 1. Swipe Accountability Reader.
- \_\_\_\_\_ 2. Fill out the Organizational/Staffing chart and obtain OSC badge.
- \_\_\_\_\_ 3. Notify the OSC Manager of arrival.
- \_\_\_\_\_ 4. Establish a log of activities.
- \_\_\_\_\_ 5. Log in on computer.
- \_\_\_\_\_ 6. Establish contact Power Stores Personnel at X-7155.
- \_\_\_\_\_ 7. Notify the Assistant OSC Manager or Briefing Teams material expediting information is available on request.

OPERATIONAL RESPONSIBILITIES

- Provide coordination between Power Stores and OSC.
- Provide materials as expeditiously as possible for emergency response.
- Operate computer to determine materials availability.
- Coordinate safety of warehouse personnel with the OSC Manager and RADCON Supervisor.

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APPENDIX Q  
Page 1 of 1

This Appendix has been canceled  
The information is available in the REND

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APPENDIX R  
Page 1 of 1  
PERSONNEL POOL MGR. LOG

**CRAFTSMAN SECTION**

NAME \_\_\_\_\_ SSN \_\_\_\_\_ CRAFT \_\_\_\_\_

**HIS-20 OPERATOR SECTION**

HIS-20 OPERATOR: \_\_\_\_\_

TLD#	*RAD mRem	SCBA QUAL	RESP QUAL	REP TRAINED
		<input type="checkbox"/> YES	<input type="checkbox"/> YES	<input type="checkbox"/> YES
		<input type="checkbox"/> NO	<input type="checkbox"/> NO	<input type="checkbox"/> NO

**PERSONNEL POOL MGR SECTION**

CRAFT: \_\_\_\_\_

RAD mRem*	ASSIGNED TO TEAM #	BRIEFER	COMMENTS
(Same as above)			

\* RAD mRem can change depending on assigned Team task. RAD will need to be verified after completion of Assigned Team task before assignment to another team.

## OSC Roster

[illegible]

EP Records Coordinator: \_\_\_\_\_

## EMERGENCY RESPONDER NOTIFICATION FORM

## Fitness for Duty

**Person Calling** \_\_\_\_\_

Date \_\_\_\_\_

[illegible]



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## SOURCE NOTES

**REQUIREMENTS  
STATEMENT**

**SOURCE DOCUMENT**

**IMPLEMENTING  
STATEMENT**

NP Radiological Emergency  
Plan (NP-REP)

TENNESSEE VALLEY AUTHORITY  
SEQUOYAH NUCLEAR PLANT  
EMERGENCY PLAN IMPLEMENTING PROCEDURE

**EPIP - 13**

**DOSE ASSESSMENT**

Revision 2

**QUALITY RELATED**

PREPARED BY: W. C. Peggram .  
RESPONSIBLE ORGANIZATION: Emergency Preparedness  
APPROVED BY: J. Randy Ford .  
EFFECTIVE DATE: 10/01/2001  
Level of Use: Reference

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## Revision History

Rev	Date	Reason for Revision
0	12/19/2000	Initial Issuance
1	6/11/2001	Revised Appendices A, B and C to utilize the new source term and methodology from CECC-EPIP-8
2	10/01/2001	Corrected typographical errors in Appendix B. (PER 01-008641-000)

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## 1.0 PURPOSE

This procedure describes the initial dose assessment methodology to be used in the event of a radiological emergency until the Central Emergency Control Center (CECC) dose assessment staff starts performing this function. Additionally, the procedure provides Chemistry a manual method to determine the site noble gas release rate for determination of emergency classification in accordance with EPIP-1. The procedure can be performed in any mode and is a best estimate of the release rates for comparison with the limits contained in the Emergency Plan Implementing Procedures (EPIPs).

The Integrated Computer System (ICS) dose assessment must be used in conjunction with this instruction if a release is occurring through the main steam safety valves or atmospheric relief valves (PORVs) of the main steam system (the ICS code RAD025 does not include this release pathway).

## 2.0 REFERENCES

### 2.1 INTERFACE DOCUMENTS

- A. EPIP-14, "Radiological Control Response"
- B. CECC-EPIP-9, "Emergency Environmental Radiological Monitoring Procedures"
- C. O-TI-CEM-030-030.0, "Manual Calculation of Plant Gas, Iodine, and Particulate Release Rates for Offsite Dose Calculation Manual (ODCM) Compliance"
- D. TI-18, "Radiation Monitors"
- E. EPIP-1, "Emergency Plan Classification Matrix"

## 3.0 INSTRUCTIONS

### 3.1 Chemistry Response

The designated Chemistry personnel are responsible for managing the activities of the Chemistry Lab.

- A. Upon request of the Shift Manager (SM) or Site Emergency Director (SED), Chemistry personnel shall determine the plant total gas release rate (source term) using Appendix D.
- B. Upon request of the SM or SED, Chemistry personnel shall determine the doses associated with the plant total gas release rate calculated in section A above.
- C. In the event of a CECC activation, any source term assessments and associated dose assessments should be reported to the CECC dose assessment staff when the CECC is staffed and further dose assessments using this procedure should cease.

### 3.2 Requests for Dose Assessments

The performance of these assessments may be initiated by request of the SM if (1) ICS point "RAD025" is not available or (2) the "dose assessment" feature on ICS is not functional or (3) if a release is occurring through the main steam safeties or atmospheric relief valves (PORVs) or (4) at the discretion of the SM.

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### 3.3 Dose Assessment Process

NOTE: Emergency Classification may be required based on this data. If data cannot be independently QV&V, then immediately carry to the Main Control Room.

3.3.1 If ICS is available and not excluded by Section 3.3.2, then conduct a dose assessment using Appendix A.

3.3.2 If ICS is unavailable or this is a Special Case - Steam Generator Release Through Safeties or PORVs, then conduct the dose assessment using Appendix B with support from Appendices C and D as appropriate.

## 4.0 RECORDS

### 4.1 QA Records

None

### 4.2 Non-QA Records

The materials generated in support key actions during an actual emergency 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 for lifetime storage.

The materials generated in support key actions during drills and exercises 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 and shall retain records from other required drills for two years.

### 4.3 Training Records

Materials generated as part of training need not be retained.

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## Appendix A ICS Dose Assessment

### A. Key Information

A1	Release Point(s) - Shield Bldg, Aux Bldg, Service Bldg, Turbine Bldg, Condenser, (SG via PORV/Safety use Appendix B)	(circle all that apply)																				
A2	Expected Duration - If unknown or unsure, use 4 hours	_____ hours																				
A3	<b>Accident Release Type Assumption</b> SG = Tube Rupture/Leak, Release via Steam Generator Shld Bldg = LOCA, Shield Building Release - Filter Systems Normal Other = Fuel Handling, WGDT, LOCA with Containment Bypass, or Unfiltered	SG - Narrow Level $\geq 33\%$ SG - Narrow Level $< 33\%$ Shield Bldg - Filtered Other - Unfiltered or Bypass																				
A4	Core Exit - Hottest Thermocouple - from ICS Screen NSITCMAP	_____ degrees F																				
A5	<b>Core Damage Level Assumption</b> Peak Thermocouple since start of event. Gap = Peak Thermocouples (A4) $< 700^{\circ}\text{F}$ Overtemp = Peak Thermocouples (A4) $700^{\circ}\text{F}$ - $1200^{\circ}\text{F}$ Melt = Peak Thermocouples (A4) $> 1200^{\circ}\text{F}$	Gap Overtemp Melt																				
A6	<b>TEDE Multiplier</b> - select based on determinations from A3 and A5 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>(A3)↓ (A5)→</th> <th>Gap</th> <th>OverTemp</th> <th>Core Melt</th> </tr> </thead> <tbody> <tr> <td>Shield Bldg</td> <td>1.0</td> <td>1.1</td> <td>1.4</td> </tr> <tr> <td>SG <math>\geq 33\%</math> Level</td> <td>9.1</td> <td>16</td> <td>49</td> </tr> <tr> <td>SG <math>&lt; 33\%</math> Level</td> <td>48</td> <td>29</td> <td>75</td> </tr> <tr> <td>Unfiltered/Bypass</td> <td>13</td> <td>17</td> <td>52</td> </tr> </tbody> </table>	(A3)↓ (A5)→	Gap	OverTemp	Core Melt	Shield Bldg	1.0	1.1	1.4	SG $\geq 33\%$ Level	9.1	16	49	SG $< 33\%$ Level	48	29	75	Unfiltered/Bypass	13	17	52	TEDE Multiplier _____
(A3)↓ (A5)→	Gap	OverTemp	Core Melt																			
Shield Bldg	1.0	1.1	1.4																			
SG $\geq 33\%$ Level	9.1	16	49																			
SG $< 33\%$ Level	48	29	75																			
Unfiltered/Bypass	13	17	52																			

### B. Dose Assessment

B1	Go to ICS Screen REP Menu (REP) then select DOSE ASSESSMENT. Press RECALCULATE button. Enter the information from that screen in the first blank of each line below.	
	Site Boundary TEDE Hourly Dose _____ * _____ = 2.00 Mile TEDE Hourly Dose _____ * _____ = 5.00 Mile TEDE Hourly Dose _____ * _____ =	Site Boundary _____ Rem 2.00 Mi _____ Rem 5.00 Mi _____ Rem
	TEDE                      Hrs (A2)                      Multiplier (A6)	

### C. Thyroid Committed Dose Equivalent (CDE) calculation

C1	<b>CDE Multiplier</b> - select based on determinations from A3 and A5 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>(A3)↓ (A5)→</th> <th>Gap</th> <th>OverTemp</th> <th>Core Melt</th> </tr> </thead> <tbody> <tr> <td>Shield Bldg</td> <td>0.11</td> <td>0.043</td> <td>0.072</td> </tr> <tr> <td>SG <math>\geq 33\%</math> Level</td> <td>2.6</td> <td>0.64</td> <td>0.41</td> </tr> <tr> <td>SG <math>&lt; 33\%</math> Level</td> <td>13</td> <td>8.3</td> <td>6.4</td> </tr> <tr> <td>Unfiltered/Bypass</td> <td>6.2</td> <td>2.0</td> <td>1.4</td> </tr> </tbody> </table>	(A3)↓ (A5)→	Gap	OverTemp	Core Melt	Shield Bldg	0.11	0.043	0.072	SG $\geq 33\%$ Level	2.6	0.64	0.41	SG $< 33\%$ Level	13	8.3	6.4	Unfiltered/Bypass	6.2	2.0	1.4	CDE Multiplier _____
(A3)↓ (A5)→	Gap	OverTemp	Core Melt																			
Shield Bldg	0.11	0.043	0.072																			
SG $\geq 33\%$ Level	2.6	0.64	0.41																			
SG $< 33\%$ Level	13	8.3	6.4																			
Unfiltered/Bypass	6.2	2.0	1.4																			
C2	<b>Calculate Iodine CDE Doses.</b> Obtain the TEDE Dose from Block B1 and CDE Multiplier from Block C1. Site Boundary CDE Dose _____ * _____ = 2.00-4.99 mi CDE Dose _____ * _____ = 5.00-10.0 mi CDE Dose _____ * _____ =	<b>Thyroid CDE Dose</b> Site Boundary _____ Rem 2.00 Mi _____ Rem 5.00 Mi _____ Rem																				
	TEDE Dose (B1)      CDE Multiplier (C1)																					

**NOTE:** Emergency Classification may be required based on this data. If necessary, hand carry to the Main Control Room.  
**Report Release Rates and Dose Values obtained in Blocks B1 and C2 to SM and/or SED**

Performed/Reported By: \_\_\_\_\_  
Initials
Date / Time

SQN	DOSE ASSESSMENT	EPIP-13 Rev. 2 Page 7 of 14
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**Appendix B**  
Page 1 of 3  
**Manual Dose Assessment**

**A. Key Information**

A1	<b>Release Point(s) -</b> Shield Bldg, Aux Bldg, Service Bldg, Turbine Bldg, Condenser, or SG via PORV/Safety	(circle all that apply)																				
A2	<b>Expected Duration -</b> If unknown or unsure, use 4 hours	_____ hours																				
A3	<b>Accident Release Type Assumption</b> SG = Tube Rupture/Leak, Release via Steam Generator Shld Bldg = LOCA, Shield Building Release - Filter Systems Normal Other = Fuel Handling, WGDT, LOCA with Containment Bypass, or Unfiltered	SG - Narrow Level $\geq 33\%$ SG - Narrow Level $< 33\%$ Shield Bldg - Filtered Other - Unfiltered or Bypass																				
A4	<b>Core Exit - Hottest Thermocouple -</b> from ICS Screen NSITCMAP	_____ degrees F																				
A5	<b>Core Damage Level Assumption</b> Peak Thermocouple since start of event Gap = Peak Thermocouples (A4) $< 700^{\circ}\text{F}$ Overtemp = Peak Thermocouples (A4) $700^{\circ}\text{F}-1200^{\circ}\text{F}$ Melt = Peak Thermocouples (A4) $> 1200^{\circ}\text{F}$	Gap Overtemp Melt																				
A6	<b>TEDE Multiplier -</b> select based on determinations from A3 and A5 <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <thead> <tr> <th style="width: 15%;">(A3)↓ (A5)→</th> <th style="width: 20%;">Gap</th> <th style="width: 20%;">OverTemp</th> <th style="width: 20%;">Core Melt</th> </tr> </thead> <tbody> <tr> <td>Shield Bldg</td> <td style="text-align: center;">1.0</td> <td style="text-align: center;">1.1</td> <td style="text-align: center;">1.4</td> </tr> <tr> <td>SG <math>\geq 33\%</math> Level</td> <td style="text-align: center;">9.1</td> <td style="text-align: center;">16</td> <td style="text-align: center;">49</td> </tr> <tr> <td>SG <math>&lt; 33\%</math> Level</td> <td style="text-align: center;">48</td> <td style="text-align: center;">29</td> <td style="text-align: center;">75</td> </tr> <tr> <td>Unfiltered/Bypass</td> <td style="text-align: center;">13</td> <td style="text-align: center;">17</td> <td style="text-align: center;">52</td> </tr> </tbody> </table>	(A3)↓ (A5)→	Gap	OverTemp	Core Melt	Shield Bldg	1.0	1.1	1.4	SG $\geq 33\%$ Level	9.1	16	49	SG $< 33\%$ Level	48	29	75	Unfiltered/Bypass	13	17	52	TEDE Multiplier _____
(A3)↓ (A5)→	Gap	OverTemp	Core Melt																			
Shield Bldg	1.0	1.1	1.4																			
SG $\geq 33\%$ Level	9.1	16	49																			
SG $< 33\%$ Level	48	29	75																			
Unfiltered/Bypass	13	17	52																			

**B. Dose Assessment**

B1	<b>Determine Plant Total Gaseous Rad Release Rate in uCi/sec.</b> Use Appendix D.	_____ uCi/sec																		
B2	<b>Determine 46 meter 15 min avg windspeed in mph by using the preferred list below.</b> (See page 3 of 3 of this Appendix for additional instructions) (1) ICS Screen METDATA then press DOSE CALC MET DATA button, <b>OR</b> (2) TSC Met Data (convert using $\text{mph} = \text{m/s} * 2.2$ ), <b>OR</b> (3) $\text{m/s} * 2.2$ WBN Met Tower (call WBN), <b>OR</b> (4) National Weather Service (423) 586-8400, <b>OR</b> (5) Default - use 1 m/s (2.2mph)	_____ mph																		
B3	<b>Determine 46-10 meter Stability Class (A-F) by using the preferred list below.</b> (See page 3 of 3 of this Appendix for additional instructions) (1) ICS Screen METDATA then press DOSE CALC MET DATA button, <b>OR</b> (2) ICS Screen MTDATA6 to get delta-T and use Appendix B Table 1, <b>OR</b> (3) ICS Screen METDATA to get temperatures and use Appendix B Table 1, <b>OR</b> (4) WBN Met Tower (call WBN) , <b>OR</b> (5) Default - Use Stability Class E	Stability Class _____																		
B4	<b>Calculate TEDE Doses.</b> (See page 3 of 3 of this Appendix for instructions) Obtain TEDE Factor (rem/hr per uCi/s) from Appendix C and calculate. <table style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 40%;">Site Boundary TEDE _____</td> <td style="width: 10%; text-align: center;">*</td> <td style="width: 10%; text-align: center;">*</td> <td style="width: 10%; text-align: center;">*</td> <td style="width: 10%; text-align: center;">=</td> <td style="width: 10%;"></td> </tr> <tr> <td>2.00-4.99 mi TEDE _____</td> <td style="text-align: center;">*</td> <td style="text-align: center;">*</td> <td style="text-align: center;">*</td> <td style="text-align: center;">=</td> <td></td> </tr> <tr> <td>5.00-10.0 mi TEDE _____</td> <td style="text-align: center;">*</td> <td style="text-align: center;">*</td> <td style="text-align: center;">*</td> <td style="text-align: center;">=</td> <td></td> </tr> </table> <div style="display: flex; justify-content: space-between; font-size: small; margin-top: 5px;"> <span>TEDE Factor (Apdx C) rem/hr per uCi/s</span> <span>Hrs (A2)</span> <span>Multiplier (A6)</span> <span>uCi/s (B1)</span> </div>	Site Boundary TEDE _____	*	*	*	=		2.00-4.99 mi TEDE _____	*	*	*	=		5.00-10.0 mi TEDE _____	*	*	*	=		Site Boundary _____ Rem 2.00 Mi _____ Rem 5.00 Mi _____ Rem
Site Boundary TEDE _____	*	*	*	=																
2.00-4.99 mi TEDE _____	*	*	*	=																
5.00-10.0 mi TEDE _____	*	*	*	=																

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**Appendix B**  
Page 2 of 3  
**Manual Dose Assessment**

**C. Thyroid Committed Dose Equivalent (CDE) calculation**

<b>C1</b>	CDE Multiplier - select based on determinations from A3 and A5				CDE Multiplier _____	
	(A3)↓	(A5)→	Gap	OverTemp		Core Melt
	Shield Bldg		0.11	0.043		0.072
	SG >33% Level		2.6	0.64		0.41
	SG <33% Level		13	8.3		6.4
	Unfiltered/Bypass		6.2	2.0		1.4
<b>C2</b>	<b>Calculate Iodine CDE Doses.</b> Obtain the TEDE Dose from Block B4 and CDE Multiplier from Block C1.				<b>Thyroid CDE Dose</b>  Site Boundary _____ Rem 2.00 Mi _____ Rem 5.00 Mi _____ Rem	
	Site Boundary CDE Dose	_____	*	_____		=
	2.00-4.99 mi CDE Dose	_____	*	_____		=
	5.00-10.0 mi CDE Dose	_____	*	_____		=
	TEDE Dose (B4)			CDE Multiplier (C1)		

**NOTE:** Emergency Classification may be required based on this data. If necessary, hand carry to the Main Control Room.  
**Report Release Rates and Dose Values obtained in Blocks B4 and C2 to SM and/or SED**

performed/Reported By: \_\_\_\_\_  
Initials
Date / Time

**Table 1**  
**Stability Class Manual Calculation Worksheet**  
**Stability Class by 46-10 m Delta-T**

Delta-T °F ≤ minus 1.3 °F	A	For raw temperatures, use 15 min. average if available, otherwise use Instantaneous.
Delta-T °F > minus 1.3 ≤ minus 1.2 °F	B	
Delta-T °F > minus 1.2 ≤ minus 1.0 °F	C	Temp at 46 meters = _____ F Temp at 10 meters = _____ F Delta-T (46m -10m) ____ - ____ = _____ F Stability Class from Table 1 = _____
Delta-T °F > minus 1.0 ≤ minus 0.4 °F	D	
Delta-T °F > minus 0.4 ≤ 0.9 °F	E	
Delta-T °F > 0.9 ≤ 2.6 °F	F	
Delta-T °F > 2.6 °F	G	

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**Appendix B**  
Page 3 of 3  
**Manual Dose Assessment**

**Expanded instructions for performing calculations.**

- B2.** Option 1: On the affected Unit ICS Main Menu click on "SECONDARY MIMICS" button. On the Secondary Mimics page click on "MET DATA" button. From the "MET-TOWER LINK" page or the "DOSE CALC MET DATA" page record the 46 Meter Ave. Wind Speed (15 Min) in mph.
- Option 2: From the TSC Data System obtain the latest weather data printout (see TSC Users Manual). Remember you must multiply 15 min average wind speed in m/s by 2.2 to obtain mph.
- Option 3: Call the **National Weather Service** in Morristown, Tn. for wind speed in mph.
- Option 4: If no other data is available, use a default value of 2.2 mph (1.0 m/s).
- B3.** Option 1: On the affected Unit ICS Main Menu click on "SECONDARY MIMICS" button. On the Secondary Mimics page click on "MET DATA" button. From the "MET-TOWER LINK" page click the "DOSE CALC MET DATA" and record the 46-10 Meter Stability Class PID 0Y2319A (A-F).
- Option 2: From the "MET-TOWER LINK" page click on the "STABILITY DELTA-T's" button note the [VERTICAL AIR TEMP DELTA-T 46-10 METERS (INSTANTANEOUS)] and refer to Table 1.
- Option 3: From the "MET-TOWER LINK" page obtain the [10 METER AIR TEMP] value and the [46 METER AIR TEMP] value and refer to Table 1.
- Option 4: If no other data is available, use a default value of Stability Class E.
- B4.** From Appendix C, find the appropriate stability class. Then, find the desired distance range in miles on the vertical scale and the wind speed on the horizontal scale. Record the corresponding TEDE FACTOR the appropriate section B4 blank. For wind speeds that fall between the values in the table, default to the lower wind speed. This is the more conservative value.

**TEDE FACTOR (rem/hr per  $\mu\text{Ci/s}$ )**

Stability	A	B	C	D	E	F	G	H	I	J
miles	2.2 mph	4.4 mph	6.6 mph	8.8 mph	11 mph	13.2 mph	15.4 mph	17.6 mph	19.8 mph	22 mph
Site Bdry	1.6E-09	8.0E-10	6.4E-10	4.8E-10	3.2E-10	2.9E-10	2.5E-10	2.2E-10	1.9E-10	1.6E-10
2 mi	5.5E-10	2.8E-10	2.2E-10	1.7E-10	1.1E-10	1.0E-10	9.0E-11	7.8E-11	6.7E-11	5.5E-11
5 mi	7.5E-11	5.2E-11	5.2E-11	5.1E-11	5.1E-11	4.6E-11	4.0E-11	3.5E-11	3.0E-11	2.5E-11

Stability	2.2 mph	4.4 mph	6.6 mph	8.8 mph	11 mph	13.2 mph	15.4 mph	17.6 mph	19.8 mph	22 mph
miles	7.5E-09	3.7E-09	3.0E-09	2.2E-09	1.4E-09	1.3E-09	1.2E-09	1.0E-09	8.9E-10	7.5E-10
Site Bdry	7.2E-10	3.6E-10	2.9E-10	2.2E-10	1.4E-10	1.3E-10	1.2E-10	1.0E-10	8.7E-11	7.2E-11
2	9.9E-11	6.8E-11	6.7E-11	6.7E-11	6.6E-11	6.0E-11	5.3E-11	4.6E-11	4.0E-11	3.3E-11

Stability	2.2 mph	4.4 mph	6.6 mph	8.8 mph	11 mph	13.2 mph	15.4 mph	17.6 mph	19.8 mph	22 mph
miles	2.2E-08	1.1E-08	9.0E-09	6.7E-09	4.3E-09	3.9E-09	3.5E-09	3.0E-09	2.6E-09	2.2E-09
Site Bdry	2.9E-09	1.4E-09	1.2E-09	8.8E-10	5.9E-10	5.3E-10	4.7E-10	4.1E-10	3.5E-10	2.9E-10
5	1.9E-10	1.3E-10	1.3E-10	1.3E-10	1.3E-10	1.2E-10	1.1E-10	9.3E-11	7.9E-11	6.5E-11

Stability	2.2 mph	4.4 mph	6.6 mph	8.8 mph	11 mph	13.2 mph	15.4 mph	17.6 mph	19.8 mph	22 mph
miles	6.3E-08	3.2E-08	2.6E-08	1.9E-08	1.2E-08	1.1E-08	1.0E-08	8.8E-09	7.5E-09	6.3E-09
Site Bdry	1.0E-08	5.4E-09	4.3E-09	3.2E-09	2.2E-09	1.9E-09	1.7E-09	1.5E-09	1.3E-09	1.0E-09
2	8.3E-10	5.8E-10	5.7E-10	5.6E-10	5.6E-10	5.0E-10	4.5E-10	3.9E-10	3.4E-10	2.8E-10

Stability	E									
miles	2.2 mph	4.4 mph	6.6 mph	8.8 mph	11 mph	13.2 mph	15.4 mph	17.6 mph	19.8 mph	22 mph
Site Bdry	1.1E-07	5.5E-08	4.4E-08	3.3E-08	2.2E-08	2.0E-08	1.8E-08	1.6E-08	1.3E-08	1.1E-08
2	2.1E-08	1.0E-08	8.3E-09	6.3E-09	4.2E-09	3.8E-09	3.4E-09	2.9E-09	2.5E-09	2.1E-09
5	1.8E-09	1.2E-09	1.2E-09	1.2E-09	1.2E-09	1.1E-09	9.8E-10	8.6E-10	7.3E-10	6.0E-10

Stability	2.2 mph	4.4 mph	6.6 mph	8.8 mph	11 mph	13.2 mph	15.4 mph	17.6 mph	19.8 mph	22 mph
miles	2.2E-07	4.4E-07	6.6E-07	8.8E-07	1.1E-06	1.3E-06	1.5E-06	1.7E-06	1.9E-06	2.2E-06
Site Bdry	2.2E-07	1.0E-07	8.3E-08	6.3E-08	4.2E-08	3.8E-08	3.4E-08	3.0E-08	2.6E-08	2.2E-08
2	4.9E-08	2.5E-08	2.0E-08	1.5E-08	9.7E-09	8.8E-09	7.8E-09	6.8E-09	5.8E-09	4.9E-09
5	4.6E-09	3.2E-09	3.1E-09	3.1E-09	3.0E-09	2.7E-09	2.4E-09	2.1E-09	1.8E-09	1.5E-09

miles	2.2 mph	4.4 mph	6.6 mph	8.8 mph	11 mph	13.2 mph	15.4 mph	17.6 mph	19.8 mph	22 mph
Site Bdry	4.8E-07	2.3E-07	1.8E-07	1.4E-07	9.0E-08	8.1E-08	7.2E-08	6.3E-08	5.4E-08	4.6E-08
2	1.1E-07	5.1E-08	4.0E-08	3.0E-08	2.0E-08	1.8E-08	1.6E-08	1.4E-08	1.2E-08	1.0E-08
5	1.1E-08	7.5E-09	7.3E-09	7.2E-09	7.0E-09	6.3E-09	5.6E-09	4.9E-09	4.1E-09	3.4E-09

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### APPENDIX D Plant Total Gaseous Rad Release Rate

#### ***IF RAD025 Functional***

Monitored Release Rate from ICS "SHOW RAD025" command	= _____ uCi/s
Steam Generator Release Rate Adjustment using Appendix E	= _____ uCi/s
<b>Total Release</b> = summation of the above values	= _____ uCi/s
<b>Performed By:</b> _____ <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Initials</span> <span>Date / Time</span> </div>	

#### ***IF RAD025 Not Functional but Effluent Rad Monitors Functional***

Unit 1 Shield Bldg	1-RE-90-400 OR UNID 1R9102A	( $\mu$ Ci/sec)	= _____ uCi/s
Unit 2 Shield Bldg	2-RE-90-400 OR UNID 2R9102A	( $\mu$ Ci/sec)	= _____ uCi/s
Aux. Bldg. _____	x _____	x 8.7E-6 = _____ uCi/s	
0-RM-90-101B OR 0R0020A (cpm)	0-FE-30-174 OR 0F2704A (cfm)	unit conversions	
Service Bldg. _____	x _____	x 8.7E-6 = _____ uCi/s	
0-RM-90-132B OR 0R0011A (cpm)	0-FE-90-132 OR 0F2702A (cfm)	unit conversions	
U1 Condenser _____	x _____	x 26.55 = _____ uCi/s	
1-RM-90-255 or 256 OR 1R9022A OR 1R9023A (mR/h)	1-FT-2-256 OR 1F2700A (cfm)	unit conversions	
U2 Condenser _____	x _____	x 26.55 = _____ uCi/s	
2-RM-90-255 or 256 OR 2R9022A OR 2R9023A (mR/h)	2-FT-2-256 OR 2F2700A (cfm)	unit conversions	
Steam Generator Release Rate (if necessary - use appendix E)	= _____ uCi/s		
<b>Total Release</b> = Summation of releases through rad monitors above	= _____ uCi/s		
<b>Performed By:</b> _____ <div style="display: flex; justify-content: space-between; width: 100%;"> <span>Initials</span> <span>Date / Time</span> </div>			

## APPENDIX E

### Steam Generator Release Rate Adjustment

**Adjustment of Plant Total Gaseous Rad Release Rate for Steam Generator Releases**  
**This calculates the release from a Steam Generator (SG) with release to environs.**

Steam Lines Flowrates (lbm/hr) are considered zero below unless the SM/US has confirmed both:

- (1) a tube leak/rupture exists on the specified loop and
- (2) a release is potentially on-going through the main steam safety valves or PORV's on the specified loop.

**INCLUDE DATA** for SGs that meet both 1 and 2 above; Otherwise N/A.

## UNIT 1:

SG#1, \_\_\_\_\_ (μCi/cc) x \_\_\_\_\_ MLB/HR x  $10^6$  x 4.24 = \_\_\_\_\_ uCi/s  
(1-RM-90-421) OR 1R9027A (1-FE-1-3) OR 1F0405A OR 1F0406A unit conversions

SG#2, \_\_\_\_\_ (μCi/cc) x \_\_\_\_\_ MLB/HR x  $10^6$  x 4.24 = \_\_\_\_\_ uCi/s  
(1-RM-90-422) OR 1R9028A (1-FE-1-10) OR 1F0425A OR 1F0426A unit conversions

SG#3, \_\_\_\_\_ (μCi/cc) x \_\_\_\_\_ MLB/HR x  $10^6$  x 4.24 = \_\_\_\_\_ uCi/s

(1-RM-90-423) OR 1R9029A (1-FE-1-21) OR 1F0445A OR 1F0446A unit conversions

SG#4, \_\_\_\_\_ (μCi/cc) x \_\_\_\_\_ MLB/HR x  $10^6$  x 4.24 = \_\_\_\_\_ uCi/s  
(1-RM-90-424) OR 1R9030A (1-FE-1-28) OR 1F0465A OR 1F0466A unit conversions

## UNIT 2:

SG#1, \_\_\_\_\_ (μCi/cc) x \_\_\_\_\_ MLB/HR x  $10^6$  x 4.24 = \_\_\_\_\_ uCi/s  
(2-RM-90-421) OR 2R9027A (2-FE-1-3) OR 2F0405A OR 2F0406A unit conversions

SG#2, \_\_\_\_\_ (μCi/cc) x \_\_\_\_\_ MLB/HR x  $10^6$  x 4.24 = \_\_\_\_\_ uCi/s  
(2-RM-90-422) OR 2R9028A (2-FE-1-10) OR 2F0425A OR 2F0426A unit conversions

SG#3, \_\_\_\_\_ (μCi/cc) x \_\_\_\_\_ MLB/HR x  $10^6$  x 4.24 = \_\_\_\_\_ uCi/s  
(2-RM-90-423) OR 2R9029A (2-FE-1-21) OR 2F0445A OR 2F0446A unit conversions

SG#4, \_\_\_\_\_ (μCi/cc) x \_\_\_\_\_ MLB/HR x  $10^6$  x 4.24 = \_\_\_\_\_ uCi/s  
(2-RM-90-424) OR 2R9030A (2-FE-1-28) OR 2F0465A OR 2F0466A unit conversions

**Additional Releases from Steam Generators (sum above releases)** = \_\_\_\_\_ uCi/s  
(Record results in appropriate blank from Appendix D)

Unit conversions based on 3600 s/hr, 28317 cc/ft<sup>3</sup>, 0.53916 ft<sup>3</sup>/lbm for steam at 524F.

Performed By: \_\_\_\_\_  
Initials Date / Time

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## APPENDIX F

### BASIS: Calculation of Plant Total Gaseous Rad Release Rate

Unit conversion factor 26.55 is based on radiation monitor efficiency of 0.05625 uCi/cc per mR/h (from energy calculation SQNAPS3-100) and 472 cc/sec per cfm (see REP basis 7.1 SAE)

Units conversions factor of  $8.7\text{E-}6 = 5.42\text{E+}7$  CPM per uCi/cc (from table below) \* 28317 cc/ft<sup>3</sup> \* 0.016 min/sec

Nuclide	GAP Release Mix NUREG 1465	Conversion uCi/cc to CPM	CPM
KR-85	1.1E-03	6.26E+07	6.82E+04
KR-85M	4.6E-02	6.90E+07	3.16E+06
KR-87	9.2E-02	7.00E+07	6.42E+06
KR-88	1.3E-01	7.00E+07	9.23E+06
XE-131M	1.9E-03	3.40E+07	6.43E+04
XE-133	3.3E-01	2.27E+07	7.41E+06
XE-133M	1.1E-02	5.10E+07	5.84E+05
XE-135	6.3E-02	7.00E+07	4.41E+06
XE-138	3.3E-01	7.00E+07	2.29E+07
Totals	1.0E+00	from TI-18	5.42E+07

(based on NUREG 1465 Gap Release Mix and TI -18 factors)

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## SOURCE NOTES

### REQUIREMENTS STATEMENT

### SOURCE DOCUMENT

### IMPLEMENTING STATEMENT

NP Radiological Emergency  
Plan (NP-REP)

Appendix A - C.1

99-002929-000

Manual calculation  
for Thyroid CDE to  
match ICS.

Appendix B - C.1

99-002929-000

Manual calculation  
for Thyroid CDE to  
match ICS.

TENNESSEE VALLEY AUTHORITY  
SEQUOYAH NUCLEAR PLANT  
EMERGENCY PLAN IMPLEMENTING PROCEDURE

**EPIP-14**  
**RADIOLOGICAL CONTROL RESPONSE**

Revision 17

**QUALITY RELATED**

PREPARED/PROOFREAD BY: Bill Peggram

RESPONSIBLE ORGANIZATION: Emergency Preparedness

APPROVED BY: J. Randy Ford

EFFECTIVE DATE: 10/01/2001

Level Of Use: Reference



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# REVISION DESCRIPTION:

Rev	Date	Description
16	12/19/2000	Intent Change Removed Dose Assessment from EPIP-14 to new EPIP-13. Updated KI issuance to allow tablet by tablet issuance versus 10 day course. Deleted specific KI information sheet due to change of vendor and FDA information sheet is now part of packaging. Added record retention information. Required manual Radiation Monitor data collection only if ICS is non-functional. Clarified that spraying water is treated same by RADCON as standing water from a personnel protection standpoint. Modified directions associated with assembly siren to be consistent with EPIP-7. Revisions are not shown due to extent of the changes.
17	10/01/2001	Corrected section 3.1.A from Appendix E to Appendix D. (PER 01-008641-000)

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## 1.0 PURPOSE

To describe the actions and responsibilities of Sequoyah's Radiological Control (RADCON) and Chemistry Sections in the event of a radiological emergency.

## 2.0 REFERENCES

- A. EPIP-7, "Activation and Operation of the Operations Support Center (OSC)"
- B. EPIP-8, "Personnel Accountability and Evacuation"
- C. EPIP-13, "Initial Dose Assessment"
- D. CECC-EPIP-9, "Emergency Environmental Radiological Monitoring Procedures"
- E. RCI-20, "Radioiodine Monitoring During Accident Conditions"

## 2.1 Developmental Documents

- A. EPIP-6, "Activation and Operation of the Technical Support Center "
- B. EPIP-10, "Medical Emergency Response"

## 3.0 INSTRUCTIONS

### 3.1 Initiation of an Alert or Higher Declaration

Upon initiation of an Alert, Site Area Emergency, or General Emergency, the RADCON and Chemistry Sections shall assemble a specific number of personnel as described below.

- A. **RADCON:** During normal and off-shifts a Radiological Emergency Plan (REP) activation will be announced over the public address system or the emergency sirens may be activated and the Emergency Paging System (EPS) will be activated. The RADCON Lab will be contacted by the Shift Manager or designee. RADCON Shift Supervisor (RCSS) will determine the number of ANSI qualified RADCON personnel currently onsite. He shall ensure that at least a total of eight (8) (not counting him/herself) are available onsite within approximately 30 minutes and a total of least fourteen (14) (counting him/herself if qualified) are available onsite within one hour [six (6) additional ANSI qualified RADCON personnel within 30 minutes]. Call ins shall be in accordance with Appendix D ensuring that Fitness For Duty questions are asked and response documented. Additional RADCON support personnel may need to be called in using Appendix D.
- B. **CHEMISTRY:** The Chemistry Lab will be contacted by the Shift Manager or designee. Chemistry Shift Supervisor (CSS) will determine the number of chemistry technicians currently (counting the CSS if qualified) onsite and shall ensure that at least a total of two (2) chemistry technicians are available onsite within approximately 30 minutes and at least a total of three (3) are available onsite within one hour if the Dose Assessment function has not been assumed by other staff. Additional (above the minimum required staffing) Chemistry support personnel may need to be called in, use Appendix D to document.

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### 3.1 Initiation of an Alert (Continued)

- C. Chemistry Shift Supervisor (CSS) shall perform Dose Assessment in accordance with EPIP-13, "Initial Dose Assessment" when notified by the Shift Manager or Site Emergency Director.
- D. When the OSC is staffed by the OSC RADCON Supervisor (OSC RCS), the RCSS shall assemble two survey teams and dispatch them to the OSC for briefings and dressout.
- E. The TSC and OSC are activated during Alert, Site Area Emergency, or General Emergency or as deemed necessary by the SED.
- F. All response teams, except as listed in EPIP-7, will be dispatched from the OSC and should have a RADCON representative as a member. If the Fire Brigade, Medical Emergency Response Team or Damage Control Team is already responding they are not required to return to the OSC to be dispatched, but shall be tracked, briefed, and de-briefed by the OSC in accordance with EPIP-7, Section 3.2.5. RADCON survey teams may be dispatched from the lab but shall be tracked by the OSC.
- G. Response teams will be debriefed by the OSC after completing their team assignment.

### 3.2 TSC RADCON Manager (RCM) Responsibilities

The responsibilities and duties of the TSC RADCON representative are detailed in EPIP-6. A summary of the details associated with these responsibilities are provided below.

- A. The primary responsibilities of the TSC RCM are to direct onsite radiological surveillance activities, assess inplant and onsite radiological conditions and to make this information available to the Site Emergency Director (SED), the Central Emergency Control Center (CECC) and other TSC personnel as necessary, to support and coordinate protective actions.
- B. To facilitate the evaluation of in-plant radiological conditions and to establish trends. Appendix A lists the radiation monitors [i.e., Area Radiation Monitors (ARMs) and Continuous Air Monitors (CAMs)] that may be used.
- C. The TSC RCM, together with other TSC personnel, evaluates plant conditions to anticipate future developments and formulates corrective action plans to address actual or postulated conditions. The TSC RCM renders recommendations and advises the SED on radiological issues.
- D. The TSC RCM communicates with the CECC RADCON Manager, providing pertinent in-plant radiological data so that appropriate offsite protective actions can be implemented in a timely manner.
- E. The TSC RCM maintains communications with the OSC RADCON Supervisor (RCS), constantly evaluating inplant radiological conditions, recommending and identifying the need for radiological surveys.

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### 3.2 TSC RADCON Manager (RCM) Responsibilities (Continued)

- F. When directed by the Site Emergency Director, establishes a contamination checkpoint for personnel and vehicles leaving the site.
- G. Determines when to issue and to whom to issue Potassium Iodide in accordance with section 3.7.

### 3.3 Activation of the Operations Support Center

#### 3.3.1 OSC RADCON Supervisor (RCS)

The OSC RADCON Supervisor is a trained and qualified individual designated by the RADCON Manager. The approved alternates are listed in the Call List.

The responsibilities and duties of the OSC RADCON Supervisor are detailed in EPIP-7. A summary of the details associated with these responsibilities are provided below:

- A. The primary responsibilities of the OSC RADCON Supervisor are to ensure that, when required, a RADCON tech accompanies each team; detailed radiological briefings are provided to OSC team members; and the OSC Manager, and OSC Staff are knowledgeable of in-plant radiological conditions. He also serves as the interface between the TSC and the RADCON Lab.
- B. Maintains awareness of in-plant radiological conditions and related parameters and reports those conditions to the TSC RCM.
- C. Communicates directly with the TSC to coordinate inplant response activities. Assists in the development of briefing notes, and radiological condition updates.
- D. In conjunction with the TSC, identifies the need, location, and extent of radiological surveillance activities required to assess or mitigate the consequences of the accident.
- E. All teams are dispatched from the OSC except as described in section 3.1.F. The OSC RADCON Supervisor is responsible for ensuring that personnel making entries into the plant, including survey teams, are aware of any special precautions, plant conditions, or requirements and are assigned team tracking numbers.
- F. Ensure that OSC Team members are instructed to note their Remaining Allowable Dose (RAD) upon exiting the RCA and to provide their current RAD to the Personnel Pool Manager when they return to the OSC. The Personnel Pool Manager will update their RAD in his log. Repetitive exposures of workers should be restricted by substituting other qualified personnel for team members, on reentry, to distribute exposures.
- G. Report all survey results as soon as possible to the TSC so they can make recommendations to the proper agencies to initiate any required protective actions.

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### 3.4 RADCON Lab Responsibilities

#### 3.4.1 Designated RCSS

The designated RCSS is responsible for managing the activities of the RADCON lab.

- A. In the event of an Alert, Site Area Emergency, or General Emergency the OSC may become the staging area for entries into affected plant areas.
- B. A RADCON Representative should accompany all emergency response teams when initial entries are made into affected plant areas.
- C. The RCSS is responsible for ensuring that adequate numbers of RADCON representatives are available, in accordance with paragraph 3.1.A, to support emergency activities and that two (2) survey teams are dressed out and ready for briefing.
- D. The RCSS is responsible for preparing and designating an onsite RADCON environmental monitoring team. Team members will prepare and operate the monitoring van in accordance with CECC-EPIP-9. Record all survey results. If results indicate offsite contamination, the survey areas may need to be expanded. Obtain further instructions and perform required surveillance.
- E. Until relieved by the OSC RADCON Supervisor, if directed by the TSC, SED, or deemed necessary by the RCSS based on plant conditions, the RCSS will dispatch survey teams to assembly areas, the OSC and TSC to evaluate radiological conditions, monitor radiation levels as conditions dictate and ensure updated habitability surveys are performed. These survey teams will monitor contamination levels as needed both on personnel and floor/equipment areas and implement corrective actions (e.g., decontamination or zoning) as necessary.
- F. The RCSS will monitor the RADCON lab for habitability and will coordinate evacuation activities to the alternate RADCON lab location if warranted.
- G. The RCSS will ensure all survey teams are tracked by the OSC.
- H. The RCSS will ensure DAC-hour exposure when available and RAD calculations are completed and reported to the OSC RADCON Supervisor.
- I. The RCSS will ensure respiratory protection is issued as needed.
- J. Ensure that HIS-20 entries are properly made and that all dosimetry is properly issued, collected and identified for each worker. Make arrangements to have TLD badges read, as soon as possible.

### 3.5 Chemistry Response

#### 3.5.1 Designated Chemistry Personnel

The designated Chemistry personnel are responsible for managing the activities of the Chem Lab.

- A. Upon request of the Shift Manager (SM), Chemistry personnel shall determine the plant source term that shall be reported to the SM for classification purposes and protective action recommendations to the state.
- B. The CSS is responsible for ensuring that adequate numbers of chemistry personnel are available in accordance with paragraph 3.1.B.
- C. In the event of an Alert, Site Area Emergency, or a General Emergency, due to a radiological release, a plant total gas release rate (source term) may need to be determined in accordance with EPIP-13.
- D. The source term shall be reported to the CECC dose assessment staff, when the CECC is manned, for input into a preliminary dose assessment.
- E. Projected dose at the site boundary, 2 miles and 5 miles may be determined in accordance with EPIP-13.

### 3.6 General Response

#### 3.6.1 All RADCON Personnel

All RADCON personnel should comply with the following:

- A. The following precautions should be considered during emergency incidents.

<u>Anticipated Conditions</u>	<u>Protective Considerations</u>
Noble gas concentrations > $1 \times 10^{-3}$ $\mu\text{Ci/cc}$	Precaution: If fuel damage has occurred or is suspected, respirators should be worn due to potentially rapid changes in conditions (ensuring TEDE is ALARA).
Iodine concentrations > 10 DAC	SCBA
Particulate concentrations > 10 DAC	Particulate mask or SCBA (SCBA recommended if $\geq$ 50 DAC).
Standing water >1" or Spraying Water	Rain suits, rubber boots, Extremity dosimetry

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### 3.6.1 All RADCON Personnel (Continued)

- B. If it is necessary to evacuate the RADCON lab, then the personnel stationed in the lab will secure the equipment listed in EPIP-17, Appendix C. This equipment will be brought to the alternate lab by RADCON. This list is a minimum and if time permits and manpower allows, then efforts should be made to transport additional equipment and supplies to the alternate lab. The SED shall be informed when it becomes necessary to evacuate the 690' RADCON lab. If this situation develops, a RADCON Lab will be established adjacent to the TSC. This alternate lab should be set-up in the switchgear room, El 732' or other suitable area, as emergency conditions allow (the TSC RCM is responsible for making this determination). This lab will be equipped with necessary supplies and instrumentation needed to perform minimum radiological surveys and analysis required during an emergency.
- C. If severe radiological conditions are suspected, the "Buddy System" shall be utilized.
- D. If not already covered under a standing RWP and if time is available, an RWP should be issued to cover entry teams; if not, suitable protective measures should be taken in accordance with established procedures.
- E. When accountability is initiated, if not previously accounted for, RADCON personnel shall secure work in a safe manner and proceed to the 690' RADCON Lab and/or other designated assembly areas and swipe into the accountability reader in accordance with EPIP-8. If previously accounted for, contact the RCSS or OSC RADCON Supervisor for directions.
- F. RADCON representatives may be sent to the assembly areas to determine if any workers were in the affected plant areas at the time of the event. These people shall be separated from other plant workers and personnel contamination surveys should be initiated for all personnel.
- G. If ICS is not functional, radiation monitor readings may be obtained from Control Room personnel or an individual may be sent to the Control Room to record the necessary values. Readings are obtained from panels 0-M-12 and 1/2-M-30 and recorded on Appendix A.
- H. As radiation monitor readings are updated, the OSC RADCON Supervisor ensures labs will be contacted to ensure that their status boards are made current.
- I. As reports become available regarding the details of the emergency, RADCON personnel shall prepare all necessary equipment needed during recovery and report to the OSC as needed to ready survey or damage control team(s) for entry into the affected area(s).
- J. Upon notification from the OSC RADCON Supervisor, the survey team(s) may proceed to the specified area. It should be noted that depending on the type of accident, this initial survey may not be performed until hours or perhaps even days after the event. In this case, procedures may be developed describing the reentry steps to be followed. Other essential personnel may be required to assist in reentry activities.



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### 3.7 Issuance of Potassium Iodide (KI)

- A. Projected cumulative doses to the thyroid from inhalation of radioactive iodine can be estimated using Appendix C "Occupational Thyroid Dose from Inhalation of I-131."
- B. If a person's projected cumulative dose to the thyroid from inhalation of radioactive iodine might exceed 10 rem, the exposed person should be started immediately on KI. Authorization to issue KI is the responsibility of the TSC RCM. He shall inform the SED prior to issuance.
- C. The initial dose of KI should not be delayed and those who begin therapy should continue the KI unless their thyroid dose is determined not to have exceeded 10 rem. A copy of the Food and Drug Administration approved instructions shall accompany issue of KI Dosage schedules and other pertinent information are outlined on the package and should be followed closely.
- D. Potassium iodide is stored in the OSC. KI has an approved shelf-life with the expiration date listed. To ensure that the KI supply is valid, these dates will be inspected and the KI replaced as necessary.
- E. The issuing agent shall complete the Potassium Iodide Issue Report (Appendix B) for KI issued. A copy of this report will be routed to the TSC RCM in a timely manner.

### 3.8 Use of Silver Zeolite Cartridges

- A. During accident conditions noble gas concentrations may be present in significant quantities both inplant and offsite. The collection of these noble gases on charcoal cartridges during iodine sampling will interfere with subsequent iodine analysis.
- B. Silver zeolite cartridges are provided for use during periods of high noble gas concentrations. RCI-20 describes the utilization of and lists hazards associated with Silver Zeolite cartridge use.

### 3.9 Personnel Decontamination and Facilities

- A. RADCON will use established procedures for personnel decontamination. Decontamination facilities are available for use by Sequoyah personnel.
- B. Contaminated personnel are normally decontaminated at the 690' elevation decon facility. This facility is equipped with a wash sink, shower, and all necessary supplies. These supplies include various decontamination agents and soaps, towels, clean clothing, and other miscellaneous supplies.
- C. EPIP-10 contains guidelines for RADCON assistance during a medical emergency or hospital treatment. Contaminated personnel requiring offsite medical attention are treated at the agreement hospital where the staff that has been trained in the handling and care of contaminated patients. Emergency Preparedness maintains a supply cabinet at the hospital's Emergency Room which contains posting materials and various other supplies.

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## **4.0 RECORDS**

### **4.1 QA Records**

### **4.2 Non-QA Records**

The Appendices A, B, or D generated in support of key actions during an actual emergency are considered Non-QA records. These records shall be forwarded to the EP Manager who shall submit any records deemed necessary to demonstrate performance for lifetime storage.

The Appendices A, B, or D generated in support of key actions during a drills and exercises 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 and shall retain records from other required drills for two years.

### **4.3 Other Records**

Materials generated as part of training need not be retained.

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### APPENDIX A

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### IN PLANT RADIATION MONITORS

DATE : \_\_\_\_\_

Affected Unit \_\_\_\_\_

DESCRIPTION	IDENTIFIER	INITIAL READING TIME: _____	UPDATED READINGS		
			TIME: _____	TIME: _____	
<b>PANEL 0-M-12</b>					
SPENT FUEL PIT AREA RADMON	1/2-RM-90-1				mR/hr
SFP AREA RADMON	0-RM-90-5				mR/hr
CCS HXS AREA RADMON	1/2-RM-90-6				mR/hr
HOT SAMPLE ROOM AREA RADMON	1/2-RM-90-7				mR/hr
AFW PUMPS AREA RADMON	1/2-RM-90-8				mR/hr
JS WASTE TKS AREA RADMON	0-RM-90-9				mR/hr
CVCS BD AREA RADMON	1/2-RM-90-10				mR/hr
CNTMT SPRAY AND RHR PUMPS RADMON	0-RM-90-11				mR/hr
CNTMT UPPER COMPT RADMON- TOTAL GAS	1/2-RM-90- 112B				CPM
CNTMT LOWER COMPT RADMON-TOTAL GAS	1/2-RM-90- 106B				CPM
<b>PANEL 1/2-M-30</b>					
SHIELD BLDG VENT MON RAD INDICATOR	1/2-RI-90-400 Low Range Mid Range High Range Effluent				μCi/cc μCi/cc μCi/cc μCi/sec
SAMPLE ROOM POST ACCIDENT AREA MONITOR	1/2-RM-90-280				mR/hr
RHR POST ACCIDENT AREA MONITOR					
-LO RNGE	1/2-RM-90-290				mR/hr
-HI RNGE	1/2-RM-90-291				mR/hr
-LO RNGE	1/2-RM-90-292				mR/hr
-HI RNGE	1/2-RM-90-293				mR/hr

Route to EP Manager

Data Taker Signature \_\_\_\_\_

Time \_\_\_\_\_

Date \_\_\_\_\_

**SQN**

## RADIOLOGICAL CONTROL RESPONSE

PIP-14

REV. 17

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## APPENDIX B

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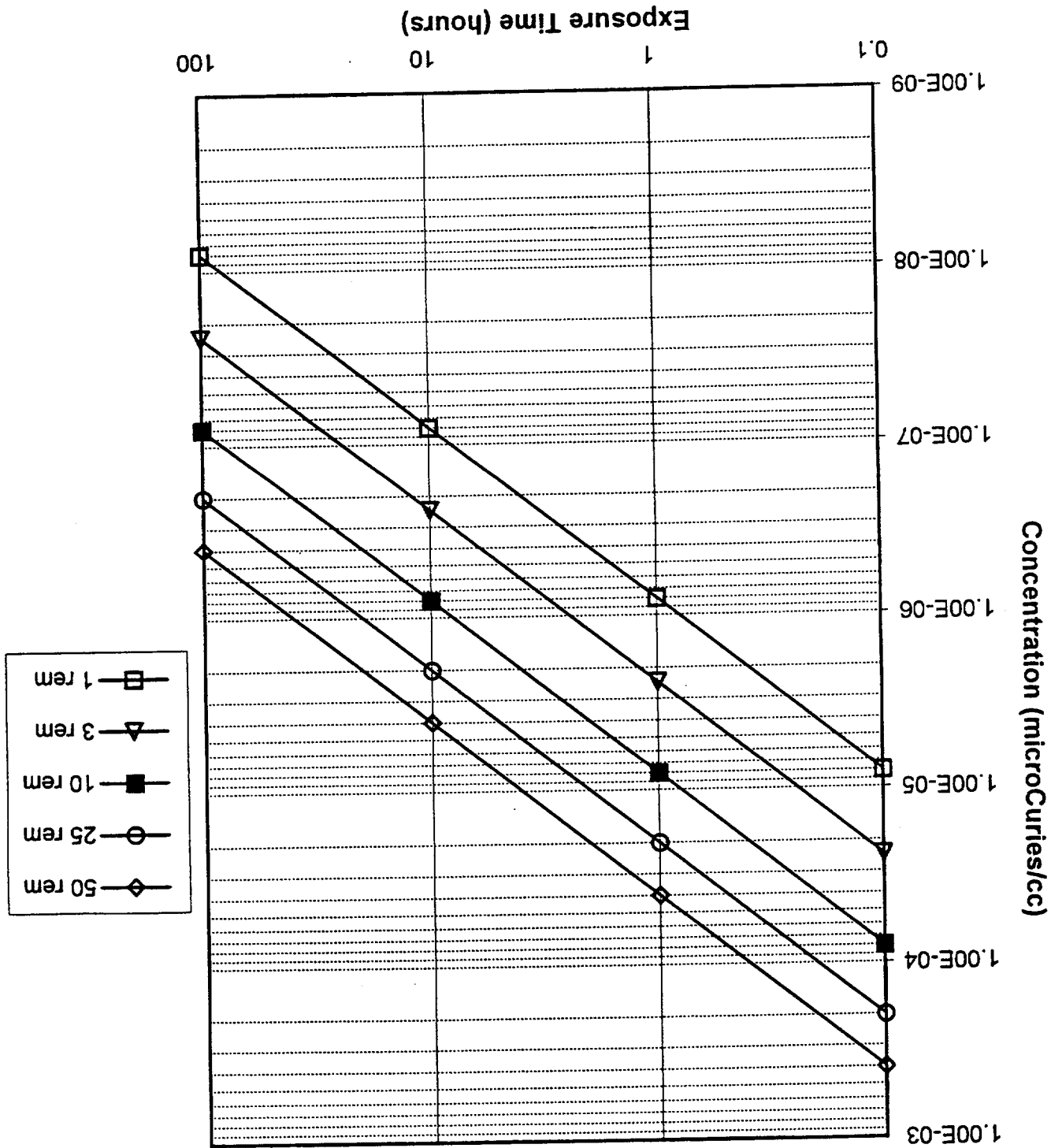
## POTASSIUM IODIDE ISSUE REPORT

[illegible]

## Route to Emergency Preparedness Manager

APPENDIX C  
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Occupational Thyroid Dose from Inhalation of  
I-131





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## SOURCE NOTES

### REQUIREMENTS STATEMENT

NP Radiological Emergency  
Plan (NP-REP)

Paragraph 3.1.A

### SOURCE DOCUMENT

SQ963213PER

### IMPLEMENTING STATEMENT

Revise EPIP-14 to  
indicate fitness  
for duty questions  
are required for  
call-ins.

TENNESSEE VALLEY AUTHORITY  
SEQUOYAH NUCLEAR PLANT  
EMERGENCY PLAN IMPLEMENTING PROCEDURE

**EPIP-17**

**Emergency Equipment and Supplies**

Revision 22

**QUALITY RELATED**

PREPARED/PROOFREAD BY: Bill Peggram

RESPONSIBLE ORGANIZATION: Emergency Preparedness

APPROVED BY Randy Ford

EFFECTIVE DATE: 10/01/2001

Level Of Use: Reference



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# REVISION DESCRIPTION:

Rev	Date	Description
21	03/30/01	Intent Change. This change moves equipment functional tests for TSC and OSC from 0-PI-REM-244-001.0 to this procedure. This procedure now performs Emergency Center inventories and equipment functional tests in a common procedure consistent with peer recommendations. 0-PI-REM-244-001.0 and 0-PI-REQ-244-001.0 specify monthly and quarterly functional tests requiring site coordination. Removed the INPO Emergency Resources Manual from TSC Inventory, current INPO document is now available "on-line". Added I & C Tool Kit to App. K. Renumbered Appendices.
22	10/01/2001	Update OSC Radio functional check requirements. Remove Polaroid Camera and Film and add digital camera. Realigned or added Column headings.

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## 1.0 PURPOSE

This instruction is used to comply with the requirements of the Radiological Emergency Plan for periodic inspection and maintenance of equipment and supplies.

## 2.0 REFERENCES

- A. CECC EPIP-9
- B. 0-PI-FPU-317-301.M
- C. 0-PI-FPU-049-401.M
- D. 0-PI-REM-000.001.Q
- E. 0-PI-REM-244.001.M
- F. 0-PI-REM-244.002.Q

## 3.0 INSTRUCTIONS

### 3.1 General Instructions

- 3.1.1 Responsible Organizations (as designated below) shall conduct inventory at the specified frequencies. For the purposes of these inventories, monthly is defined as once per calendar month, quarterly is defined as once per calendar quarter, and annual is defined as once per calendar year.

Appendix	Frequency	Description	Responsible Org.
A	Annual	Main Control Room - Corridor Cabinet - Table A	RadCon
A	Quarterly	Main Control Room - Corridor Cabinet - Table B	RadCon
B	Annual	Communications Room - Control Building - Table A	RadCon
B	Quarterly	Communications Room - Control Building - Table B	RadCon
C	Quarterly	Radiological Control Lab	RadCon
D	Quarterly	OSC Response Team Storage	RadCon
E	Quarterly	480V Rx MOV Board Room EL 734	RadCon
F	Quarterly	Decon Facility - Service Building EL 690	RadCon
G	Quarterly	Agreement Hospital Emergency Room	Corporate EP
H	Quarterly	Technical Support Center	EP Manager
I	Quarterly	Operations Support Center	EP Manager
J	Quarterly	Local Recovery Center	EP Manager
K	Quarterly	Inventories Performed in other Procedures	EP Manager

- 3.1.2 The individuals performing the inspection shall complete the appendices and the Emergency Preparedness Manager shall review the results as indicated and make arrangements to correct deficiencies.
- 3.1.3 List any deviations and the disposition on the appropriate Appendix Data Sheet. Deficient, outdated or missing items shall be replaced.
- 3.1.4 Special checks of certain material in the cabinets shall be performed. The following checks shall be made where applicable:
- A. The protective clothing shall be checked for deterioration.
  - B. The smoke tubes and aspirator bulbs shall be checked for deterioration and that the tubes have not been broken or used.
  - C. Replace all flashlight batteries at the end of shelf-life with fresh batteries. (Do not discard batteries. Return them to the tool room.)
  - D. Check to determine that flashlights are operable.
  - E. Rezero all emergency dosimeters to assure proper operation.

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### 3.2 Detailed Instructions

- 3.2.1 The emergency equipment, listed in Appendices A and B, are stored in cabinets provided with a lock or plastic seal. This provides a means of controlling access or determining that the cabinet has not been opened. An inventory list of the equipment may be posted on the outside of the cabinet. The two cabinets are located in the Main Control Room corridor, and Communications Room.
- 3.2.2 Each cabinet and storage location, including the medical treatment area, shall be inventoried and required equipment inspected and checked for operation and/or condition. Equipment in certain cabinets is separated into Table A and Table B. Table A is a list of all non-perishable items stored in a small metal box equipped with a security seal within the cabinet itself. These items will be inventoried annually (preferably in January) and whenever a security seal has been found to be violated. Those items listed in Table B of these attachments are inventoried on a quarterly basis.
- 3.2.3 The radiation monitoring instruments, which are in normal plant use, are located in the RADCON laboratory as listed in Appendix C.
- 3.2.4 Protective clothing for use by the OSC response teams is located in the Operations Support Center storage room and is listed in Appendix D.
- 3.2.5 Protective clothing for use in contamination controls from affected plant areas in the Control Building are listed in Appendix E and is located in the 480 V Reactor MOV Board Room, Elevation 734.
- 3.2.6 Supplies for decontamination of personnel are stored in the EI.690' Decon. Room near the RadCon lab and are listed in Appendix F.
- 3.2.7 The emergency room supplies furnished by TVA for use of the agreement hospital(s) in case of injury involving radioactive materials are listed in Appendix G.
- 3.2.8 References and supplies for use during an emergency stored in the Technical Support Center (TSC) are listed in Appendix H.
- 3.2.9 References and supplies for use during an emergency stored in the Operations Support Center (OSC) are listed in Appendices I and D.
- 3.2.10 References and supplies for use during an emergency stored in the Local Recovery Center (LRC) are listed in Appendix J.
- 3.2.11 The emergency equipment referenced in Appendix K is inventoried by other procedures and reviewed by the Emergency Preparedness Manager for acceptability.
- 3.2.12 TSC/OSC position notebooks and work areas shall be scanned during the quarterly inventory for uncontrolled or outdated materials; not just outdated forms.

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### 3.3 Completion of Appendices

- 3.3.1 If the particular items are present and in sufficient quantities and, when applicable, in good working condition, then check the "Yes" column.
- 3.3.2 If a deficiency is noted, then check the "No" column and replace deficient items. All deficiencies must be corrected as soon as possible. If circumstances do not allow deficiencies to be corrected, then the appropriate supervisor shall be notified.
- 3.3.3 Under the "Remarks" column, explain the corrective actions taken.
- 3.3.4 All comments in the "Remarks" column should be detailed enough to leave no doubt as to the actions taken. Comments to the effect - "batteries missing" will not suffice. A simple check in the "No" column will represent that a deficiency exists. Such comments do not allow a person to determine what, if any, action has been taken. Comments should read for example: "Batteries missing, replaced on March 5, 2001".

### 4.0 RECORDS

#### 4.1 QA Records

None

#### 4.2 Non-QA Records

The Appendices/Checklists in this Instruction are NON-QA documents and will be retained by the SQN Emergency Planning (EP) Manager for at least two years.

**APPENDIX A**  
**MAIN CONTROL ROOM CORRIDOR CABINET - CONTROL BUILDING**  
Page 1 of 1

**TABLE A**

<u>Quantity</u>	<u>Description</u>	<u>Yes</u>	<u>No</u>	<u>Remarks</u>
Security seal intact: .....				
<b>NOTE:</b> Table A will be inventoried annually (preferably in January) and whenever a security seal has been found to be violated.				
12 pr.	Rubber overshoes - Various sizes.....	—	—	_____
6 pr.	Canvas gloves.....	—	—	_____
12 pr.	Rubber gloves- Various sizes .....	—	—	_____
6	Hoods.....	—	—	_____
2	Pencils.....	—	—	_____
2	Clipboards with paper.....	—	—	_____
2	Boxes smoke tubes.....	—	—	_____
2	Aspirator bulbs .....	—	—	_____
1	Log Book.....	—	—	_____
4 rolls	Duct tape and/or masking tape .....	—	—	_____
Security seal replaced .....		—	—	_____

**TABLE B**

<u>Quantity</u>	<u>Description</u>	<u>Yes</u>	<u>No</u>	<u>Remarks</u>
12	Pairs of paper overalls - Various sizes .....	—	—	_____
2	Hardhats.....	—	—	_____
2	Flashlights .....	—	—	_____
12	Spare flashlight batteries Expires:.....	—	—	_____
2	Spare flashlight bulbs.....	—	—	_____
1	First-aid kit.....	—	—	_____
12	Face Goggles.....	—	—	_____
1	Radiation Survey Meter.....	—	—	_____
Cabinet Relocked or Resealed.....		—	—	_____

Inspection performed by:  
RADCON Representative \_\_\_\_\_ Date \_\_\_\_\_

Review and Approval:  
Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_

**APPENDIX B**  
**COMMUNICATIONS ROOM - CONTROL BUILDING**  
 Page 1 of 1

**TABLE A**

<u>Quantity</u>	<u>Description</u>	<u>Yes</u>	<u>No</u>	<u>Remarks</u>
Security seal intact: _____				
NOTE: Table A will be inventoried annually (preferably in January) and whenever a security seal has been found to be violated.				
6	Pairs of rubber overshoes .....	—	—	_____
6	Pairs canvas gloves .....	—	—	_____
6	Pairs rubber gloves .....	—	—	_____
6	Hoods.....	—	—	_____
2	Pencils.....	—	—	_____
2	Clipboards with paper.....	—	—	_____
2	Boxes smoke tubes.....	—	—	_____
2	Aspirator bulbs .....	—	—	_____
1	Log Book.....	—	—	_____
Security seal replaced .....		—	—	_____

**TABLE B**

<u>Quantity</u>	<u>Description</u>	<u>Yes</u>	<u>No</u>	<u>Remarks</u>
6	Pairs of coveralls - various sizes .....	—	—	_____
2	Hardhats.....	—	—	_____
2	Flashlights .....	—	—	_____
12	Spare flashlight batteries Expires:_____ .....	—	—	_____
2	Spare flashlight bulbs.....	—	—	_____
1	First-aid kit.....	—	—	_____
Cabinet Relocked or Resealed.....		—	—	_____

Inspection performed by:  
 RADCON Representative \_\_\_\_\_ Date \_\_\_\_\_

Review and Approval:  
 Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_

**APPENDIX C**  
**RADIOLOGICAL CONTROL LABORATORY - SERVICE BUILDING**  
 Page 1 of 1

<u>Quantity</u>	<u>Description</u>	<u>Yes</u>	<u>No</u>	<u>Remarks</u>
1	Alpha Survey Meter (500,000 cpm).....	—	—	_____
1	Neutron dose rate survey meter (.025 eV - 10 MeV/5,000 mR/hr) .....	—	—	_____
2	High Range Survey Instrument (1,000 R/hr with extendible probe) .....	—	—	_____
6	ION Chamber Survey Meter (50 R/h) .....	—	—	_____
1	ION Chamber Survey Meter (20,000 R/h) .....	—	—	_____
5	High volume Air Samplers (and support equipment)...	—	—	_____
10	Frisker Type Survey Meters (0-50,000 cpm) .....	—	—	_____
5	Low-volume air samplers (and support equipment) ....	—	—	_____
1	Portable Scaler .....	—	—	_____
5	Calculators .....	—	—	_____
2	Cal/Response Ck Sources .....	—	—	_____
5	Noble Gas Sampling Syringes .....	—	—	_____
10	Silver Zeolite Cartridges .....	—	—	_____
5	Marinelli Beakers .....	—	—	_____
1	Shielded Detector .....	—	—	_____

Inspection performed by:  
 RADCON Representative \_\_\_\_\_ Date \_\_\_\_\_

Review and Approval:  
 Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_



**APPENDIX D**

**OSC RESPONSE TEAM EQUIPMENT -**  
**CAFETERIA OSC EQUIPMENT STORAGE ROOM**  
Page 1 of 1

<u>Quantity</u>	<u>Description</u>	<u>Yes</u>	<u>No</u>	<u>Remarks</u>
40 pr.	Cotton liners .....	—	—	_____
40 pr.	Rubber gloves - Various sizes .....	—	—	_____
40 pr.	Plastic booties .....	—	—	_____
40 pr.	Rubber overshoes - Various sizes .....	—	—	_____
30 pr.	Coveralls - Various sizes .....	—	—	_____
30	Surgeon caps .....	—	—	_____
30	Hoods .....	—	—	_____
4 rolls	Duct Tape and/or Masking Tape .....	—	—	_____
2	Hardhats .....	—	—	_____
6 pr.	Canvas gloves .....	—	—	_____
2	Spare flashlight bulbs .....	—	—	_____
2000 doses KI (Expires _____) (#Pkgs * #Tablets/pkg = #doses) .....		—	—	_____
Door Relocked.....		—	—	_____

Inspection performed by:  
 RADCON Representative \_\_\_\_\_ Date \_\_\_\_\_

Review and Approval:  
 Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_

**APPENDIX E**  
**480V REACTOR BOARD ROOM - AUXILIARY BUILDING (EL. 734)**  
Page 1 of 1

<u>Quantity</u>	<u>Description.....</u>	<u>Yes</u>	<u>No</u>	<u>Remarks</u>
40 pr.	Cotton liners .....	—	—	_____
40 pr.	Rubber gloves - Various sizes .....	—	—	_____
40 pr.	Plastic booties .....	—	—	_____
40 pr.	Rubber overshoes - Various sizes .....	—	—	_____
30 pr.	Paper coveralls.....	—	—	_____
30	Surgeon caps .....	—	—	_____
1	Box of vinyl gloves.....	—	—	_____
4 rolls	Duct Tape and/or Masking Tape .....	—	—	_____
6 pr.	Canvas gloves .....	—	—	_____
2	Flashlights .....	—	—	_____
2	Spare flashlight bulbs .....	—	—	_____
12	Spare flashlight batteries Expires_____ .....	—	—	_____
Cabinet Relocked or Resealed.....		—	—	_____

Inspection performed by:  
RADCON Representative \_\_\_\_\_ Date \_\_\_\_\_

Review and Approval:  
Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_

**APPENDIX F**  
**EL. 690' DECONTAMINATION ROOM**  
Page 1 of 1

<u>ITEM</u>	<u>MIN QUANTITY</u>	<u>SUGGESTED QUANTITY</u>	<u>QUANTITY ON HAND</u>	<u>REMARKS</u>
Disposable Gloves	1 box	2 boxes		
Gauze Pads	1 box	2 boxes		
Cotton Swabs	1 pkg	1 pkg		
Saline Solution	1 bottle	2 bottles		
Surgical Brushes	1 each	12 each		
Shampoo	1 bottle	2 bottles		
Soap	2 bars	5 bars		
Laundry detergent	none	1 box		
Soap (liquid abrasive)	none	1 bottle		
Mechanic's Hand Cleaner	none	2 can		
Shaving Cream	1 can	1can		
Razors	2 each	5 each		
Paper Bath Towels	none	1 box		
Towels	5 each	25 each		
Scissors	1 pair	1 pair		
Petri Dishes	3 each	5 each		
Duct Tape	none	2 rolls		
Paper Coveralls	5 pair	10 pair		
Tennis Shoes (Sizes 7-12)	none	one pair each		half sizes are OK

Inspection Performed By: \_\_\_\_\_  
 RADCON Representative: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_  
 RADCON Shift Supervisor: \_\_\_\_\_ Date: \_\_\_\_\_

Reviewed By: \_\_\_\_\_  
 EP Manager: \_\_\_\_\_ Date: \_\_\_\_\_

**APPENDIX G**  
**HOSPITAL CABINET INVENTORY**  
Page 1 of 1

☐ Erlanger☐ North Park

SAT	Quantity	Description	Remarks
<b>Protective Clothing</b>			
	10 pair	Shoe covers	
	10 pkg	Dress out packages (coveralls, booties, gloves)	
	3	Surgical gowns	
	2 boxes	Surgical gloves	
	4 rolls	Surgical tape for dressout - 2 inch	
<b>Facility Preparation</b>			
	1 set	Floor coverings (hospital specific)	
	1 roll	Heavy duty paper (3 foot wide)	
	2 rolls	2 inch duct tape	
	1 roll	Radiation Warning symbol tape (2 inch)	
	2	Step off pads	
	8	Radiological barrier posting signs	
	1 Spool	Radiological barrier rope or ribbon	
	5	Traffic cones	
	10	Large rad waste plastic bags (trash can size)	
	10	Medium rad waste plastic bags (x-ray cassette size)	
	2 copies	Hospital specific booklet (1 at desk, 1 in cabinet)	Last Update:
	1	Radioactive material label tape	
<b>Decontamination Supplies</b>			
	1	Decontamination table, backboard and bottles (min. total capacity of 10 gallons)	
	1	Flexible funnel with drain hose - optional	
	1	Decontamination media /soap product	
	1	NCRP # 65 Reference Handbook	
	12	Cotton swabs	
	20	Zip lock bags for sample collection	
	10	Labels for sample bags	
	2	Scissors	
	1	Wall poster with decontamination steps	
<b>Health Physics Supplies</b> (Serial # and cal due)			
	1	Bicron ISM (RSO-5 or 50)	
	2	Bicron Surveyor 50	
	1	Wound probe with cable	
	10	TLDs	
	10	Electronic dosimeters and tray	
	200	Smears	
	12	Radioactive Material tags	
	1	Masslin mop and 20 cloths	

Inspection Performed By: \_\_\_\_\_ Date \_\_\_\_\_

Review and Approval:  
Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_

**APPENDIX H**  
**TECHNICAL SUPPORT CENTER**  
Page 1 of 2

<u>Qty</u>	<u>Description</u>	<u>Yes</u>	<u>No</u>	<u>Remarks</u>
Assorted	Dryboard Supplies (Erasers, markers, etc.).....	—	—	—
Assorted	Desktop Supplies (Stapler, Tape, Logbooks).....	—	—	—
Assorted	Office Supplies (Pen, Pencils, Staples, Etc.).....	—	—	—
1	Spare Roll of thermal Paper for Tracking Board.....	—	—	—
2	ASME Steam Tables.....	—	—	—
4	Communications Head Sets.....	—	—	—
4	Sequoyah Phone Directories (latest edition).....	—	—	—
3	Chattanooga Phone Directories (latest edition).....	—	—	—
2	TVA Phone Directories (latest edition).....	—	—	—
5	Electronic Display Projectors.....	—	—	—
1 each	TSC Position Notebooks.....	—	—	—
	(Scan/Check for uncontrolled/out-of-date materials in Position notebooks & seating areas.)			

Verify wall maps are latest revision (see CECC EPIP-9)

1	2 Mile Map.....	Latest Rev. —	—	—
1	10 Mile Evac Map.....	Latest Rev. —	—	—
2	50 Mile Sample Map.....	Latest Rev. —	—	—
1	50 Mile Map.....	Latest Rev. —	—	—

**(NOTE: Retain marked up REND pages or printouts as documentation)**

Verify Key Phones for TSC are functional by calling each number listed in the REND and checking on a copy of the REND page..... — — —

Verify Fixed Satellite Phone is functional by calling known good phone..... — — —

Verify CECC Terminal/Printer is functional by printing current Met Data..... — — —

Verify copier is functional by copying a page..... — — —

Verify clocks are functional by checking current time..... — — —

Verify signs are functional by changing to all classifications and observing..... — — —

Verify all ICS/Wide Area Network Terminals are functional..... — — —

<b>Position</b>	<b>√</b>	<b>Position</b>	<b>√</b>	<b>Position</b>	<b>√</b>
Ops Mgr.		Ops Comm. #1		TAT 1 ICS	
Chem Mgr		Ops Comm. #2		TAT 2 ICS	
				TAT 3 ICS	
RadCon ICS		Main. Mgr		TAT 4 ICS	
RadCon WAN		SVP		TAT TEC ICS	
NRC Room		Logkeeper		TAT DSPL	

Check Unit 1 and Unit 2 ICS or WAN access to EP Website as appropriate

Verify CECC ring-down is functional by calling CECC Director Position..... — — —

<b>SQN</b>	<b>EMERGENCY EQUIPMENT AND SUPPLIES</b>	<b>EPIP-17</b> <b>Revision 22</b> <b>Page 15 of 20</b>
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**APPENDIX H**  
**TECHNICAL SUPPORT CENTER**  
Page 2 of 2

<u>Qty</u>	<u>Description</u>	<u>Yes</u>	<u>No</u>	<u>Remarks</u>
Verify presence only (DCU controls contents)				
4	REP (Radiological Emergency Plan) .....	—	—	—
2	REND (Radiological Emergency Notification Directory) .....	—	—	—
2	Central Emergency Control Center EPIP (CECC EPIP) .....	—	—	—
4	SQN EPIP .....	—	—	—
4	Severe Accident Management Guidance (SAMG) .....	—	—	—
1	Updated SQN FSAR .....	—	—	—
2	Unit 1 Technical Specifications .....	—	—	—
2	Unit 2 Technical Specifications .....	—	—	—
1	Site Health and Safety Manual .....	—	—	—
1	State of Tennessee Multijurisdictional REP Response Plan .....	—	—	—
1	System Operating Manual/System Operating Instructions (SO/SOI) .....	—	—	—
1	Annunciator Response Manuals (AR) .....	—	—	—
1	Periodic Instructions (PI) .....	—	—	—
2	Abnormal Operating Procedures (AOP) .....	—	—	—
1	Technical Instructions (TI) .....	—	—	—
1	General Operating Instructions (GO) .....	—	—	—
1	SQN Offsite Dose Calculation Manual (ODCM) .....	—	—	—
1	SQN Process Control Program (PCP) .....	—	—	—
1	Radiological Control Instructions (RCI) .....	—	—	—
1	Radwaste Handling/Shipping Index (RHSI) .....	—	—	—
2	Functional Restoration Guidelines .....	—	—	—
2	Emergency Instructions .....	—	—	—
2	Emergency Abnormal Procedures (EAPs) .....	—	—	—
2	Emergency Contingency Actions .....	—	—	—
2	Users Manual - Meteorological Data Print Program .....	—	—	—
2	Users Manual - FRED .....	—	—	—
1	Users Manual - Meteorological Data Display .....	—	—	—
1	Users Manual - CECC Information System .....	—	—	—
1	Users Manual - ICS .....	—	—	—

Inspection Performed By: \_\_\_\_\_ Date \_\_\_\_\_

Review and Approval:  
Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_

**APPENDIX I**  
**OPERATIONS SUPPORT CENTER (OSC)**  
**Page 1 of 2**

Quantity	Description	Yes	No	Remarks
Assorted	Desktop Supplies (stapler, tape, logbook) .....	—	—	—
Assorted	Office Supplies (pens, pencils) .....	—	—	—
Assorted	Dryboard Supplies (eraser, markers, etc.).....	—	—	—
2	Spare Roll of thermal Paper for Tracking Board .....	—	—	—
1	SQN EIPs .....	—	—	—
2	SQN Telephone Book (latest edition).....	—	—	—
2	TVA Telephone Book (latest edition) .....	—	—	—
1	User Manual - ICS.....	—	—	—
4	Communication Headsets .....	—	—	—
1	Digital Camera .....	—	—	—
2	Team Tracking Status Boards.....	—	—	—
1	Ops Tracking Status Boards .....	—	—	—
1	RadCon/Chem Tracking Status Boards .....	—	—	—
12	Spare flashlight batteries Expires.....	—	—	—
6	Spare Pager Batteries Expires.....	—	—	—
2	Electronic Display Projectors.....	—	—	—
1 each	OSC Position Notebooks .....	—	—	—
(Scan/Check for uncontrolled/out-of-date materials in Position Notebooks & seating areas.)				

Verify wall maps are latest revision (see CECC EPIP-9 for latest map revision levels)

1	2 Mile Map	Latest Rev. _____	—	—
1	10 Mile Evac Sector Map	Latest Rev. _____	—	—
1	10 Mile Sampling Point Map	Latest Rev. _____	—	—

**(NOTE: Retain marked up REND pages or printouts as documentation)**

Verify Key Phones for OSC are functional by calling each number listed in the REND and checking on a copy of the REND page..... — — —

Verify Portable Satellite Phone is functional by calling known good phone ..... — — —

Verify copier is functional by copying a page..... — — —

Verify clocks are functional by checking current time ..... — — —

Verify signs are functional by changing to all classes and observing ..... — — —

Verify Plant Drawing Racks are present (Contents controlled by DCU)..... — — —

Verify HIS-20 Terminal functional and HIS-20 loads..... — — —

Verify all ICS/Wide Area Network Terminals are functional ..... — — —

Position	√	Position	√	Position	√
Ops Advisor #1		DCRM		Fire Ops	
Ops Advisor #2		Materials Coordinator		MSS	
NOMS		RadCon			

Check Unit 1 and Unit 2 ICS or WAN access to EP Website as appropriate

**APPENDIX I**  
**OPERATIONS SUPPORT CENTER (OSC)**  
Page 2 of 2

Yes   No   Remarks  
 \_\_\_\_\_

Verify all conference Bridges are functional.....

Bridge	Number	√
Ops Bridge - Talk	101	
Ops Bridge - Listen	102	
RadCon Bridge	103	
Maintenance Bridge	104	
OSC Teams Hotline- (must dial and wait)	6406	

**OSC Radios:**

- A. Rotate batteries from radios to the battery conditioner ensuring that batteries moved on to the radios from the conditioner are fully charged.
- B. Reset conditioner to "Auto-recondition" and place batteries from radios in receptacles.
- C. After charging cycle is complete (8-24 hours), analyze each battery in the conditioner by ensuring that both "Service Display" lights are flashing simultaneously.
- D. Remove all batteries from the conditioner and reset conditioner to "Standby" Replace the batteries in the conditioner.
- E. Perform functional check of each radio by keying each radio on Daily Work channel and ensuring that signal is transmitted (if not marked as non-transmitting) or will not transmit (if marked as non-transmitting).

Inspection Performed By: \_\_\_\_\_ Date \_\_\_\_\_

Review and Approval:  
 Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_



**APPENDIX J**  
Local Recovery Center  
Page 1 of 1

**(NOTE: Retain printouts as documentation)**

Verify CECC Terminal/Printer is functional by printing current Met Data ..... \_ \_ \_

Verify Key Phones for LRC are functional by calling each number listed in the  
 REND and checking on a copy of the REND page ..... \_ \_ \_

Inspection Performed By: \_\_\_\_\_ Date \_\_\_\_\_

Review and Approval:  
 Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_

**APPENDIX K**  
Page 1 of 1

Review of Inventories Performed by other Procedures

Ambulance Medical Supplies: (Fire Operations)

0-PI-FPU-317-301.M performed on Date \_\_\_\_\_

SCBA Inventories: (Fire Operations)

0-PI-FPU-049-401.M performed on Date \_\_\_\_\_

Review 0-PI-FPU-049-401.M to ensure the following equipment is available:

RELAY ROOM OUTSIDE TECHNICAL SUPPORT CENTER (EL 732) :

- 12 Self-contained breathing apparatus
- 12 Additional air cylinders
- 2 Small MSA face pieces
- 2 Large MSA face pieces

SERVICE BUILDING EL 690 (PASF Units):

- 8 Dual Purpose self-contained breathing apparatus
- 4 Dual Purpose Airline Hoses
- 3 Small MSA face pieces
- 3 Large MSA face pieces

SERVICE BUILDING EL 690 (RADCON AND RADCHEM LABS):

- 16 Self-contained breathing apparatus

SERVICE BUILDING (EL. 706) FIRE EQUIPMENT CAGE

- 6 Self-contained breathing apparatus
- 12 Additional cylinders

Emergency Van Supplies: (Radcon) at least one per van per quarter

CECC-EPIP Appendix J based inventory performed Date \_\_\_\_\_  
Date \_\_\_\_\_

Quarterly Tool Room Tool Kits: (Tool Room) 0-PI-REM-000.001.Q Date: \_\_\_\_\_

- Mechanical tool kit #1, #2, #4, #5, #6
- Electrical tool kit #3, #7
- I & C tool kit #8

Monthly NRC Communications Equipment: (EP Manager)

0-PI-REM-244-001.0 based inventory last performed on Date \_\_\_\_\_

Quarterly Communications Equipment: (EP Manager)

0-PI-REM-244-002.Q based inventory performed on Date \_\_\_\_\_

Diesel Generator Operating Guidelines -

At least one per quarter Date \_\_\_\_\_

Emergency Preparedness Review of Results:

Emergency Preparedness Manager \_\_\_\_\_ Date \_\_\_\_\_

SQN	EMERGENCY EQUIPMENT AND SUPPLIES	EPIP-17 Revision 22 Page 20 of 20
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## SOURCE NOTES

### REQUIREMENTS STATEMENT

### SOURCE DOCUMENT

### IMPLEMENTING STATEMENT

H-10

NUREG 0654

"Emergency Equipment  
Inspections"

Appendix E, Section E

10 CFR 50

Section 8.0

NP REP

"Emergency Response  
Facilities, Equipment,  
and Supplies"

NUREG 0696

"Functional Criteria For  
Emergency Response  
Facilities"